

North Coast Regional Water Quality Control Board

**ORDER NO. R1-2018-0002
NPDES NO. CA0023043
WDID NO. 1B831000SON**

WASTE DISCHARGE REQUIREMENTS AND MASTER RECYCLING PERMIT

FOR THE

**FORESTVILLE WATER DISTRICT
WASTEWATER TREATMENT, RECYCLING, AND DISPOSAL FACILITY
SONOMA COUNTY**

The following Permittee is subject to waste discharge requirements (WDRs) and water recycling requirements set forth in this Order:

Table 1. Permittee Information

Permittee	Forestville Water District
Name of Facility	Wastewater Treatment, Recycling, and Disposal Facility
Facility Address	6194 Forestville Street
	Forestville, CA 95436
	Sonoma County
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	0.130 million gallons per day (mgd) (average dry weather design flow)
	0.576 mgd (peak weekly wet weather design flow)

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Disinfected Tertiary Treated Municipal Wastewater	--	--	3.25 Million Gallon Treated Effluent Storage Pond
002	Disinfected Tertiary Treated Municipal Wastewater	38° 27' 58"	122° 53' 18"	Jones Creek, Tributary to Green Valley Creek, Tributary to the Russian River
003	Disinfected Tertiary Treated Municipal Wastewater	--	--	Authorized Recycled Water Use Sites ¹ /Groundwater
004	Disinfected Tertiary Treated Municipal Wastewater	--	--	Graton Community Services District Storage Ponds

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
<u>Table Notes:</u>				
1. Authorized recycled water use sites means sites which have been evaluated for California Environmental Quality Act (CEQA) compliance and addressed in the Permittee's title 22 Recycled Water Engineering Report and approved by the State Water Board Division of Drinking Water (DDW) and the Regional Water Board.				

Table 3. Administrative Information

This Order was adopted on:	July 11, 2018
This Order shall become effective on:	September 1, 2018
This Order shall expire on:	August 31, 2023
The Permittee shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, (CCR) and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	September 1, 2022
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as follows:	Minor

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDR) Order No. R1-2012-0012 and Monitoring and Reporting Program (MRP) No. R1-2012-0012, are rescinded upon the effective date of this Order except for enforcement purposes, and in order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous permit.

I, Matthias St. John, 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, North Coast Region, on **July 11, 2018**.

 Matthias St. John, Executive Officer

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I. FACILITY INFORMATION

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

II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board), finds:

- A. Legal Authorities.** This Order serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a NPDES permit authorizing the Permittee to discharge into waters of the United States at the discharge location described in Table 2 subject to the Waste Discharge Requirements (WDRs) in this Order and a master recycling permit pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13500).
- B. Basis and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee's application, 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 this Order, and constitutes Findings for this Order. Attachments A through E, and Attachment G are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.E, III.F, III.J, IV.B-IV.C, V.B, and VI.C.5.a, VI.C.5.d, and VI.C.5.e of this Order and sections VI, VII and X.E of the Monitoring and Reporting Program 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.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Permittee 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.
- E. Consideration of Public Comment.** The Regional 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.

III. DISCHARGE PROHIBITIONS

- A. The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.
- C. The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).
- D. The discharge or recycling use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions G (Bypass) and H (Upset).
- E. Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land and creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.
- F. The discharge of waste to land that is not owned by the Permittee, governed by District ordinance, or under agreement to use by the Permittee, or for which the Permittee has explicitly permitted such use, is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the California Code of Regulations (CCR).
- G. The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.
- H. The average dry weather flow of waste through the Facility shall not exceed 0.130 mgd, measured daily and averaged over a calendar month. The peak weekly wet weather flow of waste through the Facility shall not exceed 0.576 mgd. Compliance with this prohibition shall be determined as defined in sections VII.K and VII.L of this Order.
- I. The discharge of waste to the Russian River and its tributaries is prohibited during the period from May 15 through September 30 of each year.
- J. During the period from October 1 through May 14, discharges of treated wastewater to Jones Creek, tributary to the Russian River via Green Valley Creek, shall not exceed one percent of the flow of Jones Creek. The Permittee shall propose a method for measuring Jones Creek flows for approval by the Regional Water Board Executive Officer as required by Special Provision VI.C.2.a of this Order (Special Studies, Technical Reports and Additional Monitoring Requirements). For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:
 - 1. The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of Jones Creek. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and
 - 2. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of Jones Creek in the same calendar month. At the beginning of the discharge season, the monthly flow volume comparisons shall be based

on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume comparisons shall be based on the first day of the calendar month to the date when the discharge ceased for the season.

- K. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.
- L. The acceptance of septage is prohibited unless the Discharger has a septage receiving station approved by the Executive Officer of the Regional Water Board.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001 and 002

1. Final Effluent Limitations – Discharge Point 001

- a. The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Locations INT-001B for 5-day biochemical oxygen demand (BOD₅) and EFF-001 for total suspended solids (TSS) as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 4. Effluent Limitations – Discharge Point 001 – Monitoring Locations EFF-001 and INT-001B

Parameter	Units	Effluent Limitations ¹				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	10	15	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--

Table Notes:
 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.

- b. **Percent Removal.** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INT-001B (BOD₅) and EFF-001 (TSS), respectively.
- c. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 001 to the 3.25 million gallon treated effluent storage pond shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001:

- i. The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (mL) using the bacteriological results of the last 7 days (rolling 7 days) for which analyses have been completed;¹
- ii. The number of coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period; and
- iii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

2. Final Effluent Limitations – Discharge Point 002

- a. The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 5. Effluent Limitations – Discharge Point 002 – Monitoring Location EFF-002

Parameter	Units	Effluent Limitations ¹				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	--	6.5	8.5
Chlorine, Total Residual ²	mg/L	0.01	--	0.02	--	--
Copper	µg/L	22	--	66	--	--
Cyanide (as CN) ³	µg/L	4.4	--	7.9	--	--
Chlorodibromomethane	µg/L	0.40	--	0.80	--	--
Dichlorobromomethane	µg/L	0.56	--	1.6	--	--
Ammonia Nitrogen, Total (as N)	mg/L	1.7	--	5.0	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--

Table Notes:

- See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
- See section VII.M of this Order regarding compliance with chlorine residual limitations.
- The Permittee may, at its option, analyze for cyanide as total or weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.

- b. **Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to Jones Creek. The Permittee will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:
 - i. Minimum for any one bioassay: 70 percent survival; and
 - ii. Median for any three or more consecutive bioassays: at least 90 percent survival.
 Compliance with this effluent limitation shall be determined in accordance with section VII.I of this Order and section V.A of the MRP (Attachment E).

¹ See section VII.H of this Order regarding compliance with bacteriological limitations.

- c. **Chronic Toxicity.** As measured at Monitoring Location EFF-002, there shall be no chronic toxicity in the effluent when discharging to Jones Creek. Compliance with this narrative chronic toxicity effluent limitation shall be determined in accordance with section VII.J of this Order and sections V.B and V.C of the MRP (Attachment E).

3. Interim Effluent Limitations – Not Applicable

This Order does not establish interim effluent limitations or schedules for compliance with final limitations.

B. Land Discharge Specifications and Requirements – Not Applicable

This Order does not authorize discharges to land.

C. Water Recycling Specifications and Requirements – Discharge Points 003 and 004

1. Water Recycling Specifications – Discharge Points 003 and 004

- a. All effluent discharges to the recycled water system and transfers to the Graton Community Services District (CSD) Wastewater Treatment Facility (WWTF) are from the on-site effluent storage pond; therefore, the Permittee shall maintain compliance with the effluent limitations identified in sections IV.A.1.a and IV.A.1.c above, at Discharge Point 001, for discharges to the recycled water system and transfers to the Graton CSD storage ponds.
- b. During periods of discharge to the recycled water system and transfers to the Graton CSD storage ponds, the Permittee shall maintain compliance with the following effluent limitations at Discharge Points 003 and 004 as measured at Monitoring Location REC-001 as described in the attached MRP.

Table 6. Recycling Discharge Specifications – Discharge Points 003 and 004 – Monitoring Location REC-001

Parameter	Units	Discharge Specifications ¹				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	--	6.0	9.0
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Total Dissolved Solids (TDS)	mg/L	500	--	--	--	--

Table Notes:
 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.

2. Water Recycling Requirements

- a. This Order authorizes the Permittee to reuse treated municipal wastewater that complies with effluent limitations contained in section IV of the Order for uses that have been addressed in an approved title 22 Engineering Report and for which recycled water user agreements have been negotiated.
- b. Recycled water production, distribution, and use shall be in compliance with all of the following requirements:

- i. All requirements of this Order, including Attachment G to this Order;
 - ii. Regulations related to recycled water contained in Water Code sections 13500 – 13577 (Water Reclamation)
 - iii. Regulations related to recycled water (including its subsequent revisions) contained in California Code of Regulations, title 17, sections 7583 – 7586, sections 7601 – 7605, and California Code of Regulations, title 22, division 4, chapter 3 (Uniform Statewide Recycling Criteria).
 - iv. A DDW-approved title 22 Engineering Report that demonstrates or defines compliance with the Uniform Statewide Recycling Criteria (and any future amendments thereto);
 - v. Any applicable Salt and Nutrient Management Plan adopted by the Regional Water Board as a Basin Plan amendment;
 - vi. Any applicable water quality related CEQA mitigation measure;
 - vii. Water Code section 1211 for facilities where the changes to the discharge are necessary to accomplish water recycling and will result in changes in flow in a watercourse; and
 - viii. Policy for Water Quality Control for Recycled Water (Recycled Water Policy).
3. The Permittee proposes to implement a Joint Use Recycled Water program (Joint Use Program) with the Graton CSD Wastewater Treatment Facility, as further described in section II.E of the Fact Sheet. This Joint Use Program will entail transfers of recycled water between the Permittee's and Graton CSD's recycled water systems. Under this program, the Permittee's recycled water commingled with Graton CSD's recycled water could be used to meet irrigation demands in both recycled water systems or could be stored and discharged to receiving waters at each Facility's authorized discharge point.

Prior to implementation of the Joint Use program, the Permittee shall submit to the Regional Water Board Executive Officer for review and approval, a report including the final design details and any operational modifications required including a schedule of implementation, a revised water balance for the Permittee's storage, reclamation, and disposal system, documentation of CEQA compliance, and recycled water transfer and use agreements. The Permittee shall implement the Joint Use Program upon written approval from the Regional Water Board Executive Officer.

D. Other Requirements

1. Filtration Process Requirements

- a. **Filtration Rate.** The rate of filtration through the tertiary filters, as measured at Monitoring Location INT-001A, shall not exceed five (5) gallons per minute per square foot of surface area or other filtration rates authorized in writing by the Regional Water Board Executive Officer and under conditions recommended by DDW.
- b. **Turbidity.** The effluent from the advanced wastewater treatment process filters shall at all times be filtered such that the filtered effluent does not exceed any of the

following specifications at Monitoring Location INT-001B, prior to discharge to the disinfection unit:

- i. 0.2 Nephelometric Turbidity Units (NTU) more than 5 percent of the time during any 24-hour period; and
- ii. 0.5 NTU at any time.
- c. Filtered effluent in excess of the turbidity specifications shall not enter the recycled water distribution system. Filtered effluent in excess of turbidity specifications shall be automatically diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance. Alternatively, the Permittee may cease transfers through the microfilters until the problem is corrected. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in section IX.A.1.c of the MRP (Attachment E).

2. Disinfection Process Requirements

Treated effluent shall be disinfected in a manner that ensures effective pathogen reduction as described in the following specifications, with compliance measured at the end of the disinfection process at Monitoring Location EFF-001:

- a. When discharging to the recycled water system, the chlorine disinfection process shall provide a CT value² of not less than 450 milligram-minutes per liter at all times and a modal contact time of not less than 90 minutes.
- b. When discharging to Jones Creek when the filter effluent flow is greater than or equal to 0.576 mgd, the chlorine disinfection process shall provide a minimum continuous chlorine residual concentration of 5.3 milligrams per liter at all times. The Permittee shall initiate daily coliform monitoring when the average influent flow to the Facility from the previous day is greater than or equal to 0.576 mgd.
- c. When discharging to Jones Creek when the filter effluent flow is less than 0.576 mgd, the chlorine disinfection process shall at all times provide a CT value of not less than 450 milligram-minutes per liter.
- d. Effluent not meeting the CT criteria shall be diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance. The Permittee shall provide notification of non-compliance with disinfection process requirements as required by section VI.A.2.b of this Order.

- 3. **Storage Ponds.** Ponds used for the storage of recycled water shall be constructed in a manner that protects groundwater. Prior to construction of any new wastewater storage ponds or use of any existing pond for storage of recycled water, the Permittee shall submit to the Regional Water Board Executive Officer for review and approval, a technical report that includes design proposals and a technical evaluation that demonstrates that the pond design complies with the Water Code and title 27 of the CCR and is protective of ground

² The CT value is the product of total chlorine residual and modal contact time measured at the same period. The modal contact time is the amount of time that elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance of the chlorination chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

water quality. Pond design and operation plan must include features and best management practices (BMPs) to protect groundwater and prevent exceedances of groundwater quality objectives.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan, and are a required part of this Order. Receiving water conditions not in conformance with the limitation are not necessarily a violation of this Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

Discharges from the Facility shall not cause the following in the receiving water:

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 7.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.
2. The discharge shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.
3. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.
4. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
5. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
6. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
7. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.
8. The discharge shall not contain substances in concentrations that result in deposition of material in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

9. The discharge shall not cause receiving waters to contain concentrations of biostimulatory substances that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
10. The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.
11. The discharge shall not cause a measurable temperature change in the receiving water at any time.
12. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide concentrations in bottom sediments or aquatic life.
13. The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.
14. The discharge shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.
15. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
16. The discharge shall not cause concentrations of chemical constituents to occur in excess of MCLs established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.
17. The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life.

B. Groundwater Limitations

1. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., Basin Plan) and reasonable BMPs, will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater.

2. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause alterations of groundwater that contain chemical concentrations in excess of limits specified in title 22, division 4, chapter 15, article 4, sections 64435 (Tables 2 and 3) and 64444, and the Basin Plan.
3. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause groundwater to contain radionuclides in excess of the limits specified in title 22, division 4, chapter 15, article 5, section 64443 of the CCR.
4. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
5. In groundwaters used for domestic or municipal supply (MUN), the collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause the median of the most probable number of coliform organisms over any 7-day period to exceed 1.1 MPN/100 mL or 1 colony/100 mL.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard 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. 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 Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
 - b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, final effluent limitation, recycled water specification, other specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment infrastructure, breach of pond containment, sanitary sewer overflow, recycled water main break or equivalent release, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such non-compliance. Spill notification and reporting shall be conducted in accordance with Section V.E of Attachment D and X.E of the Monitoring and Reporting Program.

B. Monitoring and Reporting Program (MRP) Requirements

The Permittee shall comply with the MRP, included as Attachment E of this Order, and future revisions thereto.

C. Special Provisions

1. Reopener Provisions

- a. **Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.
- b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.
- c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a narrative or numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.
- d. **303(d)-Listed Pollutants.** If an applicable total maximum daily load (TMDL) (see Fact Sheet, section III.D) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL may be modified or imposed to conform this Order to the TMDL requirements.
- e. **Water Effect Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents, except for copper for which a site-specific WER of 8.39 has been used, as further described in section IV.C.3.c of the Fact Sheet. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable. If the Permittee performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or translator studies were performed in accordance with U.S. EPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.
- f. **Nutrients.** This Order contains effluent limitations for ammonia and nitrate and effluent monitoring for nutrients (ammonia, nitrate, and phosphorus). If new water quality objectives for nutrients are established, if monitoring data indicate the need for new or revised effluent limitations for any of these parameters, or if new or revised methods for compliance with effluent limitations for any of these parameters are developed, this Order may be reopened and modified to include new or modified effluent limitations or other requirements, as necessary.
- g. **Salt and Nutrient Management Plans (SNMPs).** The Recycled Water Policy adopted by the State Water Board on February 3, 2009, and effective May 14, 2009, recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The

Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional SNMPs rather than through imposing requirements solely on individual recycled water projects. This Order may be reopened to incorporate provisions consistent with any SNMP(s) adopted by the Regional Water Board.

- h. Title 22 Engineering Report.** This Order implements title 22 requirements to protect public health. If future revisions to the Permittee's title 22 engineering report require modifications to this Order to adequately implement title 22, this Order may be reopened and modified as necessary.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. Jones Creek Flow Monitoring Plan.** The Permittee shall submit for Regional Water Board Executive Officer approval, a written proposal for monitoring flow in Jones Creek for the purpose of determining the effluent discharge rate to demonstrate compliance with Discharge Prohibition III.J of this Order. The written proposal shall be submitted by **October 1, 2018** and shall describe the flow monitoring methodology in detail and propose a schedule for implementation of the flow monitoring that is as short as practicable.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program (PMP)

- i.** The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
 - (a)** The concentration of the pollutant is reported as "Detected, but Not Quantified" (DNQ) and the effluent limitation is less than the reporting limit (RL);
 - (b)** A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL), using definitions described in Attachment A and reporting protocols described in MRP section X.B.5.
- ii.** The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:
 - (a)** An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
 - (b)** Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
 - (c)** Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

- (d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
- (e) An annual status report that shall be submitted as part of the Annual Facility Report due **March 1st** to the Regional Water Board and shall include:
 - (1) All PMP monitoring results for the previous year;
 - (2) A list of potential sources of the reportable pollutant(s);
 - (3) A summary of all actions undertaken pursuant to the control strategy; and
 - (4) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

- a. This Order (Attachment D, Standard Provision I.D) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.
- b. The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Permittee shall operate and maintain the Facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following.
 - i. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.
 - ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
 - iii. Description of laboratory and quality assurance procedures.
 - iv. Process and equipment inspection and maintenance schedules.
 - v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.
 - vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems

i. Statewide General WDRs for Sanitary Sewer Systems

The Permittee has coverage under, and is separately subject to, the requirements of State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems, as amended by Order No. WQ 2013-0058-EXEC. As such, the Permittee provides notification and reporting of SSOs in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any revisions thereto for operation of its wastewater collection system.

b. Source Control and Pretreatment Provisions

i. The Permittee shall perform source control functions and provide a summary of source control activities conducted in the Annual Report (due **March 1st** to the Regional Water Board). Source control functions and requirements shall include the following:

- (a)** Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.
- (b)** If waste haulers are allowed to discharge to the WWTF, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or WWTF.
- (c)** Perform public outreach to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the wastewater treatment plant, at least once per year.
- (d)** Perform on-going inspections and monitoring, as necessary, to ensure adequate source control.
- (e)** General prohibitions. Pollutants introduced into WWTFs by a non-domestic source shall not pass through [40 C.F.R. § 403.3(n)] the WWTF or interfere [40 C.F.R. § 403.3(i)] with the operation or performance of the WWTF. These general prohibitions and the specific prohibitions in paragraph (f) of this provision apply to all non-domestic sources introducing pollutants into a WWTF whether or not the source is subject to other National Pretreatment Standards or any national, state, or local pretreatment requirements.
- (f)** Specific prohibitions. In addition, the following pollutants shall not be introduced into a WWTF:
 - (1)** Pollutants that create a fire or explosion hazard in the WWTF;
 - (2)** Pollutants that will cause corrosive structural damage to the WWTF, but in no case discharges with pH lower than 5.0, unless the WWTF is specifically designed to accommodate such discharges;
 - (3)** Solid or viscous pollutants in amounts that will cause obstruction to the flow in the WWTF resulting in interference;

- (4) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration that will cause interference with the WWTF;
 - (5) Heat in amounts which will inhibit biological activity in the WWTF resulting in interference, but in no case heat in such quantities that the temperature at the WWTF exceeds 40°C (104°F) unless the Regional Water Board, upon request of the WWTF, approves alternate temperature limits;
 - (6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through; and
 - (7) Pollutants that result in the presence of toxic gases, vapors, or fumes within the WWTF in a quantity that may cause acute worker health and safety problems.
- ii. In the event that the Permittee identifies industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the wastewater treatment plant, or the Regional Water Board or its Executive Officer determines that circumstances warrant pretreatment requirements in order to prevent interference [40 C.F.R. §403.3(j)] with the wastewater treatment facility or Pass Through [40 C.F.R. §403.3(n)], then:
 - (a) The Permittee shall notify the Regional Water Board **within 30 days** after there are discharges that trigger the pretreatment requirements;
 - (b) The Permittee shall submit a revised ROWD and the pretreatment program for the Regional Water Board's review and approval as soon as possible, but **not more than one year after the Permittee's notification** to the Regional Water Board of the need for pretreatment requirements being triggered;
 - (c) The Permittee shall enforce the federal categorical pretreatment standards on all categorical industrial users (CIUs);
 - (d) The Permittee shall notify each CIU of its discharge effluent limits. The limits must be as stringent as the pretreatment standards contained in the applicable federal category (40 C.F.R. part 400-699). The Permittee may develop more stringent, technology-based local limits if it can show cause; and
 - (e) The Permittee shall notify the Regional Water Board if any CIU violates its discharge effluent limits.
- iii. The Regional Water Board retains the right to take legal action against an industrial user and/or the Permittee where a user fails to meet the approved applicable federal, state, or local pretreatment standards.
- iv. The Regional Water Board may amend this Order, at any time, to require the Permittee to develop and implement an industrial pretreatment program pursuant to the requirements of 40 C.F.R. part 403 if the Regional Water Board

finds that the Facility receives pollutants from an industrial user that is subject to pretreatment standards, or if other circumstances so warrant.

c. Sludge Disposal and Handling Requirements

- i.** Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.
- ii.** All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and state regulations.
- iii.** The use and disposal of biosolids shall separately comply with all of the land application and disposal requirements in 40 C.F.R. part 503, which are enforceable by the U.S. EPA, not the Regional Water Board. If during the life of this Order, the state accepts primacy for implementation of 40 C.F.R. part 503, the Regional Water Board may also initiate enforcement where appropriate.
- iv.** Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 C.F.R. part 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.
- v.** The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that may adversely affect human health or the environment.
- vi.** Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.
- vii.** Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from a design storm with a 100-year recurrence interval and 24-hour duration.
- viii.** The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the state.

d. Biosolids Management

For any discharge of biosolids from the Facility, the Permittee shall comply with the following requirements:

- i.** For the land application of biosolids as soil amendment within the North Coast region, the Permittee shall separately obtain or maintain coverage under the State Water Board Water Quality Order No. 2004-0012-DWQ General Waste Discharge Requirements for the Discharge of Biosolids to Land or Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Recycled Water Activities, or
- ii.** Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.
- iii.** New sludge treatment and storage facilities must comply with the requirements of the Water Code and title 27 of the CCR for the protection of water quality.

e. Operator Certification

Supervisors and operators of municipal wastewater treatment facilities shall possess a certificate of appropriate grade in accordance with title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment facility operator, the State Water Board may approve use of a water treatment facility operator of appropriate grade certified by DDW where water recycling is involved.

f. Adequate Capacity

If the Facility will reach capacity within 4 years, the Permittee shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Permittee shall demonstrate that adequate steps are being taken to address the capacity problem. The Permittee shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, **within 120 days after providing notification to the Regional Water Board**, or within 120 days after receipt of Regional Water Board notification that the Facility will reach capacity within 4 years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR title 23, section 2232].

6. Other Special Provisions

a. Storm Water

For the control of storm water discharge from the Facility, if required, the Permittee shall seek separate authorization to discharge under the requirements of the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial

Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

BMPs to control the run-on of storm water to the Facility site shall be maintained and upgraded as necessary. The Permittee shall describe the effectiveness of these storm water BMPs, as well as activities to maintain and upgrade these BMPs during the previous year, in its annual report to the Regional Water Board.

7. Compliance Schedules – Not Applicable

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations. A compliance schedule and interim limits for flow, ammonia, nitrate, and cyanide will be established in a time schedule order (TSO).

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below.

A. General

Compliance with effluent limitations for priority pollutants, when effluent limitations have been established, shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported minimum level (ML).

B. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee 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 Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure.

1. 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.
2. 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 middle values 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 and a value of zero shall be used for the ND or DNQ value in the median calculation for compliance purposes only. Using a value of zero for DNQ or ND samples does not apply when performing reasonable potential or antidegradation analysis.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B, above, for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter,

this will represent a single violation, though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. If there are ND or DNQ results for a specific constituent in a calendar month, the Permittee shall calculate the median of all sample results within that month for compliance determination with the AMEL as described in section VII.B, above.

D. Average Weekly Effluent Limitation (AWEL)

If the average (or when applicable, the median determined by subsection B, above, for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. The Permittee will only be considered out of compliance for days when the discharge occurs. If there are ND or DNQ results for a specific constituent in a calendar week, the Permittee shall calculate the median of all sample results within that week for compliance determination with the AWEL as described in section VII.B, above.

E. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period.

F. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

G. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous

maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

H. Bacteriological Limitations (Total Coliform)

- 1. Median.** The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, followed by quantified values. The median value is determined based on the number of data points in the set. 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, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.
- 2.** Compliance with the 7-day median will be determined as a rolling median during periods when sampling occurs more frequently than weekly. During periods when sampling is weekly, this requirement shall apply to each weekly sample.

I. Acute Toxicity Limitations

Compliance with the three-sample median acute toxicity effluent limitation shall be determined when there is a discharge, by calculating the median percent survival of the three most recent consecutive samples meeting all test acceptability criteria collected from Monitoring Location EFF-002.

Compliance with the accelerated monitoring and TRE provisions shall constitute compliance with the acute toxicity requirements, all specified in the MRP (Attachment E, sections V.A and V.C).

J. Chronic Toxicity

Compliance with the accelerated monitoring and TRE provisions specified in the MRP (Attachment E, sections V.B.8 and V.C) shall constitute compliance with the narrative chronic toxicity requirement specified as Effluent Limitation IV.A.2.c. The MRP, section V.B.6.a, further describes how a determination of Pass/Fail shall be made.

K. Average Dry Weather Flow

Compliance with the average dry weather flow prohibition in section III.H of this Order will be determined once each calendar year by evaluating all flow data collected at EFF-001 in a calendar year. The flow through the Facility, measured daily and averaged monthly, must be 0.130 mgd or less for the month with the lowest average monthly flow.

L. Peak Weekly Wet Weather Flow

The peak weekly wet weather flow in section III.H of this Order will be determined by evaluating flow through the Facility at EFF-001, measured daily and averaged weekly. No average weekly flow shall exceed 0.576 mgd.

M. Chlorine Residual Effluent Limitations

1. Compliance with the chlorine residual effluent limitations in section IV.A.1.a, Table 5 shall be based on continuous monitoring at Monitoring Location EFF-002 in order to demonstrate that the discharge has been adequately dechlorinated. Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitation prescribed in section IV.A.1.a, Table 4, provided that the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.
2. The Permittee shall calibrate continuous analyzers (e.g., chlorine residual, bisulfite residual) against grab samples as frequently as necessary to maintain accurate and reliable operation.
3. The Permittee shall report from discrete readings of the continuous monitoring every hour on the hour. Compliance shall be based on an average of these discrete hourly readings on a daily basis. The Permittee shall retain continuous monitoring readings for at least three years. The Regional Water Board retains the right to use all continuous monitoring data for discretionary enforcement.
4. Any excursion above the chlorine residual effluent limitations specified in section IV.A.1.a, Table 4, of this Order is a violation. If the Permittee conducts continuous monitoring and the Permittee can demonstrate through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive. Records supporting validation of false positives shall be maintained in accordance with Attachment D, section IV Standard Provisions.

ATTACHMENT A – DEFINITIONS

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 Pollutants

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.

Coefficient of Variation (CV)

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)

Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

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.

Effective Concentration (EC)

A point estimate of the toxicant concentration that would cause an adverse effect on a quantal, “all or nothing,” response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)

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 wasteload 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

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 headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Estimated Chemical Concentrations

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

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, Russian, San Diego, and Otay Rivers. Estuaries do not include inland surface waters or ocean waters.

Inhibition Concentration (IC)

The IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

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).

Lowest Observed Effect Concentration (LOEC)

The lowest concentration of an effluent or toxicant that results in adverse effects on the test organism (i.e., where the values for the observed endpoints are statistically different from the control).

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)

The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

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

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)

Those sample results less than the laboratory's MDL.

No Observed Effect Concentration (NOEC)

The highest tested concentration of an effluent or a test sample at which the effect is no different from the control effect, according to the statistical test used (see LOEC). The NOEC is usually the highest tested concentration of an effluent or toxicant that causes no observable effects on the aquatic test organisms (i.e., the highest concentration of toxicity at which the values for the observed responses do not statistically differ from the controls). It is determined using hypothesis testing.

Persistent Pollutants

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 Regional 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

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 or Regional Water Board.

Publicly Owned Treatment Works (POTW)

A treatment works as defined in section 212 of the Clean Water Act (CWA), which is owned by a State or municipality as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

Recycled Water

Water which, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource (Water Code section 13050). The terms "recycled water" and "reclaimed water" have the same meaning (Water Code section 26).

Reporting Level (RL)

The RL is the ML (and its associated analytical method) chosen by the Permittee for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are

matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Septage

Defined as the liquid or solid material removed from a septic tank, cesspool, portable toilet, type III marine sanitation device, recreational vehicle’s sanitation tank, or similar storage or treatment works that receives domestic waste.

Source of Drinking Water

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

Standard Deviation (σ)

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.

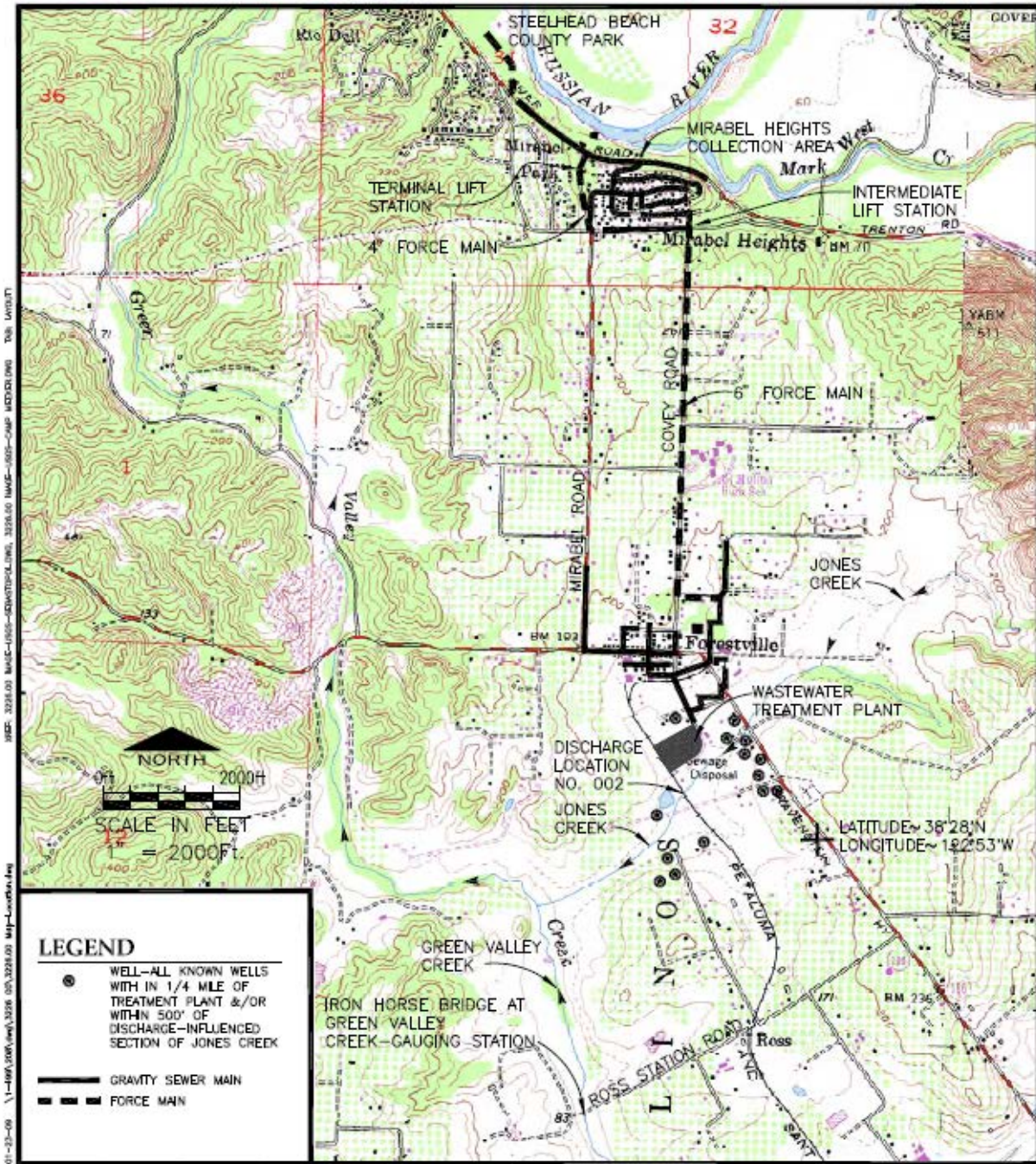
Toxicity Reduction Evaluation (TRE)

A study conducted in a step-wise 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.)

Test of Significant Toxicity (TST)

The statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010). TST was developed by the U.S. Environmental Protection Agency (EPA) for analyzing WET and ambient toxicity data. Using the TST approach, the sample is declared toxic if there is greater than or equal to a 25% effect in chronic tests, or if there is greater than or equal to a 20% effect in acute tests at the permitted instream waste concentration (IWC) (referred to as the toxic regulatory management decision (RMD)). The sample is declared non-toxic if there is less than or equal to a 10% effect at the IWC in acute or chronic tests (referred to as the non-toxic RMD).

ATTACHMENT B - MAP

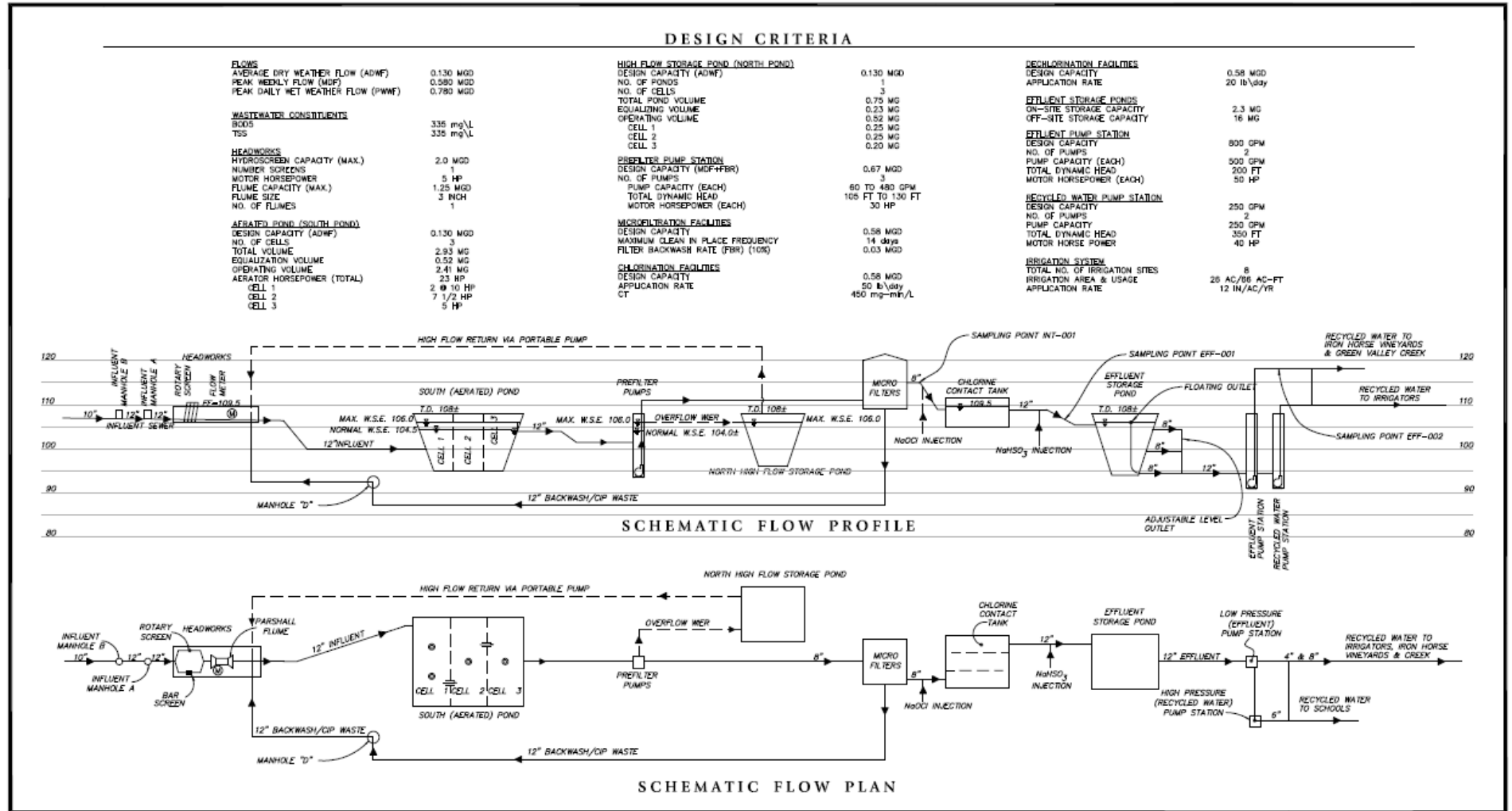


LOCATION MAP

WASTEWATER TREATMENT, RECLAMATION & DISPOSAL FACILITY
 FORESTVILLE WATER DISTRICT

JUNE 2016

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Permittee must comply with all of the 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, for permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 130001, 13304, 13350, 13385.)
2. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA 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. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee 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. § 122.41(c).)

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

The Permittee 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 Permittee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes 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 Permittee only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 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. § 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. § 122.5(c).)

F. Inspection and Entry

The Permittee shall allow the Regional 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. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Permittee'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. § 1318(a)(4)(b)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 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. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 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. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 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. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 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. § 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. § 122.41(m)(1)(ii).)

2. **Bypass not exceeding limitations.** The Permittee 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. § 122.41(m)(2).)

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

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 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. § 122.41(m)(4)(i)(B)); and
- c. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. **Burden of Proof.** In any enforcement proceeding, the permittee seeking to establish the bypass defense has the burden of proof.
5. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
6. **Notice**
 - a. **Anticipated bypass.** If the Permittee knows in advance of the need for a bypass, it shall submit a prior notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. **Unanticipated bypass.** The Permittee shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 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 Permittee. 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. § 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. § 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Permittee 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. § 122.41(n)(3)):
 - a. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. **Burden of Proof.** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 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 Permittee 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. § 122.41(f).)

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Permittee and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 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. § 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is “sufficiently sensitive” when:

- 1.** The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter, and, either the method ML is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility’s discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
- 2.** 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.

In the case of pollutants 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. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

- 3.** In the case of sludge use or disposal approved under 40 C.F.R. part 136, monitoring must be conducted according to test procedures in part 503 unless otherwise specified in 40 C.F.R. or other test procedures have been specified in this Order.

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Permittee 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 Regional Water Board Executive Officer at any time. (40 C.F.R. § 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. § 122.41(j)(3)(i));
 2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
 6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**
1. The name and address of any permit applicant or Permittee (40 C.F.R. § 122.7(b)(1)); and
 2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Permittee shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional 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 Permittee shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional 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, and V.B.5 below. (40 C.F.R. § 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. § 122.22(a)(3).)

3. All reports required by this Order and other information requested by the Regional 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. § 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. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 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 Regional 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. § 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. § 122.22(d).)
6. Any person providing the electronic signature for documents described in Standard Provisions – 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 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. § 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. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting

results of monitoring, sludge use, or disposal practices. As of December 21, 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, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Permittee 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. chapter 1, 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 Regional Water Board. (40 C.F.R. § 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. § 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. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission 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. (40 C.F.R. § 122.41(l)(6)(i).)

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 (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Permittee to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Permittee shall give notice to the Regional 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. § 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. § 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. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Permittee'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. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional 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. § 122.41(l)(2).)

H. Other Noncompliance

The Permittee 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 Regional Water Board may also require the Permittee to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Permittee 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 Regional Water Board, State Water Board, or U.S. EPA, the Permittee shall promptly submit such facts or information. (40 C.F.R. § 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 initial recipient 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. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code section 13383 also authorizes the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. Wastewater Monitoring Provision.** Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed 1 hour.
- B. Supplemental Monitoring Provision.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 C.F.R. part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.
- C. Laboratory Certification.** Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board) in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.
- D. Instrumentation and Calibration Provision.** All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated no less than the manufacturer's recommended intervals or one year intervals, (whichever comes first) to ensure continued accuracy of the devices.
- E. Minimum Levels (ML) and Reporting Levels (RL).** Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 C.F.R. 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantitation limit achievable using U.S. EPA approved methods. For the purposes of the NPDES program, when more than one test procedure is approved under 40 C.F.R., part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule (CTR) shall also adhere to guidance and requirements contained in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2005) (SIP)*. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the SIP. For instance, U.S. EPA Method 1631E for mercury is not currently listed in SIP Appendix 4, but it is published with an ML of 0.5 ng/L that makes it a sufficiently sensitive analytical method. Similarly, U.S. EPA Method 245.7 for mercury is published with an ML of 5 ng/L.

F. Discharge Monitoring Report Quality Assurance (DMR-QA) Study. The Permittee shall ensure that the results of the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

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

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Untreated influent wastewater collected at the plant headworks at a representative point preceding primary treatment.
--	INT-001A	Location for monitoring the surface loading rate through the advanced wastewater treatment (AWT) filters.
--	INT-001B	Treated wastewater immediately following the AWT process and prior to the chlorine contact chamber.
001	EFF-001	Treated wastewater after disinfection but prior to discharge to the effluent storage pond.
002	EFF-002 ¹	Treated wastewater discharged from the effluent storage pond to Jones Creek.
003	REC-001 ¹	Treated wastewater following all treatment and storage in the 3.25 million gallon effluent storage pond, and before it enters the recycled water distribution system.
004	REC-001	Treated wastewater following all treatment and storage in the 3.25 million gallon effluent storage pond, and before it enters the recycled water distribution system pipeline or for delivery to the Graton Community Services District (CSD) storage ponds.
--	RSW-001	Upstream receiving water monitoring location in Jones Creek, upstream of the pedestrian bridge at a location that is not influenced by the discharge.
--	RSW-002	Downstream receiving water monitoring location in Jones Creek immediately downstream of the pedestrian bridge in the area influenced by the discharge.
--	BIO-001	A representative sample of the sludge or biosolids generated when removed for disposal.
--	PND-001	Permittee's on-site storage pond
--	PND-002	Iron Horse Vineyards recycled water storage pond
--	PND-003	Russian River Vineyards recycled water storage pond
Table Notes:		
1. Monitoring Locations EFF-002 and REC-001 are the same location, the sampling point following the effluent storage pond. Different monitoring location names have been assigned due to differences in monitoring requirements at Discharge Point 002 (discharge to surface waters) and Discharge Points 003 and 004 (discharge to the recycled water system and Graton CSD storage ponds).		

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Permittee shall monitor influent to the Facility at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring – Monitoring Location INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent Flow ¹	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	24-hr Composite	Monthly	Part 136 ²
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Monthly	Part 136 ²

Table Notes:

1. Each quarter, the Permittee shall report the average daily and average monthly flows.
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by other methods approved by the Regional Water Board or State Water Board.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INT-001B

1. The Permittee shall monitor treated wastewater prior to disinfection at Monitoring Location INT-001B as follows:

Table E-3. Internal Effluent Monitoring – Monitoring Location INT-001B

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	Grab	Weekly ¹	Part 136 ²
	% removal	Calculate	Weekly	--
Turbidity ³	NTU	Meter	Continuous	Part 136 ²

Table Notes:

1. Accelerated monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the 2 weeks following receipt of the second sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration).
3. Turbidity monitoring requirements are described in detail in section IX.A.2 of this MRP.

B. Monitoring Location EFF-001

1. The Permittee shall monitor effluent to be discharged to the 3.25 million gallon effluent storage pond at Monitoring Location EFF-001 as follows:

Table E-4. Effluent Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Flow ¹	mgd	Meter	Continuous	--
Total Suspended Solids (TSS)	mg/L	Grab	Weekly ³	Part 136 ²
	% removal	Calculate	Weekly	---
Total Coliform Bacteria	MPN/100 mL	Grab	Daily ⁴ /Weekly ^{3,5}	Part 136 ²
Chlorine, Total Residual	mg/L	Meter	Continuous ^{6,7}	Part 136 ²
Disinfection CT ⁸	mg-min/L	Calculate	Daily	--

Table Notes:

- Each quarter, the Permittee shall report the daily average and monthly average flows.
- Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, , such as the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration).
- Accelerated monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the 2 weeks following receipt of the second sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
- Accelerated monitoring (daily monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall increase the monitoring frequency to a minimum of twice a day for a week to evaluate whether an exceedance is persisting. If two or more samples in a week exceed an effluent limitation, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
- Total coliform sampling shall be daily when discharging to the recycled water system. Total coliform sampling may be decreased to weekly when discharging to surface water.
- Chlorine residual monitoring at Monitoring Location EFF-001 shall demonstrate that chlorine residual is present after chlorination. This monitoring shall occur continuously when transferring from the chlorine contact tank to the effluent storage pond.
- Report minimum daily chlorine residual.
- Disinfection CT monitoring requirements are described in detail in section IX.B of this MRP.

C. Monitoring Location EFF-002

- During periods of surface water discharge, the Permittee shall monitor effluent to be discharged to Jones Creek at Monitoring Location EFF-002 as follows:

Table E-5. Effluent Monitoring – Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Flow ¹	mgd	Meter	Continuous	--
Dilution Rate	% of stream flow	Calculation	Daily	--
Chlorine, Total Residual ²	mg/L	Meter	Continuous	Part 136 ³
Dissolved Oxygen	mg/L	Grab	Weekly	Part 136 ³
pH	s.u.	Grab	Daily ⁴	Part 136 ³
Temperature	°F or °C	Grab	Weekly ⁴	Part 136 ³

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hardness, Total (as CaCO ₃)	mg/L	Grab	Monthly	Part 136 ³
Copper, Total Recoverable	µg/L	Grab	Monthly ⁵	Part 136 ³
Cyanide (as CN) ⁶	µg/L	Grab	Monthly ⁵	Part 136 ³
Chlorodibromomethane	µg/L	Grab	Monthly ⁵	Part 136 ³
Dichlorobromomethane	µg/L	Grab	Monthly ⁵	Part 136 ³
Haloacetic Acids ⁷	µg/L	Grab	⁸	EPA Method 552
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly ⁵	Part 136 ³
Ammonia Nitrogen, Unionized (as N)	mg/L	Calculate	Monthly ⁵	--
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly ⁵	Part 136 ⁴
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Part 136 ⁴
CTR Priority Pollutants ⁹	µg/L	24-hour Composite ¹⁰	Once per permit term ¹¹	Part 136 ^{4,12}
Acute Toxicity ¹³	% Survival	Grab	Annually	See Section V below
Chronic Toxicity ¹³	TUc	Grab	Annually	See Section V below

Table Notes:

- Each quarter, the Permittee shall report the daily average and monthly average flows.
- The Permittee shall monitor continuously to demonstrate that the discharge has been adequately dechlorinated to achieve chlorine residual effluent limitations specified in section IV.A.2.a, Table 5, at all times. The Permittee shall report from discrete readings of the continuous monitoring every hour on the hour and report the average of the hourly readings on a daily basis accordance with Compliance Determination section VII.M of this Order. The Permittee shall calibrate chlorine and bisulfite residual analyzers against grab samples as frequently as necessary to maintain accurate and reliable operation.
- Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration).
- pH and temperature monitoring must coincide with monthly monitoring for ammonia.
- Accelerated monitoring (monthly monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall take two more samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
- The Permittee may, at its option, analyze for cyanide as total or weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.
- The sum of the concentrations of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.
- Monitoring for Haloacetic Acids (HAA) shall be conducted in October and the following March during the first year of the permit term. If the total HAA concentration is 30 µg/L or less, monitoring for HAAs may be discontinued. If the total HAA concentration exceeds 30 µg/L, the Regional Water Board Executive Officer may require continued monitoring. If the total HAA concentration exceeds 60 µg/L, monitoring must continue twice annually in March and October until such time that the Permittee demonstrates that the chlorine disinfection system can be controlled to maintain the total HAA concentration below the water quality objective of 60 µg/L.
- Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos. Hardness shall be monitored concurrently with the priority pollutant sample.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
10. CTR priority pollutant samples shall be collected using 24-hour composite sampling, except for pollutants that are volatile. Samples for volatile pollutants may be collected as a grab sample. 11. CTR priority pollutant sampling shall be completed no later than February 21, 2022 . Effluent and receiving water monitoring shall occur concurrently. 12. Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result. 13. Whole effluent acute and chronic toxicity shall be monitored in accordance with the requirements of section V of this Monitoring and Reporting Program.				

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Permittee shall conduct acute whole effluent toxicity testing (WET) in accordance with the following acute toxicity testing requirements.

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 002, as summarized in Table E-5, above.
2. **Discharge In-stream Waste Concentration (IWC) for Acute Toxicity.** The IWC for this discharge is 100 percent effluent.¹
3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.
4. **Freshwater Test Species and Test Methods.** The Permittee shall conduct the following acute toxicity tests in accordance with species and test methods in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.
 - a. A 96-hour static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival Test Method 2002.0).
 - b. A 96-hour static renewal toxicity test with a vertebrate, the rainbow trout, *Oncorhynchus mykiss* (Survival Test Method 2019.0).
5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this permit’s first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct two acute toxicity tests using the invertebrate and fish species identified in section V.A.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest “Percent (%) Effect” at the discharge IWC during species sensitivity screening shall be used for routine acute toxicity monitoring during the permit term.

¹ The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-002.

6. **Quality Assurance and Additional Requirements.** Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual referenced in section V.A.4, above. Additional requirements are specified below.
 - a. The discharge is subject to determination of “Pass” or “Fail” and “Percent (%) Effect” from acute toxicity tests using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_0) for the TST approach is: Mean discharge IWC response $\leq 0.80 \times$ Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent (%) Effect” at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$.
 - b. If the effluent toxicity test does not meet the minimum effluent test acceptability criteria (TAC) specified in the referenced test method, then the Permittee shall re-sample and re-test within 7 days.
 - c. Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
 - d. Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the U.S. EPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.
 - e. **Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.
7. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing 14 days after receipt of test results exceeding the acute toxicity effluent limitation during regular or accelerated monitoring. The notification shall describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.
8. **Accelerated Monitoring Requirements.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all TAC, the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section V.C of the MRP. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all TAC, then a TRE will not be required. If the discharge

stops before additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.

9. **Reporting.** The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test (WET report). The WET report shall be prepared using the format and content of section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), including:
 - a. The toxicity test results in percent (%) survival for the 100 percent effluent sample.
 - b. The toxicity test results for the TST approach, reported as “Pass” or “Fail” and “Percent (%) Effect” at the acute toxicity IWC for the discharge.
 - c. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
 - d. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.
 - e. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

B. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing in accordance with the following chronic toxicity testing requirements:

1. **Test Frequency.** The Permittee shall conduct chronic toxicity testing in accordance with the schedule established by this MRP while discharging at Discharge Point 002, as summarized in Table E-5, above.
2. **Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC for this discharge is 100 percent effluent.²
3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. For toxicity tests requiring renewals, a minimum of three grab samples shall be collected. The lapsed time (holding time) from sample collection to first use of each sample must not exceed 36 hours.
4. **Freshwater Test Species and Test Methods.** The Permittee shall conduct the following chronic toxicity tests in accordance with species and test methods in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (U.S. EPA Report No. EPA-821-R-02-013, or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.
 - a. A 7-day static renewal toxicity test with a vertebrate, the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).

² The chronic toxicity test shall be conducted using a series of five dilutions and a control. The series shall consist of the following dilutions: 12.5, 25, 50, 75, and 100 percent. Compliance determination will be based on the IWC (100 percent effluent) and a control as further described in Fact Sheet section IV.C.5.c.

- b. A static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
 - c. A 96-hour static renewal toxicity test with a plant, the green algae, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).
5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this permit's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct three chronic toxicity tests using the fish, the invertebrate, and the algae species identified in section V.B.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit term.
6. **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 specified below.
- a. The discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" for chronic toxicity tests using the TST approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_0) for the TST approach is: Mean discharge IWC response $0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$. The IWC for the chronic toxicity test is 100 percent effluent.
 - b. If the effluent toxicity test does not meet the minimum effluent or reference toxicant TAC specified in the referenced test method, then the Permittee shall re-sample and re-test within 14 days.
 - c. Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
 - d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported.
 - e. The Permittee shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the MRP and the rationale is explained in the Fact Sheet (Attachment F).
 - f. **Ammonia Removal.** Except with prior approval from the Regional Water Board Executive Officer, ammonia shall not be removed from bioassay samples. The Permittee must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is

caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

- i. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
- ii. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
- iii. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
- iv. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent.

7. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of a result of "Fail" during routine or accelerated monitoring.
8. **Accelerated Monitoring Requirements.** Accelerated monitoring for chronic toxicity is triggered when a chronic toxicity test, analyzed using the TST approach, results in "Fail" and the "Percent Effect" is ≥ 0.50 . Within 24 hours of the time the Permittee becomes aware of a summary result of "Fail", the Permittee shall implement an accelerated monitoring schedule consisting of four toxicity tests—consisting of 5-effluent concentrations (including the discharge IWC) and a control—conducted at approximately 2 week intervals, over an 8 week period. If each of the accelerated toxicity tests results is "Pass," the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results is "Fail", the Permittee shall immediately implement the TRE Process conditions set forth in section V.C, below.
9. **Reporting**
 - a. **Routine Reporting.** Chronic toxicity monitoring results shall be submitted with the monthly SMR for the month that chronic toxicity monitoring was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:
 - i. WET reports shall include the contracting laboratory's complete report provided to the Permittee and shall be consistent with the appropriate "Report Preparation and Test Review" sections of the methods manual and this MRP. The WET test reports shall contain a narrative report that includes details about WET test procedures and results, including the following:
 - (a) Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia);
 - (b) The source and make-up of the lab control/diluent water used for the test;

- (c)** Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
- (d)** Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TUC, and IC25;
- (e)** Identification of any anomalies or nuances in the test procedures or results;
- (f)** WET test results shall include, at a minimum, for each test:
 - (1)** Sample date(s);
 - (2)** Test initiation date;
 - (3)** Test species;
 - (4)** Determination of “Pass” or “Fail” and “Percent Effect” following the Test of Significant Toxicity hypothesis testing approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). The “Percent Effect” shall be calculated as follows:
$$\text{“Percent Effect” (or Effect, in \%)} = ((\text{Control mean response} - \text{IWC mean response}) \div \text{Control mean response}) \times 100$$
 - (5)** End point values for each dilution (e.g., number of young, growth rate, percent survival);
 - (6)** NOEC value(s) in percent effluent;
 - (7)** IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent;
 - (8)** TUC values (100/NOEC);
 - (9)** Mean percent mortality (\pm s.d.) after 96 hours in 100 percent effluent (if applicable);
 - (10)** NOEC and LOEC values for reference toxicant test(s);
 - (11)** IC50 or EC50 value(s) for reference toxicant test(s);
 - (12)** Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);
 - (13)** Statistical methods used to calculate endpoints;
 - (14)** The statistical program (e.g., TST calculator, CETIS, etc.) output results, which includes the calculation of percent minimum significant difference (PMSD); and
 - (15)** Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

- b. **TRE/TIE results.** The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. TRE/TIE results shall be submitted to the Regional Water Board within 60 days of completion.

C. Toxicity Reduction Evaluation (TRE) Process

- 1. **TRE Work Plan.** The Permittee submitted a TRE Work Plan to the Regional Water Board on **March 9, 2009**. The Permittee's TRE Work Plan shall be reviewed once every five years and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

The Permittee shall notify the Regional Water Board of this review and submit any revisions of the TRE Work Plan within 90 days of the notification, to be ready to respond to toxicity events. The TRE Work Plan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
 - b. A description of the Facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this Facility.
 - c. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).
- 2. **Preparation and Implementation of a Detailed TRE Work Plan.** If one of the accelerated toxicity tests described in section V.A.8 (above) does not comply with the three sample median minimum limitation (90 percent survival) or in section V.B.8 (above) results in "Fail", the Permittee shall immediately initiate a TRE using EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and within 30 days of receipt submit the accelerated monitoring result to the Regional Water Board Executive Officer. The Permittee shall also submit a Detailed TRE Work Plan, which shall follow the generic TRE Work Plan revised as appropriate for the toxicity event described in section V.A.8 or V.B.8 of this MRP. The Detailed TRE Work Plan shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:
 - a. Further actions by the Permittee to investigate, identify, and correct causes of toxicity.
 - b. Actions the Permittee will take to mitigate effects of the discharge and prevent the recurrence of toxicity.
 - c. A schedule for these actions, progress reports, and the final report.
- 3. **TIE Implementation.** The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test methods and, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation*

(TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

4. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
5. The Permittee shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.
6. The Regional Water Board recognizes that toxicity may be episodic and identification of the 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.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges to land.

VII. RECYCLING MONITORING REQUIREMENTS

The Permittee shall monitor use area(s) at a frequency appropriate to determine compliance with this Order and the Permittee’s recycled water use program requirements. The Permittee may assign monitoring responsibilities to a recycled water user as part of its Water Recycling Use Permit program, however, the Permittee retains responsibility to ensure the data is collected, as well as prepare and submit the annual report.

A. Recycled Water Production Monitoring – Monitoring Location REC-001

1. Monitoring requirements identified in this section are not applicable during periods when all effluent is discharged to Jones Creek. When the recycled water system is in use, the Permittee shall monitor treated, disinfected wastewater prior to recycling use at Monitoring Location REC-001as follows:

Table E-6. Recycled Water Monitoring – Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow ¹	mgd	Meter	Continuous	--
pH	s.u.	Grab	Weekly ⁴	Part 136 ²
Nitrate Nitrogen, Total (as N) ³	mg/L	Grab	Monthly ⁴	Part 136 ²
Nitrite Nitrogen, Total (as N) ³	mg/L	Grab	Monthly	Part 136 ²
Ammonia Nitrogen, Total (as N) ³	mg/L	Grab	Monthly	Part 136 ²
Organic Nitrogen ³	mg/L	Grab	Monthly	Part 136 ²
Total Dissolved Solids (TDS)	mg/L	Grab	Monthly ⁴	Part 136 ²
Sodium	mg/L	Grab	Monthly	Part 136 ²

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Table Notes:				
<ol style="list-style-type: none"> Each quarter, the Permittee shall report the number of days that treated wastewater was recycled at all authorized recycled water sites, as well as the average and maximum daily flow rate. pH and temperature monitoring must coincide with monthly effluent monitoring for ammonia. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration). Monitoring for nitrate, nitrite, ammonia and organic nitrogen is for the purpose of determining total nitrogen concentration for agronomic rate calculations. Accelerated monitoring (weekly and monthly). If a test result exceeds an effluent limitation, the Permittee shall take two additional samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance. 				

B. Recycled Water Use Area Monitoring

- Recycled water quality characteristics and precipitation data shall be used to ascertain nitrogen loading rates at each recycled water use site.
- The frequency of use area inspections shall be based on the complexity and risk of each use area.
- Reporting of the required monitoring shall be provided annually in the Annual Recycled Water Report to the Regional Water Board, and annually to recycled water users.
- Use area monitoring shall include the following parameters:

Table E-7. Recycled Water Production and Use

Parameter	Units	Sample Type	Frequency	
			Sampling	Reporting
Recycled Water User	---	---	---	Annually
Volume of recycled water ¹	gpd ²	Meter ³	Daily	Annually
Total area of application	Acres	Observation	Monthly	Annually
Application Rate	Inches/acre/year	Calculation	---	Annually
Total Nitrogen application rate ^{4, 5}	lbs/acre/year	Calculation	Monthly	Annually
Rainfall	Inches	Gauge	Monthly	Annually
Notification Signs ⁶	---	Observation	Monthly	Annually
Visual Observations ⁷	---	Observation	Monthly/Daily	Annually
Table Notes:				
<ol style="list-style-type: none"> Estimation of the volume of recycled water shall not include other potable or non-potable “make-up” water used in conjunction with recycled water. gpd denotes gallons per day. Meter requires meter reading, a pump run time meter, or other approved method. Nitrogen application rate shall consider nutrients contained in the recycled water, based on analytical data obtained by the Permittee. 				

Parameter	Units	Sample Type	Frequency	
			Sampling	Reporting
<u>Table Notes (continued)</u>				
5. Nitrogen concentrations shall be calculated and reported "as N". For example, nitrate-nitrogen = 27 mg/L as NO ₃ shall be converted and reported as nitrate-nitrogen = 6.1 mg/L as N using a conversion factor of 14.067 (N)/62.0049 (NO ₃)				
6. Notification signs shall be consistent with the requirements of California Code of Regulations, title 22, section 60310(g).				
7. During periods of discharge to the irrigation system, visual observations shall be conducted at least monthly for agronomic applications and daily during periods of frost protection to verify compliance with recycled water requirements in Attachment G and shall confirm proper operation of the recycled water system and associated best management practices (BMPs) and include a record of any malfunctions or findings of improper operation, including, but not limited to soil saturation/ponding, nuisance odors, nuisance vectors, evidence of surface run-off, discharge off-site, or ponding that exceeds 24-hours. Visual observations may be performed by the irrigation users in accordance with the Permittee's user agreements. Reporting shall include the daily volume of treated wastewater discharged to the irrigation system and any observations indicating non-compliance with the provisions of the waste discharge requirements.				

C. Dual Plumbed Recycled Water Systems

1. If dual plumbed recycled water systems are proposed, the Permittee shall consult with DDW staff for additional reporting, design, and operation requirements. The frequency of testing or cross connection and backflow prevention devices shall be as listed below or more frequently, if specified by DDW.

Requirement	Frequency	Reporting Frequency
Cross connection testing	Four Years ¹	30 days/Annually ²
Backflow Incident	--	24 hours from discovery
Backflow Prevention Device Testing and Maintenance	Annually ³	Annually
<u>Table Notes:</u>		
1. Testing shall be performed at least every four years, or more frequently at the discretion of the State Water Board Division of Drinking Water.		
2. Cross connection testing shall be reported pursuant to CCR, title 22, section 60314. The report shall be submitted to the State Water Board Division of Drinking Water within 30 days and included in the annual report to the Regional Water Board.		
3. Backflow prevention device maintenance shall be tested by a qualified person as described in CCR, title 17, section 7605.		

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Locations RSW-001 and RSW-002

1. The Permittee shall monitor Jones Creek at Monitoring Locations RSW-001 and RSW-002 during periods of discharge as follows:

Table E-8. Receiving Water Monitoring – Monitoring Location RSW-001 and RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Gage ¹	Daily	--
pH	s.u.	Grab	Weekly ²	Part 136 ³
Hardness, Total (as CaCO ₃) ⁴	mg/L	Grab	Monthly	Part 136 ³
Temperature	°F or °C	Grab	Weekly ²	Part 136 ³

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Grab	Weekly	Part 136 ³
Dissolved Oxygen	mg/L	Grab	Weekly	Part 136 ³
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly ²	Part 136 ³
Unionized Ammonia (as N)	mg/L	Calculate	Monthly	--
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Part 136 ³
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Part 136 ³
CTR Priority Pollutants ^{4,5}	µg/L	Grab	Once per permit term	Part 136 ^{3,6}

Table Notes:

1. Based on flow readings in Jones Creek at an approved location and using a methodology approved by the Regional Water Board Executive Officer (see Special Study requirement IV.C.2.a).
2. pH and temperature monitoring must coincide with monthly receiving water monitoring for ammonia.
3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration).
4. Monitoring shall occur only at Monitoring Location RSW-001.
5. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos. Hardness shall be monitored concurrently with the priority pollutant sample. Monitoring shall occur simultaneously with effluent monitoring for CTR priority pollutants required by section IV.A of this MRP.
6. Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result.

B. Groundwater Monitoring

1. The Permittee shall submit for Executive Officer approval, a work plan prepared by a California registered professional geologist, civil engineer, or other licensed professional with appropriate groundwater experience that identifies groundwater monitoring locations in existing recycled water irrigation and storage areas. The written groundwater monitoring work plan shall be submitted by **April 1, 2019**, and shall include the following:
 - a. At a minimum, there should be a set of 3 or more groundwater monitoring wells representing the most sensitive conditions at one or more recycled water irrigation sites based on the potential for groundwater impacts (e.g., permeable soils over shallow groundwater, high recycled water use at times of year when infiltration is more likely, presence of recycled water storage pond, etc.). There shall be at least one up-gradient well and two down-gradient wells designed to collect groundwater from an appropriate depth to represent background conditions as well as groundwater that may be affected if infiltrated recycled water reaches groundwater.
 - b. If existing wells are proposed for use, the work plan shall provide detailed information about the existing wells, including well construction details, including, but not limited to, well depth, screened interval, date of construction, and well log.
 - c. If new groundwater monitoring wells are proposed, the work plan shall include a well installation work plan that includes:
 - i. A scope of work;
 - ii. A time schedule for installing the wells;

- iii. Well drilling and development methods;
 - iv. Proposed well construction diagrams;
 - v. Proposed well locations; and
 - vi. An explanation of the thought process used to select well locations and depths.
- d. After installing new groundwater monitoring wells, a written report shall be submitted within 60 days of completing construction that includes:
- i. Relevant subsurface stratigraphy and lithology;
 - ii. A diagram of each well showing total drilled depth, well installation depth and construction details including screened interval and top of casing elevation; and
 - iii. A location map of all installed wells.
2. A date by which groundwater monitoring will begin.
3. The Permittee shall monitor groundwater at groundwater monitoring locations approved by the Executive Officer, as follows:

Table E-9. Groundwater Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ¹
Depth to Groundwater	0.1 feet	Measurement	Quarterly	--
Groundwater Elevation	0.1 feet MSL	Measurement	Quarterly	--
Nitrate (as N)	mg/L	Grab	Quarterly	Standard Methods
Nitrogen, Total (as N) ²	mg/L	Grab	Quarterly	Standard Methods
Total Dissolved Solids	mg/L	Grab	Quarterly	Standard Methods
Chloride	mg/L	Grab	Quarterly	Standard Methods
Boron	mg/L	Grab	Quarterly	Standard Methods
Sodium	mg/L	Grab	Quarterly	Standard Methods

Table Notes:

- In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
- Total nitrogen is the sum of nitrate, nitrite, ammonia, and organic nitrogen.

IX. OTHER MONITORING REQUIREMENTS

A. Filtration Process Monitoring (Monitoring Locations INT-001A and INT-001B)

Filtration process monitoring shall demonstrate compliance with section IV.D.1 (Filtration Process Requirements) of this Order and applies to all treated wastewater flows. The following filtration process monitoring shall be implemented:

1. Effluent Filter Monitoring (Monitoring Location INT-001A)

- a. **Monitoring.** The Permittee shall calculate, on a daily basis, the surface loading rate in gallons per minute per square foot, and report the maximum surface loading rate and any exceedances of the surface loading rate limitations specified in section IV.D.1.a of the Order. The rate of flow through the tertiary filters shall be measured at Monitoring Location INT-001A.

- b. Compliance.** Compliance with the maximum daily filter surface loading rate, as specified in section 60301.320 of the CCR Water Recycling Criteria (title 22), shall be calculated based on the flow rate through each filter unit.
- c. Reporting.** The maximum daily filter surface loading rate shall be reported on the quarterly SMRs.

2. Effluent Filter Monitoring (Monitoring Location INT-001B)

- a. Monitoring.** The turbidity of the filtered effluent shall be continuously measured and recorded at Monitoring Location INT-001B. Should the turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours. The recorded data shall be maintained by the Permittee for at least 3 years. The daily maximum and 95th percentile turbidity results shall be reported on the quarterly SMRs.
- b. Compliance.** Compliance with the 95th percentile effluent turbidity limitation specified in title 22, as referenced in section IV.D.1.b of the Order, shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period. Exceedances of the maximum turbidity requirement referenced in section IV.D.1.b.ii of this Order shall not be considered a violation of these waste discharge requirements if such exceedance does not exceed a duration of one minute.
- c. Reporting.** If the filtered effluent turbidity exceeds 0.2 NTU for more than 5 percent of the time in a 24-hour period or 0.5 NTU at any time, the incident shall be reported in the quarterly SMR and to the Regional Water Board and DDW by telephone within 24 hours in accordance with Provision VI.A.2.b of this Order. A written report describing the incident and the actions undertaken in response shall be included in the quarterly SMR. Mitigation of the event shall consist of diverting all inadequately treated wastewater to temporary storage or an upstream process or automatically activated chemical addition to comply with title 22 requirements (Sections 60304 and 60307).

B. Disinfection Process Monitoring for Chlorine Disinfection System

Disinfection process monitoring shall demonstrate compliance with section IV.D.2 (Disinfection Process Requirements for Chlorine Disinfection System) of this Order and applies to all treated wastewater flows. The following disinfection process monitoring requirements must be implemented:

1. Disinfection Process Monitoring (Monitoring Location EFF-001)

- a. Monitoring.** The chlorine residual of the effluent from the chlorine contact chamber shall be monitored continuously at a point prior to dechlorination and recorded, and the modal contact time shall be determined at the same point.
- b. Compliance.** The chlorine disinfection CT (the product of total chlorine residual and modal contact time) shall not fall below 450 mg-min/L, with a modal contact time of at least 90 minutes.

Each day, the Permittee shall calculate the CT values for the following conditions:

- i.** Modal contact time under highest daily flow and corresponding chlorine residual.
- ii.** Modal contact time under lowest daily flow and corresponding chlorine residual.
- iii.** Lowest chlorine residual and corresponding modal contact time.

- iv. Highest chlorine residual and corresponding modal contact time.

The lowest calculated CT value under the aforementioned conditions shall be reported as the daily CT value on the quarterly SMR.

- c. **Reporting.** If the chlorine disinfection CT is less than 450 mg-min/L or if the chlorination equipment fails, the event shall be reported in the quarterly SMR and the incident shall be reported to the Regional Water Board and DDW by telephone within 24 hours in accordance with Special Provision VI.A.2.b of the Order. A written report describing the incident and the actions undertaken in response shall be included in the quarterly SMR. The report shall describe the measures taken to bring the discharge into compliance. Upon discovery of any equipment failure or failure to achieve 450 mg-min/L after disinfection, inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

C. Visual Monitoring (Monitoring Locations EFF-002, RSW-001, and RSW-002)

- 1. Visual observations of the discharge and receiving water shall be recorded monthly and on the first day of each intermittent discharge. Visual monitoring shall include, but not be limited to, observations for floating materials, coloration, objectionable aquatic growths, oil and grease films, and odors. Visual observations shall be recorded and included in the Permittee’s quarterly SMRs.

D. Pond System Monitoring (Monitoring Locations PND-001, PND-002, etc.)

- 1. Ponds used for the storage of recycled water shall be monitored for the following:

Table E-10. Storage Pond Monitoring – Monitoring Locations PND-001, PND-002

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>	<u>Reporting Frequency</u>
Freeboard	0.1 feet	Measurement	Weekly ¹	Annually
Odors	--	Observation	Monthly	Annually
Berm condition	--	Observation	Quarterly	Annually

Table Notes:

1. Freeboard monitoring shall occur more frequently, if needed, to ensure that the required 2 foot freeboard is maintained and overflows are prevented.

- 2. The Permittee shall notify the Regional Water Board Executive Officer prior to adding recycled water storage ponds by submitting the Storage Pond Technical Report identified in IV.D.3 of the Order. Upon approval of the Storage Pond Technical Report by the Regional Water Board Executive Officer, the Permittee shall monitor for the parameters identified in 1, above.

E. Sludge Monitoring (Monitoring Location BIO-001)

- 1. Sludge sampling shall be conducted according to the requirements specified by the location and type of disposal activities undertaken.
- 2. Sampling records shall be retained for a minimum of 5 years. A log shall be maintained for sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary however, the log must be complete enough to serve as a basis for developing the Sludge Handling and Disposal report that is required as part of the Annual Report.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.
2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit quarterly 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 Permittee 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.
3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.
4. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-11. Monitoring Periods and Reporting Schedule¹

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following the end of each quarter ¹ (February 1, May 1, August 1, November 1)
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling	First day of second calendar month following the end of each quarter ¹ (February 1, May 1, August 1, November 1)
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following the end of each quarter ¹ (February 1, May 1, August 1, November 1)

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following the end of each quarter ¹ (February 1, May 1, August 1, November 1)
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January through March April through June July through September October through December	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year (with annual report)
Once per permit term	Permit effective date	All	March 1 following the year that monitoring is completed (with annual report) and at least 180 days prior to permit expiration
<u>Table Notes:</u>			
1. Quarterly monitoring periods are as follows: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.			

5. Reporting Protocols. The Permittee shall report with each sample result the applicable ML, the RL, and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

The Permittee 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 reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, 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 as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- d. The Permittee is to instruct laboratories to establish calibration standards so that the 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 Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

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

- a. The Permittee 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 reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee 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 Permittee shall electronically submit the data in a tabular format as an attachment.
- b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
 - i. Facility name and address;
 - ii. WDID number;
 - iii. Applicable period of monitoring and reporting;
 - iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);
 - v. Corrective actions taken or planned; and
 - vi. The proposed time schedule for corrective actions.
- c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). In the event that an alternate method for submittal of SMRs is required, the Permittee shall submit the SMR electronically via e-mail to or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <http://waterboards.ca.gov/northcoast>.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Permittee shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. DMRs shall be submitted quarterly on the first day of the second calendar month following the end of each quarter (February 1, May 1, August 1, and November 1). Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/.

D. Other Reports

1. **Special Study Reports and Progress Reports.** As specified in the Special Provisions contained in section VI of the Order, special study and progress reports shall be submitted in accordance with the following reporting requirements.

Table E-12. Reporting Requirements for Special Provisions Reports

Order Section	Special Provision Requirement	Reporting Requirements
Special Provision IV.D.3	Storage Pond Technical Report	Prior to construction of any new pond or use of any existing pond
Special Provision VI.C.2.b	Jones Creek Flow Monitoring Plan	October 1, 2018
Special Provision VI.C.3.a.ii(e)	Pollutant Minimization Program, Annual Facility Report	March 1 , annually, following development of Pollutant Minimization Program
Special Provision VI.C.5.b.i	Source Control and Pretreatment Provisions, Annual Report	March 1 , annually
Special Provision VI.C.5.b.ii(a)	Source Control and Pretreatment Provisions, Notification of Discharges that Trigger Pretreatment Requirements	Within 30 days of discharges that trigger pretreatment requirements
Special Provision VI.C.5.b.ii(b)	Source Control and Pretreatment Provisions, Revised Report of Waste Discharge and Pretreatment Program	Within 1 year of discharges that trigger pretreatment requirements
Special Provision VI.C.5.f	Adequate Capacity, Technical Report	Within 120 days of notification that the Facility will reach capacity within 4 years
MRP General Monitoring Provision I.F	DMR-QA Study Report	Annually , per State Water Board instructions
MRP Effluent Monitoring Requirement IV.C.1	CTR Priority Pollutant Monitoring	No later than February 21, 2022
MRP Effluent Monitoring Requirement V.B.9.b	Notification of TRE/TIE Results	No later than 30 days from completion of each aspect of the TRE/TIE analyses
MRP Effluent Monitoring Requirement V.B.9.b	TRE/TIE Results	Within 60 days of completion of TRE/TIE analyses
MRP Effluent Monitoring Requirement V.C.2	Detailed TRE Work Plan	Within 30 days of an accelerated monitoring test that results in "Fail"
MRP Receiving Water Monitoring Requirement VIII.B.2 (Groundwater)	Groundwater Monitoring Work Plan	April 1, 2019
MRP Reporting Requirement X.E	Notification of spills and unauthorized discharges	Oral reporting within 24 hours and written report within 5 days

- 2. Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). In the event that an alternate method for submittal of the annual report is required, the Permittee shall submit the annual report electronically via the email address in section X.B.6.c., above. The report shall be submitted

by **March 1st** of the following year and certified as required by Standard Provisions (Attachment D) of this Order. The report shall, at a minimum, include the following:

- a. Where appropriate, tabular and/or graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 C.F.R. part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
- b. A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
- c. The names and general responsibilities of all persons employed at the Facility;
- d. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations; and
- e. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
- f. **Source Control Activity Reporting.** The Permittee shall submit, as part of its Annual Report to the Regional Water Board, a description of the Permittee's source control activities, as required by Special Provision VI.C.5.b.i, during the past year. This annual report is due on **March 1st** of each year, and shall contain:
 - i. A copy of the source control standards, including a table presenting local limits.
 - ii. A description of the waste hauler permit system; if applicable.
 - iii. A summary of the compliance and enforcement activities taken by the Permittee during the past year, which ensures industrial user compliance. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Permittee, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.
 - iv. A summary of public outreach activities to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the Facility.
- g. **Sludge Handling and Disposal Activity Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous 12 months. At a minimum, the report shall contain:
 - i. Annual sludge production, in dry tons and percent solids;
 - ii. Sludge monitoring results;
 - iii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram;
 - iv. Methods of final disposal of sludge:
 - (a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the land fill, the names and

locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.

- (b) For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.
- (c) For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.
- v. Results of internal or external third-party audits of the Biosolids Management System, including reported program deficiencies and recommendations, required corrective actions, and a schedule to complete corrective actions.
- h. **Storm Water Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee's best management practices (BMPs) to control the run-on of storm water to the treatment facility site, as well as activities to maintain and upgrade these BMPs.
- i. **Recycled Water Pipe Identification.** The Permittee shall document compliance with California Health and Safety Code section 116815 regarding the installation and marking of recycled water piping.

3. Water Recycling System Annual Report

The Permittee shall submit a Water Recycling System annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site. In the event that an alternate method for submittal of the annual report is required, the Permittee shall submit the report electronically to the email address in section X.B.6.c., above. The report shall be submitted by **March 1st** of the following year. The report shall, at a minimum, include the following:

- a. A summary table of all recycled water users and use areas, including the following information:
 - i. Use site names;
 - ii. Locations of recycled water use sites, including a map. Newly permitted recycled water users and use areas shall be clearly identified and, when applicable, supplement to the title 22 Engineering Report and the State Water Board Division of Drinking Water approval letter supporting those additions shall be included;
 - iii. Name and contact information for the recycled water operator responsible for the operation, maintenance, and system monitoring;
 - iv. Use site acreage; and
 - v. Total volume of recycled water supplied to each recycled water use site for each month of the reporting period.

- b.** A summary of recycled water use site inspections conducted by the Permittee or recycled water users and identification of recycled water user violations, including:
 - i.** Inspection dates;
 - ii.** All observations of recycled water over-application and/or runoff;
 - iii.** Misuses of recycled water;
 - iv.** The number and location of any cross-connections and/or improper backflow prevention devices; and
 - v.** Any other violations of the Master Recycling Permit or the Permittee's rules and regulations.
 - vi.** If violations occurred, the report shall also discuss the corrective actions taken and planned to bring the recycled water program into full compliance with this Order.
- c.** An evaluation of the performance of the recycled water treatment facility, including discussion of capacity issues, system problems, and a forecast of the flows anticipated in the next year.
- d.** An evaluation verifying that the application of recycled water to each use area occurred at reasonable agronomic rates identified in the Irrigation Operation and Management Plan required by section D.4. of Attachment G and utilizing the data required by Table E-6 of the MRP. If the agronomic rate evaluation determines that exceedances of the agronomic rate may be occurring, the Permittee shall identify and implement corrective actions to ensure recycled water use occurs at reasonable agronomic rates.
- e.** Certification that all reasonable BMPs and management practices were implemented to ensure efficient and compliant operation of the recycled water system; and
- f.** Identification of any other problems that occurred in the recycled water system during the prior year and plans to rectify those problems in the coming year.
- g.** A summary of all enforcement activities initiated by the Permittee, including a discussion of corrective action taken, as well as any planned or proposed actions needed to bring the use of recycled water into compliance with the requirements of this Order. Copies of documentation of any enforcement actions taken by the Permittee shall be provided.
- h.** A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in this Order.
- i.** Documentation of notifications to users if any recycled water was delivered that did not meet the requirements specified in this Order.
- j.** A record of equipment or process failures initiating an alarm, as well as any corrective and preventative actions.
- k.** A summary of scheduled and non-scheduled maintenance of the recycled water system appurtenances and irrigation areas;
- l.** Enforcement and monitoring activities that occurred during the previous year, and identification of any problems and how the problems were addressed; and

- m. If applicable, a summary of all cross-connection testing and back-flow prevention activities (inspections, maintenance) and a summary of any problems identified, or certification that no problems occurred.
- n. The name and contact information for the recycled water operator responsible for operation, maintenance, and system monitoring.
- o. A transmittal letter shall accompany each annual report. The letter shall summarize the numbers and severity of violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Permittee's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

E. Spill Notification

1. **Spills and Unauthorized Discharges.** Information regarding all spills and unauthorized discharges (except SSOs) that may endanger health or the environment shall be provided orally to the Regional Water Board³ within 24 hours from the time the Permittee becomes aware of the circumstances and a written report shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances, in accordance with Section V.E of Attachment D.

Information to be provided verbally to the Regional Water Board includes:

- a. Name and contact information of caller;
 - b. Date, time, and location of spill occurrence;
 - c. Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;
 - d. Surface water bodies impacted, if any;
 - e. Cause of spill, if known at the time of the notification;
 - f. Cleanup actions taken or repairs made at the time of the notification; and
 - g. Responding agencies.
2. **Sanitary Sewer Overflows.** Notification and reporting of sanitary sewer overflows is conducted separately in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems), which is not incorporated herein by reference, and any revisions thereto.

³ The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to the California Governor's Office of Emergency Services Warning Center (CalOES) will satisfy the 24-hour spill reporting requirement for the Regional Water Board. The contact number for spill reporting for the CalOES is (800) 852-7550.

3. **Recycled Water Spills.** Notification and reporting of spills and unauthorized discharges of recycled water discharged in or on any waters of the state, as defined in Water Code section 13050, shall be conducted in accordance with the following:
 - a. **Tertiary Recycled Water**⁴
 - i. For unauthorized discharges of 50,000 gallons or more of tertiary recycled water, the Permittee shall immediately notify the Regional Water Board as soon as (a) the Permittee has knowledge of the discharge or probable discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures.
 - ii. For unauthorized discharges of more than 1,000 gallons, but less than 50,000 gallons of tertiary recycled water, the Permittee shall notify the Regional Water Board as soon as possible, but no longer than 3 days after becoming aware of the discharge.

⁴ Tertiary Recycled Water means “disinfected tertiary 2.2 recycled water” as defined by DDW or wastewater receiving advanced treatment beyond disinfected tertiary 2.2 recycled water.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section I, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes 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 Permittees 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 Permittee. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Permittee.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1B831000SON
Permittee	Forestville Water District
Name of Facility	Wastewater Treatment, Recycling, and Disposal Facility
Facility Address	6194 Forestville Street
	Forestville CA, 95436
	Sonoma County
Facility Contact, Title and Phone	Matthew Froneberger, General Manager, (707) 887-1551
Authorized Person to Sign and Submit Reports	Matthew Froneberger, General Manager, (707) 887-1551
Mailing Address	P.O. Box 261, Forestville, CA 95436
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	B
Pretreatment Program	Not Applicable
Recycling Requirements	Producer
Facility Permitted Flow	0.130 million gallons per day (mgd) (average dry weather flow)
	0.576 mgd (peak weekly wet weather flow)
Facility Design Flow	0.130 mgd (average dry weather design flow)
	0.576 mgd (peak weekly wet weather design flow)
	0.780 mgd (peak daily wet weather design flow)
Watershed	Russian River Hydrologic Unit, Guerneville Hydrologic Subarea
Receiving Water	Jones Creek
Receiving Water Type	Inland surface water

- A. The Forestville Water District (hereinafter Permittee) is the owner and operator of the Forestville Wastewater Treatment, Recycling, and Disposal Facility (hereinafter Facility), a POTW.

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

The Permittee is authorized to discharge subject to waste discharge requirements in this Order at the discharge locations described in Table 2 on the cover page of this Order. The Code of Federal Regulations at 40 C.F.R. section 122.46 limits the duration of NPDES permits to be effective for a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorized by this Order. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending issuance of a new permit if all requirements of the federal National Pollutant Discharge Elimination System (NPDES) regulations on continuation of expired permits are complied with.

- B.** The Facility discharges tertiary treated wastewater to Jones Creek, which is tributary to Green Valley Creek, thence the Russian River, all waters of the United States. The Permittee was previously regulated by Order No. R1-2012-0012 and NPDES Permit No. CA0023043 adopted on January 19, 2012, expired on February 28, 2017, and administratively continued through the effective date of this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility. A site visit was conducted on April 11, 2016 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- C.** The Permittee filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on May 31, 2016. Supplemental information was submitted on June 7, 2016. The application was deemed complete on June 7, 2016.

II. FACILITY DESCRIPTION

The Permittee owns and operates a wastewater treatment, recycling, and disposal facility which provides sewerage services 384 connections, serving a population of approximately 930, including residential, commercial, and institutional customers in the Forestville and Mirabel Heights Zone of Benefit (Mirabel Heights) area. There are no industrial users that discharge into the Facility. The Permittee’s wastewater makeup is approximately 65 percent residential flow, 21 percent commercial flow, and 14 percent institutional flow. The institutional portion reflects two schools, which serve larger populations than live within the Permittee’s service area.

A. Description of Collection System and Wastewater Biosolids Treatment and Controls

The Facility is located within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area, within the Russian River Hydrologic Unit. The Facility is designed to provide advanced wastewater treatment for an average dry weather flow of 0.130 mgd, and a peak weekly wet weather flow of 0.576 mgd.

- 1. Collection System.** The Forestville collection system is comprised of two interconnected areas: Forestville Central and Mirabel Heights. The Forestville Central portion of the collection system is entirely gravity flow and consists of 6.5 miles of 6- and 8-inch pipe that was slip-lined with plastic lining between the late 1970’s and early 1980’s.

The Mirabel Heights portion consists of predominantly 6-inch PVC pipe with a small percentage of 8” PVC pipe and is serviced by two lift stations. Terminal Lift Station is located at the intersection of River and Mirabel Roads and has two submersible pumps, one 5 horsepower (HP) and one 10HP. The lift station pumps wastewater through a 4-inch force

main that extends 1533 feet to where it daylights at a manhole located on Trenton Road, then flows by gravity to the second lift station known as Intermediate Lift Station. Terminal Lift Station services most of Mirabel Heights' gravity sewer collection system. In addition, Steelhead Beach County Park maintains its own lift station that pumps wastewater to the gravity portion of the River Road 8-inch gravity main. Intermediate Lift Station is located on Trenton Road near the terminus of Covey Road and receives wastewater from Terminal Lift Station and a small portion of the gravity sewer system. Intermediate Lift Station has two 23HP high speed/high head pumps and pumps wastewater through 6,099 feet of 6-inch DI force main under Covey Road to the gravity sewer main at Van Keppel Road. Wastewater is pumped vertically approximately 220 feet at its highest point.

- 2. Wastewater Treatment.** The treatment system consists of a headworks, an aeration pond (also known as the South Pond), a settling pond (also known as the North Pond), microfiltration, chlorine disinfection with sodium hypochlorite and dechlorination with sodium bisulfite. Treated wastewater is discharged to an approximately 3.25 million gallon effluent storage pond used for storage of advanced treated wastewater prior to discharge to Jones Creek or the recycled water system.

The headworks includes a rotary hydroscreen system, a screenings washer, and a metering flume. Influent flows from a 12-inch pipeline to the rotary hydroscreen system. After solids removal, influent flows through a 3-inch Parshall flume for flow measurement. The cleaned and dewatered solids are disposed of at a landfill.

Wastewater from the headworks flows by gravity to the east end of the aeration pond. The pond has a volumetric capacity of 2.93 million gallons, and is divided into three baffled cells to reduce short-circuiting. The first cell contains two 7.5-horsepower aerators that run continuously, the second cell contains one 5-horsepower aerator that also runs continuously, and the third cell contains a 3-horsepower aerator, set on a timer, to create aerobic and anoxic conditions within the pond. Based on the average dry weather treatment capacity, the theoretical detention time in the pond is 24.8 days. Wastewater flows from cell to cell and exists from the westernmost cell into the settling pond.

The settling pond (also known as the North Pond) is used for storage during high flows and for filter backwashes. The settling pond has a total volume of 0.75 million gallons. Wastewater from the settling pond is recirculated to the aeration pond as necessary.

Wastewater from the aeration pond is pumped to the filtration system. To maintain cleanliness in the filters, the secondary effluent is pre-chlorinated using sodium hypochlorite prior to filtration. Tertiary treatment is achieved in the microfiltration system. The microfiltration system consists of two treatment trains each with a holding tank, strainer, and three banks of 12 microza microfiltration modules (water flows from the outside-in). The microfiltration building has been designed to accommodate a third treatment train if necessary. The microfiltration system is operated in accordance with the manufacturer's operations manual and State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW) requirements. Where the manufacturer's recommendations are less stringent than DDW requirements, DDW requirements take precedence.

From the microfiltration system, filtered wastewater flows to the chlorine contact tank by gravity through an 8-inch pipeline. A chlorine gas system was replaced with a sodium hypochlorite system in May 2014. Sodium hypochlorite is injected into the 8-inch influent line prior to entering the chlorine contact tank using an injection quill assembly. Sodium

hypochlorite is stored in a 540-gallon tank and is conveyed to the injection point through a 1-inch line by a pair of peristaltic pumps. Two peristaltic pumps are utilized each with a rated application rate of 100 gallons per day. The dosing of sodium hypochlorite is a set rate and is not flow- or demand-paced. The chemical pump rate is manually adjusted based on the chlorine residual or the filter process flow rate.

Chlorinated effluent then flows into one of two baffled concrete chambers. A chlorine contact tank tracer study conducted in August 2005 demonstrated that the contact time is 105 minutes at the peak weekly treatment plant design flow of 0.576 mgd, and that a final chlorine residual of 4.3 mg/L is needed to maintain a contact time of 450 mg-min/L at peak weekly design flow. The study also demonstrated that when the filter flow exceeds 0.576 mgd, up to the peak wet weather daily design flow of 0.780 mgd, a final chlorine residual of 5.3 mg/L is needed to maintain a contact time of 450 mg-min/L. After flowing through the chlorine contact tank, before discharge to the effluent storage pond, the chlorinated effluent is dechlorinated using sodium bisulfite.

After treatment, the advanced treated effluent is discharged to an on-site effluent storage pond prior to discharge to the land disposal system or the surface water discharge system. The maximum capacity of the existing on-site storage pond is 3.25 million gallons. Additional on-site storage capacity may also be available within the treatment ponds during low flow periods. The storage ponds allow the amount of discharge to be controlled to protect beneficial uses of the receiving water and provide a source of recycled water during the discharge prohibition period, as further described in section II.B, below.

- 3. Biosolids Management.** Biosolids generated during the treatment process accumulate in the aeration and settling ponds, where they undergo anaerobic digestion and densification. Over time, the volume of settled solids increases, reducing the retention time of flow through the pond. Facility design recommendations are that the settling pond provide a minimum of 12 hours detention time at the peak week wet weather flow, at maximum allowable water depth. Accordingly, 0.46 million gallons of settling pond capacity is available for solids accumulation. This volume is equivalent to a depth of 6.5 feet. Solids were removed from both the North and South ponds in 2012, for the first time since construction of the tertiary facilities in 2001. During the 2012 biosolids removal event, approximately 99 dry tons of solids were removed from the ponds and land-applied by Synagro Technologies, Inc. At present, samples show that neither pond contains a substantial quantity of biosolids. The Permittee does not anticipate needing to remove biosolids within the term of this permit.

B. Discharge Points and Receiving Waters

- 1.** The Facility is located within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area, within the Russian River Hydrologic Unit.
- 2.** Year-round, the Permittee discharges advanced treated wastewater, at Discharge Point 001, to a 3.25 million gallon effluent storage pond prior to discharge to the recycled water system or the surface water discharge system.
- 3.** During the wet weather season (October 1 through May 14), effluent treated in accordance with permit requirements in section IV.A of the Order, may be discharged from the on-site effluent storage pond via a one quarter mile outfall pipe to Jones Creek at Discharge Point 002. Jones Creek is a water of the United States and tributary to the Russian River via Green Valley Creek at 38° 27' 58" N latitude and 122° 53' 18" W longitude.

4. During the dry weather season (May 15 through September 30), and other periods as allowed under this Order, treated wastewater from the 3.25 million gallon effluent storage pond is recycled for urban and agricultural irrigation, including frost control on vineyards at Discharge Point 003.

The existing irrigation system includes approximately 296 acres of agricultural land with an irrigable capacity of 54 acre-feet and 18 acres of urban land with an irrigable capacity of approximately 39 acre-feet. The Permittee has written agreements with individual recycled water customers

The advanced wastewater treatment recycled water system includes two effluent pump stations, two recycled water mains, an effluent transfer line to the Graton CSD Wastewater Treatment Facility (WWTF), an off-site storage reservoir, spray irrigation systems and accompanying appurtenances to provide advanced treated recycled water to agricultural and urban landscapes, including school grounds and parks. The off-site storage pond is an existing 14.7 million gallon storage reservoir at the Sterling/Iron Horse Vineyards property in Forestville that provides additional effluent storage capacity of 6.5 to 13 million gallons annually. Effluent stored in this pond is used for irrigation and frost protection of vineyards on the Sterling/Iron Horse Vineyards property. The amount of recycled water used for irrigation in any year is dependent on weather conditions and the amount of land available for irrigation. The Permittee's preferred disposal method is irrigation, rather than discharge to surface waters.

5. Disinfected advanced treated wastewater may be transferred from the Facility to the Graton CSD WWTF at Discharge Point 004.

A recycled water pipeline between the Facility and the Graton CSD WWTF provides the means for transfers of recycled water between the facilities and provisions of recycled water to irrigation customers along the pipeline. A 2012 agreement between the Permittee, Graton CSD, and the Sonoma County Water Agency (SCWA) (the owner of the pipeline at the time) outlined the terms under which the Permittee could transfer recycled water to the Graton CSD WWTF for storage or accept disinfected secondary effluent for the purpose of providing advanced wastewater treatment to the transferred effluent. During the term of Order No. R1-2012-0012, SWCA sold its ownership of the intertie voiding the previous agreement. Additionally, the Graton CSD WWTF was upgraded to provide tertiary treatment of wastewater. The Permittee did not transfer any of its effluent to the Graton CSD WWTF during the term of Order No. R1-2012-0012.

As no agreement regarding transfers of water currently exist, transfers will have to be negotiated on an event-specific basis. If a formal agreement is established within this permit term, as described in Order section IV.C.3, transfers between the two facilities could occur more frequently and provide more reliable storage and disposal of effluent. Since both facilities treat effluent to tertiary standards, transfers could occur without any additional treatment prior to disposal. There are differences in the effluent limits, such as turbidity, for each facility, but these differences are attributable to the use of different filtration technology, and are not a reflection of overall effluent quality.

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

Effluent limitations contained in Order No. R1-2012-0012 for discharges from Discharge Point 001 [Monitoring Locations INT-001 (BOD₅) and EFF-001 (TSS)] and Discharge Point 002

(Monitoring Location EFF-002) and representative monitoring data from the term of Order No. R1-2012-0012 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001

Parameter	Units	Effluent Limitation			Monitoring Data (February 2012 – May 2016)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	10	15	--	76	150	--
	lbs/day ^{1,2} (dry weather)	11	16	--	6.4	14	--
	lbs/day ^{1,3} (wet weather)	48	73	--	50	110	--
	% Removal	85	--	--	60	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	8.1	37	--
	lbs/day ^{1,2} (dry weather)	11	16	--	4.3	19.2	--
	lbs/day ^{1,3} (wet weather)	48	73	--	2.8	5.6	--
	% Removal	85	--	--	95.4	--	--
Total Coliform Bacteria	MPN/100 mL	23 ⁴	2.2 ⁵	240	7.8	14	80

NR=Not Reported
 ND=Non-detect

Table Notes:

1. Mass-based effluent limitations apply during periods of discharge to surface waters (Jones Creek). See section VII.H of this Order regarding compliance with mass-based effluent limitations.
2. Mass calculated based on the dry weather design flow of the Facility of 0.130 mgd and apply whenever influent flows to the WWTF are less than or equal to 0.130 mgd.
3. During wet weather periods, when the influent flow rate exceeds the dry weather design flow, mass emission limitations shall be calculated using the concentration-based effluent limitations and the actual daily average influent flow rate (not to exceed a peak weekly design flow of 0.576 mgd).
4. The number of coliform bacteria shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters (mL) in more than one sample in any 30-day period.
5. The median concentration shall not exceed a MPN of 2.2 per 100 mL, using bacteriological results of the last 7 days for which analyses have been completed.

Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point 002

Parameter	Units	Effluent Limitation			Monitoring Data (February 2012 – May 2016)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
pH	s.u.	--	--	6.5 – 8.5	--	--	6.5 – 9.8
Copper, Total Recoverable	µg/L	1	--	1	61	--	61
Cyanide, Total (as CN)	µg/L	4.2	--	8.7	13	--	13
Dichlorobromo-methane	µg/L	0.56	--	1.45	4.0	--	4.2
Total Trihalomethanes ²	µg/L	80	--	--	55	--	--
Chlorine, Total Residual	mg/L	--	--	0.1 ³	--	--	ND
	mg/L	0.01 ⁴	--	0.02 ⁴	NR	--	NR
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	19	--	--
Acute Toxicity	% Survival	70 ⁵ /90 ⁶	--	--	100 ⁷	--	--
NR=Not Reported ND=Non-detect Table Notes: 1. Final effluent limitations for copper are hardness-dependent. See Attachment E-1 of Order No. R1-2012-0012 for the full table of hardness-dependent copper effluent limitations, which are to be determined based on the hardness of the effluent at the time the discharge is sampled. 2. Total trihalomethanes (TTHM) means the sum of the concentrations of the trihalomethane compounds dichlorobromomethane, chloroform, bromoform and chlorodibromomethane (CCR, title 22, section 64401.92). 3. Interim effluent limitation effective until February 28, 2017. 4. Final effluent limitations effective on March 1 2017. 5. Minimum for any one bioassay. 6. Median for any three or more consecutive bioassays. 7. Represents the minimum observed percent survival.							

D. Compliance Summary

On January 19, 2012, the Regional Water Board adopted Cease and Desist Order (CDO) No. R1-2012-0011 that established interim effluent limitations for copper and required the Permittee to comply with final copper effluent limitations in Order No. R1-2012-0012 by June 30, 2016. The Permittee completed all compliance schedule tasks, including submittal of a copper water effect ratio study report (WER Report) in a timely manner. Regional Water Board staff reviewed the WER Report and determined that it met all requirements in the U.S. EPA guidance documents titled Interim Guidance on Determination and Use of Water Effect Ratios for Metals (EPA-823-B-94-001) and Streamlined Water Effect Ratio Procedure for Discharges of Copper (EPA-822-R-01-005). Regional Water Board staff used the WER determined through the Permittee’s study to revise the reasonable potential analysis for copper and calculated higher WER-adjusted copper effluent limitations that the Permittee that are established in this Order. CDO No. R1-2012-0011 was revised pursuant to Modification Order No. R1-2017-0048 to extend the date for compliance

with final copper effluent limitations to June 30, 2018 to extend protection from mandatory minimum penalties until this new Order is adopted.

On January 1, 2016, the Executive Officer issued Administrative Civil Liability (ACL) Complaint No. R1-2016-0008 for 70 violations of effluent limitations for 5-day biochemical oxygen demand (BOD₅), total coliform bacteria, copper, nitrate, cyanide, and dichlorobromomethane in Order Nos. R1-2004-0027, R1-2012-0012, and CDO No. R1-2012-0011. The ACL Complaint assessed a penalty of \$210,000 for these violations. On February 5, 2016, the Permittee waived the 90-day hearing requirement and agreed to engage in settlement discussions.

On December 19, 2016, the Executive Officer issued ACL Order No. R1-2016-0053 with a compliance schedule requiring the Permittee to complete a compliance project that includes tasks to evaluate the Permittee's collection system for inflow and infiltration (I/I) and to identify opportunities for reducing I/I into the collection system. A final project report will be submitted upon completion of the collection system evaluation.

E. Planned Changes

The Permittee is planning to optimize use of the high flow storage pond by instituting seasonal changes in the flow regimes and use of aeration and settling functions. As funding becomes available, the Permittee is planning to upgrade the supervisory control and data acquisition (SCADA) system to allow for remote monitoring access and operation, and to institute flow pacing for the chlorination and dechlorination system to address elevated sodium and total dissolved solid (TDS) levels. The Permittee is also considering projects to reduce inflow and infiltration and decrease the peaking factor, and to increase high flow storage (flow equalization) capacity.

The Permittee may also consider developing a Joint Use Program with the Graton CSD. The goals of such a program are to enable the Permittee and Graton CSD to transfer tertiary 2.2 effluent between each wastewater treatment facility, in order to optimize use of both Facilities' recycled water storage and distribution systems and discharge systems.

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 Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, and division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a NPDES permit authorizing the Permittee to discharge into waters of the U.S. at the discharge location described in Table 2 subject to the WDRs in this Order. This Order also serves as a master recycling permit pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13500).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code. This action also involves the re-issuance of waste discharge requirements for an

existing facility that discharges treated wastewater to land and as such, is also exempt from CEQA pursuant to title 14, CCR, section 15301 as an existing facility for which no expansion of use is being permitted.

When approving proposals for new recycled water sites, the Regional Water Board's action is subject to CEQA. Regional Water Board compliance with CEQA shall be addressed during the approval process for recycled water expansion areas set forth in Attachment G to this Order. The approval process requires demonstration that a CEQA analysis has been conducted for the recycled water use type and/or the geographical area of the recycled water use. The Permittee must also submit technical information necessary to demonstrate that any proposed recycled water use areas will be irrigated using the most stringent of the hydraulic and nutrient agronomic rate and include best management practices that are protective of surface and ground water quality, as described in Attachment G to this Order.

If a local agency (e.g., Permittee or other approved lead agency pursuant to CEQA regulations) has conducted an appropriate CEQA analysis, the Regional Water Board may review the CEQA document prepared by the local agency and make findings based on that document. If the local agency does not prepare a CEQA document, and the project is not otherwise exempt from CEQA requirements, the Regional Water Board could act as the lead agency under CEQA and prepare any necessary document to comply with CEQA, however, this could result in delays in project approval until such time that a proper CEQA analysis can be conducted by the Regional Water Board.

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

- 1. Water Quality Control Plan.** The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Jones Creek within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area, are summarized in Table F-4, below:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Jones Creek, tributary to the Russian River via Green Valley Creek within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area	<p><u>Existing:</u> Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial service supply (IND); Groundwater recharge (GWR); Freshwater replenishment (FRSH); Navigation (NAV); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Commercial and sport fishing (COMM); Warm Freshwater Habitat (WARM); Cold freshwater habitat (COLD); Wildlife habitat (WILD); Rare, threatened, or endangered species (RARE); Migration of aquatic organisms (MIGR); Spawning, reproduction, and/or early development (SPWN); and Estuarine Habitat (EST)¹</p> <p><u>Potential:</u> Industrial process supply (PRO); Hydropower generation (POW); Shellfish Harvesting (SHELL); and Aquaculture (AQUA).</p>
001, 002, and 003	Groundwater	<p><u>Existing:</u> Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial service supply (IND); and Native American culture (CUL).</p> <p><u>Potential:</u> Industrial process supply (PRO); and Aquaculture (AQUA).</p>
<p><u>Table Notes:</u> 1. Estuarine Habitat is not present in Jones Creek or Green Valley Creek.</p>		

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coast Basin. For the Russian River and its tributaries, no point source waste discharges are allowed during the period of May 15 through September 30 and for all other periods the receiving stream’s flow must be at least 100 times greater than the waste flow unless an exception to the requirement is granted by the Regional Water Board. Additionally, the discharge of municipal waste during October 1 through May 14 shall be of advanced treated wastewater and shall meet a median coliform level of 2.2 MPN/100 mL.

The *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) limits discharges to the Russian River and its tributaries to one percent of the receiving water flow

(1:100) unless an exception to the requirement is granted by the Regional Water Quality Control Board (Regional Water Board). (See section IV.C.1 of this Fact Sheet.) Exceptions are given for cause on a case-by-case basis, taking into consideration:

- a. The reliability of the WWTF;
- b. Whether the discharge of waste is limited to rates and constituent levels that protect the beneficial uses of the receiving waters;
- c. Whether reasonable alternatives for recycling have been addressed to limit the amount of the wastewater to be discharged;
- d. Whether the exception complies with state and federal antidegradation policies; and
- e. Whether there is any discharge of waste to surface waters during the period of May 15 through September 30.

The Permittee submitted an analysis of the impacts of the discharge on the water quality and beneficial uses of Jones Creek and Green Valley Creek, and concluded that the Facility provides a best practicable treatment method for water quality protection and reducing and managing effluent nutrient loads into Jones Creek. The Regional Water Board has denied the exception request based on the fact that the Permittee's Facility does not consistently treat ammonia and nitrate to levels that meet effluent limitations in section IV.A.2 of this Order, and the Permittee's analysis shows that the Permittee's effluent discharge causes an increase in temperature and a decrease in dissolved oxygen downstream of the discharge.

The rate of discharge was previously established and calculated based on flow conditions in Green Valley Creek, to which Jones Creek is tributary, monitored at the Iron Horse Bridge, and was limited to one percent of the flow of Green Valley Creek. This Order limits the Permittee's discharge to one percent of the flow of Jones Creek. The Permittee will be unable to meet this requirement. A time schedule will be established in a time schedule order (TSO) to give the Permittee time to comply. The TSO will establish an interim flow limit for the Permittee to not exceed one percent of the flow in Green Valley Creek.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 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 February 13, 2001. These rules contain federal water quality criteria for priority pollutants.
3. **State Implementation Policy.** On March 2, 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 April 28, 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 Regional Water Board in the Basin Plan. The SIP became effective on May 18, 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 February 24, 2005, that became effective on July 13, 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. **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) implemented by the Basin Plan that are designed to protect human health and ensure that water is safe for domestic use.
5. **Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This Policy became effective on August 27, 2008.

This Order does not include a compliance schedules or interim effluent limitations.

6. **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 No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*). Resolution No. 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional 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 State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.
7. **Anti-Backsliding Requirements.** Sections 402(o)(2) 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. Some effluent limitations from the previous Order have been removed or are less stringent than those in the previous Order. As discussed in detail in section IV.D.1 of this Fact Sheet, removal or relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
8. **Endangered Species Act Requirements.** This Order does not authorize an act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare, threatened, and endangered species. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

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

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies every two years. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The CWA requires development of a total maximum daily load (TMDL) or alternate program of implementation for each 303(d) listed pollutant and water body to remedy the impairment. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On June 26, 2015, the U.S. EPA provided final approval of the 2012 303(d) list of impaired water bodies for the North Coast Region prepared by the state. The list identifies the entire Russian River watershed (including the Green Valley Creek watershed) as impaired by sedimentation/siltation, temperature and indicator bacteria and the portion of the mainstem Russian River from Fife Creek to Dutch Bill Creek as impaired by aluminum. The Green Valley Creek is also impaired by dissolved oxygen. Pursuant to CWA section 303(d), the Regional Water Board will develop TMDLs or alternate programs of implementation to address the impairment for sediment, temperature, indicator bacteria, aluminum, and dissolved oxygen, which will be implemented through various programs, including through provisions of NPDES permits.

Aspects of the sediment impairing the Russian River include settleable solids, suspended solids, and turbidity. The impact of settleable solids results when they collect on the bottom of a waterbody over time, making them a persistent or accumulative constituent. The impact of suspended solids and turbidity, by contrast, results from their concentration in the water column. An analysis of the Permittee's effluent monitoring data since the upgrade to advanced wastewater treatment indicates levels of BOD₅, TSS, total coliform bacteria, and settleable solids in the effluent are generally less than the effluent limitations required by this Order; however, there have been occasional exceedances of the effluent limitations for BOD₅. Thus, the discharge does not typically contain sediment (e.g., settleable solids, suspended solids, and turbidity) at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River. This finding is based, in part, on the advanced level of treatment provided by the Facility, which removes settleable solids and reduces TSS and turbidity to negligible levels. This finding is also supported by the summer discharge prohibition, the one percent flow limitation for the winter discharge, and previous solids and turbidity monitoring that has demonstrated that the Facility removes settleable solids and turbidity to negligible levels.

As part of the Report of Waste Discharge, the Permittee submitted Technical Memorandum: Request for an Exception to the Basin Plan One Percent Discharge Limitation. As reported in the memorandum, the Permittee evaluated upstream and downstream temperature and dissolved oxygen in Jones Creek to determine whether the discharge appears to have an effect on water quality in the creek.

With regard to temperature, the study showed that four of the 28 sample dates indicated no change in water temperature in Jones Creek from upstream to downstream, while 17 samples indicated changes from upstream to downstream in the same direction of the discharge value. The average change in creek temperature observed was 0.1°C up or down, and the greatest change was an increase of 2.0°C. The Permittee observed that the temperature of the discharge was greater than the upstream creek temperature in 23 of the samples and less than the upstream creek temperature in five of the samples. The Permittee concluded that the impact of the discharge on the temperature in Jones Creek was inconsistent and minor. The critical time period for temperature is in the summer, which is also the time period when point source discharges from the Facility are prohibited. Because of the summer discharge prohibition, the Facility does not contribute to temperature loadings in the receiving water during the hottest, most critical season of the year.

With regard to dissolved oxygen, the Basin Plan establishes water quality objectives for dissolved oxygen in the Russian River of a minimum 7.0 mg/L, 90% lower limit of 7.5 mg/L and 50% lower limit of 10.0 mg/L. Downstream samples for Jones Creek meet the lower limit for all but one sample. The lower 90th percentile of downstream samples is 7.7 mg/L and the 50th percentile is 9.1 mg/L. Although the 50th percentile value of the downstream samples is lower than the limit, the 50th percentile value of the upstream samples is 8.75 mg/L, also below the limit. This shows that the natural conditions of Jones Creek may be below the Basin Plan water quality objectives for the Russian River and not caused by the Facility's discharge.

Dissolved oxygen in the discharge was lower than in the creek in 16 of the 28 samples. However, only 12 of the 28 creek samples showed a decrease in dissolved oxygen from upstream to downstream. The greatest decrease was a change of 0.3 mg/L dissolved oxygen, a 4% decrease from upstream to downstream. The 4% decrease meets the Basin Plan specific objective that *"Dissolved oxygen concentrations shall not at any time be depressed more than 10 percent from that which occurs naturally."* Based on the samples, the impact of Facility's discharge on the dissolved oxygen concentration of the waters of Jones Creek is inconsistent and minor.

With regard to indicator bacteria, on August 7, 2017, the Regional Water Board made available for public review and comment a draft Program of Implementation (TMDL Action Plan) for the Russian River Watershed Pathogen Total Maximum Daily Load. The draft TMDL Action Plan establishes a wasteload allocation (WLA) for *E. coli* bacteria for NPDES permittees that discharge treated municipal wastewater from holding ponds to the Russian River or its tributaries and sets forth a requirement that surface water discharges from the holding pond meet a water quality-based effluent limitation for indicator bacteria that ensures compliance with the WLA. In accordance with the TMDL Action Plan, the WQBEL would be included in the NPDES permits for all affected NPDES permittees within five years of the effective date of the TMDL Action Plan.

E. Other Plans, Policies and Regulations

1. On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems and on August 6, 2013 adopted Order No. WQ 2013-0058-EXEC Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for Permittees to apply for coverage was November 2, 2006. The Permittee applied for coverage and is

separately subject to the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any future revisions thereto for operation of its wastewater collection system.

2. Coverage under State Water Board Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial Storm Water General Permit is not required based on the size of the Facility (less than 1 mgd).
3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Recycled Water Activities. The Permittee must obtain coverage under Order No. 2004-0012-DWQ prior to any removal of biosolids from the Facility that will be land disposed on property owned or controlled by the Permittee.
4. In 1996, the State Water Board and the California Department of Health Services (now State Water Board Division of Drinking Water) set forth principles, procedures, and agreements to which the agencies committed themselves relative to the use of recycled water in California, in a document titled *Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water* (MOA). This Order is consistent with the MOA.
5. On February 3, 2009, the State Water Board adopted Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Recycled Water Policy) (Revised January 22, 2013, effective April 25, 2013) for the purpose of increasing the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Recycled Water Policy provides direction to the regional water boards regarding the appropriate criteria to be used in issuing permits for recycled water projects and describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. Pertinent provisions and requirements of the Policy have been incorporated into this Order to address conditions specific to the Permittee's plan to implement water recycling.

The Recycled Water Policy recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy further recognizes that these conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water, and water supply augmentation using surface or recycled water, and that regulation of recycled water alone will not address these conditions. It is the intent of the Recycled Water Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional Salt and Nutrient Management Plans (SNMPs) rather than through imposing requirements solely on individual recycled water projects.

This Order is consistent with the requirements of the Recycled Water Policy to implement an SNMP. The Recycled Water Policy currently requires monitoring for priority pollutants

annually. This Order requires the Permittee to monitor priority pollutants once per permit term.

6. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of the 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.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

This prohibition is based on the Basin Plan, the previous Order, and State Water Board Order No. WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are not disclosed by the Permittee, and are not reasonably anticipated to be present in the discharge. It specifically does not apply to constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were “*disclosed to the permitting authority and...can be reasonably contemplated.*” [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24.] In that Order, the State Water Board cited a case which held the Permittee is liable for the discharge of pollutants “*not within the reasonable contemplation of the permitting authority...whether spills or otherwise...*” [*Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland* (4th Cir. 2001) 268 F. 3d 255, 268.] Thus, the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Permittee and (2) can be reasonably contemplated by the Regional Water Board.

2. **Discharge Prohibition III.B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

This prohibition has been retained from Order No. R1-2012-0012 and is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code.

3. **Discharge Prohibition III.C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).

This prohibition has been retained from Order No. R1-2012-0012 and is based on restrictions on the disposal of sewage sludge found in federal regulations [40 C.F.R. part 503 (Biosolids), part 527, and part 258] and title 27 of the CCR.

4. **Discharge Prohibition III.D.** The discharge or recycling use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions G (Bypass) and H (Upset).

This prohibition has been retained from Order No. R1-2012-0012 with a minor modification. The term "reclamation" has been replaced with the term "recycling." This prohibition is based on the Basin Plan to protect the beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the state without filing for and being issued an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 C.F.R. section 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

5. **Discharge Prohibition III.E.** Any SSO that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.

This prohibition is retained from Order No. R1-2012-0012 with a minor modification. A reference to groundwater has been removed because groundwater is captured in the broader term, "waters of the state." This prohibition applies to spills related to SSOs and is based on state standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the state's antidegradation policy as specified in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the state and land for a more complete protection of human health. The rationale for this prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

- 6. Discharge Prohibition III.F.** The discharge of waste to land that is not owned by the Permittee, governed by District ordinance, or under agreement to use by the Permittee, or for which the Permittee has explicitly permitted such use, is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the CCR.

This prohibition is retained from Order No. R1-2012-0012, with minor modifications. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater.

- 7. Discharge Prohibition III.G.** The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.

This prohibition has been retained from Order No. R1-2012-0012. This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

- 8. Prohibition III.H.** The average dry weather flow of waste through the Facility shall not exceed 0.130 mgd, measured daily and averaged over a calendar month. The peak weekly wet weather flow of waste through the Facility shall not exceed 0.576 mgd. Compliance with this prohibition shall be determined as defined in sections VII.K and VII.L of this Order.

This prohibition is retained from Order No. R1-2012-0012 with a modification to correct the peak wet weather flow which was reflected in Order No. 2012-0012 as a peak daily wet weather flow, but should have been reflected as a peak weekly wet weather flow. Exceedance of this capacity on a weekly basis may result in effluent violations and/or the need to by-pass untreated effluent blended with treated effluent, which is prohibited.

- 9. Discharge Prohibition III.I.** The discharge of waste to the Russian River and its tributaries is prohibited during the period from May 15 through September 30 of each year.

This prohibition is retained from Order No. R1-2012-0012 and is required by the Basin Plan. The Basin Plan prohibits discharges to the Russian River and its tributaries during the period May 15 through September 30 (Chapter 4, Waste Discharge prohibitions for the North Coastal Basin). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

- 10. Prohibition III.J.** During the period from October 1 through May 14, discharges of treated wastewater to Jones Creek, tributary the Russian River via Green Valley Creek, shall not exceed one percent of the flow of Jones Creek. The Permittee shall propose a method for measuring Jones Creek flows for approval by the Regional Water Board Executive Officer as required by Special Provision VI.C.2.a of this Order. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

- a.** The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of Jones Creek. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,

- b. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of Jones Creek in the same calendar month. At the beginning of the discharge season, the monthly flow volume comparisons shall be based on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume comparisons shall be based on the first day of the calendar month to the date when the discharge ceased for the season.
- c. Basin Plan Prohibition No. 3 does not specify how compliance to the one-percent flow requirement will be determined. This prohibition, set forth in Provision III.J of the Order, specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season, provided the Permittee makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of Green Valley Creek, as measured at the Iron Horse Bridge. This modification provides day-to-day operational flexibility for the Permittee while retaining the intent of the prohibition.

This prohibition is required by the Basin Plan (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). It has been retained from Order No. R1-2012-0012 and modified to require compliance in Jones Creek, rather than Green Valley Creek because the Permittee's discharge does not meet all of the exception criteria in the Basin Plan. The Basin Plan prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent (1:100) of the receiving stream's flow during the allowable discharge season, unless an exception is granted in accordance with the Basin Plan.

The Basin Plan allows the Regional Water Board to consider for cause exceptions to the one percent waste discharge rate limitation and requires that exceptions be defined in NPDES permits for each permittee, on a case by case basis in accordance with specific requirements that are identified in Chapter 4, Implementation Plans, Point Source Measures, North Coastal Basin, Item 5.

The Permittee's ROWD included a Technical Memorandum titled *Request for an Exception to the Basin Plan One Percent Discharge Limitation* (Technical Memorandum). The Technical Memorandum includes a request to discharge up to 25 percent of the flow of Jones Creek and an analysis of the impacts of the discharge on water quality and beneficial uses of Jones Creek and Green Valley Creek. The Technical Memorandum includes an assessment of the Permittee's Facility and discharge in relation to the five conditions identified in the Basin Plan, including:

- A. The wastewater treatment facility shall be reliable.
- B. The discharge of waste shall be limited to rates and constituent levels which protect the beneficial uses of the receiving waters.
- C. The exception shall be limited to that increment of wastewater which remains after reasonable alternatives for reclamation have been addressed.
- D. The exception shall comply with State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," and the federal regulations covering antidegradation (40 C.F.R. §131.12).
- E. There shall be no discharge of waste during the period May 15 through September 30.

The Permittee's Technical Memorandum concluded that the Facility meets the Basin Plan conditions for allowance of an exception and that the Facility provides a best practicable treatment method for water quality protection and reducing and managing effluent nutrient loads into Jones Creek. The Regional Water Board disagrees with the Permittee's conclusion and has denied the exception request because the analysis does not demonstrate compliance with Basin Plan Conditions A, B, and D, as discussed in the following paragraphs.

Condition A requires that the treatment facility be reliable. The Permittee's Facility includes several reliability components including redundant treatment processes, proper operation and maintenance, and back-up power supply. The Facility has not reliably met effluent limitations for BOD₅ since 2005. Regional Water Board Order No. R1-2016-0053, Stipulated Administrative Civil Liability Order (Stipulated Order) addresses effluent limitation violations at the Facility and includes the statement "The proposed CP [compliance project] will focus on the most prevalent violation, Biochemical Oxygen Demand (BOD), which comprised 43% of the violations (30 of 70 total violations) occurring during the period covered by this Order [January 1, 2010, through December 31, 2015]. The purpose of the CP is to seek to determine the cause(s) of the BOD exceedances, currently believed to be caused by peak influent flow events, and to identify opportunities for reduction of collection system inflow and infiltration (I/I). ..." This statement points to a lack of reliability in the collection system, treatment capacity, and/or backup storage capacity. As a requirement of the Stipulated Order, the Permittee is currently evaluating the cause of the BOD₅ exceedances and plans to develop a plan to achieve consistent compliance with BOD₅ effluent limitations by addressing the issues that are causing these exceedances.

Condition B requires that the discharge of waste be limited to rates and constituent levels which protect the beneficial uses of the receiving waters. The Technical Memorandum states, "It appears that FWD [Forestville Water District] discharge, by increasing nitrate and phosphorus concentration in Jones Creek and Green Valley Creek, has the potential to negatively impact COLD, WARM, WILD, RARE and MIGR beneficial uses in the creeks." Monitoring data collected during the term of Order No. R1-2012-0012 demonstrates that discharges from the Permittee's Facility contain ammonia, nitrate, cyanide, dichlorobromomethane, and chlorodibromomethane at concentrations that exceed water quality-based effluent limits for the protection of aquatic life and/or human health. The analysis also shows that the Permittee's effluent discharge causes an increase in temperature and a decrease in dissolved oxygen downstream of the discharge. The Regional Water Board Executive Officer proposes to issue a time schedule order (TSO) require the Permittee to develop a plan and schedule to evaluate and address these effluent limitation exceedances in order to ensure protection of water quality.

Condition D requires that the discharge comply with the State and federal antidegradation policies. The State Antidegradation Policy requires that (1) higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in the policies; and (2) any activity that produces a waste or may produce waste or increased volume or concentration of waste and discharges to existing high quality water will be required to meet waste discharge requirements that will result in the best practicable treatment or control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit

to the people of the state will be maintained. The Permittee's Facility does not comply with the State and federal antidegradation policies as its current operation results in water quality less than that prescribed in the Basin Plan, and is not consistent with the maximum benefit to the people of the State. In addition, the Facility does not utilize best practicable treatment or control with regard to ammonia and nitrate as evidenced by the fact that during the term of Order No. R1-2012-0012, the discharge from the Facility contained up to 39 mg/L of nitrate, including up to 19 mg/L during periods of discharge to surface waters and up to 18 mg/L of ammonia. The data shows that the Permittee's discharge exceeded the AMEL of 10 mg/L for nitrate (established in this Order and the previous Order) in 2 of 27 samples during periods of discharge, and the AMEL and MDEL for ammonia of 1.7 mg/L and 4.96 mg/L, respectively in 20 of 24 and 17 of 24 samples, respectively, during periods of discharge. The ammonia effluent limitations are newly established in this Order. The Permittee may request reconsideration of the exception to the one percent discharge limitation upon completion of work to address deficiencies in the Facility that have caused the Facility to regularly exceed effluent limitations for the respective constituents of concern.

- 11. Prohibition III.K.** The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

This prohibition is newly established in this Order and is based on the discharge prohibitions contained in and section 13375 of the Water Code.

- 12. Prohibition III.L.** The acceptance of septage to a location other than an approved septage receiving station is prohibited.

This prohibition is newly established by this Order and is necessary to ensure that septage is not accepted in the absence of a septage management program to ensure that pollutants associated with domestic septage do not pass through or interfere with the operation or performance of the Facility.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133 and Best Professional Judgement (BPJ) in accordance with 40 C.F.R. section 125.3.

In addition, 40 C.F.R. section 122.45(d)(2) states that technology-based permit limits shall be stated as average weekly and average monthly discharge limitations, unless impracticable, for POTWs. 40 C.F.R. section 103.102 provides detailed specifications for establishing effluent limitations for the technology-based constituents, BOD₅, TSS, and pH. Effluent limitations for BOD₅, TSS, and pH in Effluent Limitations IV.A.1.a, Table 4 and IV.A.1.b of this Order were established as required by 40 C.F.R. section 103.102, and have been retained in the Proposed Permit.

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

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

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

a. BOD₅ and TSS

- i. The 30-day average shall not exceed 30 mg/L.
- ii. The 7-day average shall not exceed 45 mg/L.
- iii. The 30-day average percent removal shall not be less than 85%.

b. pH

The pH shall be maintained within the limits of 6.0 to 9.0.

The effluent limitation for pH required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan, Table 3-1.

In addition, 40 C.F.R. section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, 2) when applicable standards and limitations are expressed in terms of other units of measure.

2. Applicable Technology-Based Effluent Limitations

The effluent limitations in this Order for BOD₅, TSS, and pH not only meet the technology-based requirements for secondary treatment set forth in section 133.102, but they also are required to meet the water quality-based requirements set forth in the Basin Plan.

In addition to the minimum federal technology-based requirements, the Basin Plan requires that discharges of municipal waste “shall be of advanced treated wastewater in accordance with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100 mL” for discharges to the Russian River and its tributaries during October 1 through May 14. This requirement leaves discretion to the Regional Water Board to define advanced wastewater treatment by the implementation of effluent limitations in individual permits.

- a. BOD₅ and TSS.** For the purpose of regulating municipal waste discharges from the Facility to the effluent storage pond, advanced wastewater treatment is defined as achieving a monthly average concentration for BOD₅ and suspended solids of 10 mg/L, and a weekly average concentration of 15 mg/L, which are technically achievable based on the capability of a tertiary treatment system. In addition, 40 C.F.R. 133.102, in describing the minimum level of effluent quality attainable by secondary treatment,

states that the 30-day average percent removal shall not be less than 85 percent. These effluent limitations are retained from Order No. R1-2012-0012.

Order No. R1-2012-0012 required that any transfer from Forestville to Graton CSD WWTF consist of disinfected tertiary effluent, in anticipation of Graton's upgrade to tertiary treatment. Consistent with the completion of the Graton facility upgrade, this Order retains the requirements established in Order No. R1-2012-0012 for requiring tertiary treatment of wastewater transferred to Graton CSD WWTF.

- b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 require that pH be maintained between 6.0 and 9.0 standard units. Note that a more stringent effluent limitation range of 6.5 – 8.5 for pH is required to meet the water quality objective for hydrogen ion concentration (pH) in the Russian River contained in Basin Plan, Table 3-1.
- c. **Mass-Based Effluent Limitations.** Federal regulations at 40 C.F.R. section 122.45(f) require that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. Among the conditions exempting the application of mass-based limitations is section 40 C.F.R. section 122.45(f)(1)(i), which states "*for pH, temperature, and radiation, or other pollutants which cannot appropriately be expressed by mass*" and 40 C.F.R. section 122.45 (f)(1)(ii), which states "*when applicable standards and limitations are expressed in terms of other units of measurement.*".

This Order does not include mass-based effluent limitations for the following pollutants pursuant to the exception in 40 C.F.R. sections 122.45(f)(1)(i) and (ii);

- i. BOD₅ and TSS, because these two parameters are expressed in terms of concentration and percent removal; and
 - ii. pH and settleable solids, because these parameters cannot appropriately be expressed by mass.
- d. **Coliform Bacteria.** Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limitations because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore this Order retains the effluent limitations for total coliform bacteria from Order No. R1-2012-0012. These effluent limitations reflect standards for tertiary treated recycled water in the Basin Plan (Section 4, Implementation Plans) and as adopted by DDW in title 22 of the CCR. Recycled water from this Facility meets the most protective title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as technology equivalence requirements that are necessary to meet applicable water quality

standards. The rationale for these requirements, which consist of advanced wastewater treatment, is discussed in section IV.B.2 of this Fact Sheet. In addition, this Order contains additional requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section IV.C.3 of this Fact Sheet.

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

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

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.C.1 of this Fact Sheet.
- b. **Basin Plan Water Quality Objectives.** In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including the Russian River and its tributaries. For waters designated for use as MUN, the Basin Plan establishes as applicable water quality criteria the MCLs established by the DDW for the protection of public water supplies at title 22 of the CCR section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).
- c. **SIP, CTR, and NTR.** Water quality criteria and objectives applicable to this receiving water are established by the CTR, established by the U.S. EPA at 40 C.F.R. section 131.38; and the NTR, established by the U.S. EPA at 40 C.F.R. section 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

The SIP, which is described in section III.C.3 of this Fact Sheet, includes procedures for determining the need for, and the calculation of, WQBELs and requires Permittees to submit data sufficient to do so.

At title 22, division 4, chapter 15 of the CCR, DDW has established MCLs for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply.

Aquatic life freshwater and saltwater criteria are identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or 1-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the RPA and for the calculation of effluent limitations for cyanide and ammonia.

Human health criteria are further identified as “water and organisms” and “organisms only”. “Water and organism” criteria are designed to address risks to human health from multiple exposure pathways. The criteria from the “water and organisms” column of CTR were used for the RPA because the Basin Plan identifies that the receiving water, Jones Creek, has the beneficial use designation of municipal and domestic supply. Human health criteria were used for the RPA and for the calculation of effluent limitations for chlorodibromomethane, dichlorobromomethane, and nitrate.

3. Determining the Need for WQBELs

NPDES regulations at 40 C.F.R. section 122.44(d) require effluent limitations to control all pollutants which 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.

For water quality-based effluent limitations for toxic pollutants, Section 5.2.3 of the EPA *Technical Support Document for Water Quality-based Toxic Controls* states “in lieu of an Average Weekly Limit (AWL) for POTWs, EPA recommends establishing an Maximum Daily Limit (MDL) (or a maximum test result for chronic toxicity) for toxic pollutants and pollutant parameters in water quality permitting. This is appropriate for at least two reasons. First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge’s potential for causing acute toxic effects would be missed. A MDL, which is measured by a grab sample, would be toxicologically protective of potential acute toxicity impacts.”

Section 1.4 of the State Implementation Policy (SIP) states that maximum daily effluent limitations shall be used for POTWs in place of average weekly effluent limitations for Water Quality Based Effluent Limitations. The SIP procedure of calculating an AMEL and an MDEL applies to all CTR pollutants, both those that are for protection of aquatic life and those that are for the protection of human health.

The RPA for this Facility was conducted as follow.

a. Non-Priority Pollutants

- i. pH.** The effluent limitation for pH of 6.5 to 8.5 is retained from Order No. R1-2012-0012 and applies to discharges to Jones Creek. This limitation is based on the water quality objective for all surface waters established in Chapter 3, Table 3-

1 of the Basin Plan. Federal technology-based requirements prescribed in 40 C.F.R. part 133 are not sufficient to meet these Basin Plan water quality standards.

- ii. **Chlorine Residual.** The Basin Plan establishes a narrative water quality objective for toxicity which states “[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” The Regional Water Board considers any chlorinated discharge as having the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity, and therefore this Order includes effluent limitations for chlorine. U.S. EPA has established the following criteria for chlorine-produced oxidants for protection of freshwater aquatic life in *Quality Criteria for Water 1986* (The Gold Book, 1986, EPA 440/5-86-001).

Chronic Criterion	Acute Criterion
0.011 mg/L	0.019 mg/L

Consistent with Order No. R1-2012-0012, the water quality criteria for total chlorine residual recommended by U.S. EPA have been translated to an AMEL of 0.01 mg/L and an MDEL of 0.02 mg/L in this Order.

- iii. **Nitrogen Compounds.** Untreated domestic wastewater contains ammonia nitrogen. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream and inadequate or incomplete denitrification may result in the discharge of nitrate to the receiving stream. The Facility achieves varying levels of nitrification and denitrification throughout the year. Sample data for nitrate reveals an annual pattern of nitrification and denitrification, with low concentrations during the winter, moderate concentrations during the summer, and higher concentrations during transition periods. Treatment plants such as the Facility often experience minimal nitrification in the winter, full nitrification and denitrification during the warm season, and full nitrification but limited denitrification during transition periods. The Permittee will need to submit a plan to comply with ammonia and nitrate effluent limitations under a TSO compliance schedule.

- (a) **Nitrate.** Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by DDW for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion. The Permittee sampled its discharge at Monitoring Location EFF-002 monthly between March 2012 and May 2016. Monitoring results ranged from non-detect to 19 mg/L based on 19 samples. Because nitrate levels in the effluent have been measured at concentrations greater than 10 mg/L N, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water for nitrate. In order to protect

water quality, an AMEL for nitrate, of 10 mg/L has been retained from Order No. R1-2012-0012.

- (b) Ammonia.** Ammonia is known to cause toxicity to aquatic organisms in surface waters. The Basin Plan establishes a narrative water quality objective for toxicity, stating that “[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Due to concerns regarding ammonia toxicity, the Regional Water Board relies on U.S. EPA’s recommended water quality criteria for ammonia to interpret the Basin Plan’s narrative objective for toxicity. For freshwater, the recommended criteria are from the April 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater*, EPA 822-R-13-001 (2013 Freshwater Criteria). The 2013 Freshwater Criteria is an update to the December 1999 *Update of Ambient Water Quality Criteria for Ammonia* (1999 Freshwater Criteria).

The 2013 Freshwater Criteria recommends acute and chronic water quality criteria for the protection of aquatic life, including salmonids and sensitive freshwater mussel species in the Family Unionidae that are more sensitive to ammonia than salmonids. Like the 1999 Freshwater Criteria document, the 2013 Freshwater Criteria document recommends acute (1-hour average) criteria based on pH and the presence/absence of salmonids and chronic (30-day average) criteria based on pH and temperature and that no 4-day average concentration should exceed 2.5 times the 30-day chronic criterion. In addition, the 2013 Freshwater Criteria document recommends these same criteria for sensitive mussel species.

For this Order, the Regional Water Board has considered the actual conditions documented in the receiving water for discharges from the Facility (paired receiving water pH of 7.75 and temperature of 11.6°C at Monitoring Location RSW-002), and the assumed presence of salmonids and mussels to calculate U.S. EPA’s 2013 Freshwater Criteria, which result in acute and chronic criteria of 8.85 mg/L and 1.86 mg/L, respectively.

Effluent monitoring results ranged from non-detect to 18 mg/L based on 24 samples collected at Monitoring Location EFF-002 between March 2012 and May 2017. The maximum observed upstream receiving water ammonia concentration was 0.3 mg/L, based on 24 samples collected between March 2012 and May 2017.

Because ammonia levels in the effluent have been measured at concentrations greater than EPA’s 2013 Freshwater Criteria, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for toxicity. Effluent limitations, consisting of an AMEL of 1.7 mg/L and an MDEL of 5.0 mg/L, have been established for ammonia. Fact Sheet section IV.C.4 provides calculations of the ammonia AMEL and MDEL.

- iv. Biostimulatory Substances (Phosphorus and Nitrogen).** The Basin Plan contains a narrative water quality objective for biostimulatory substances that

states “[w]aters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.” The Regional Water Board is increasingly concerned about the biostimulatory properties of discharges to surface waters in the North Coast Region. Nutrients, such as phosphorus and nitrogen containing compounds, in treated wastewater stimulate biological growth, thereby depleting dissolved oxygen and advancing eutrophication of receiving waters. At present, for interpretation of the Basin Plan’s narrative water quality objective for biostimulatory substances, U.S. EPA has established recommended water quality criteria for nutrients in *Nutrient Criteria Documents for Lakes and Rivers and Nutrient Criteria Documents for Rivers and Streams*. U.S. EPA has defined 14 “ecoregions” and further categorized surface waters as lakes and reservoirs or rivers and streams for purposes of defining applicable numeric water quality criteria for nutrients. The State and Regional Water Boards continue to examine other methods of interpreting the Basin Plan’s narrative water quality objective for biostimulatory substances. When the Boards determine that U.S. EPA’s recommended criteria are appropriate for implementing the Basin Plan objectives, or when a more appropriate and meaningful method is established, the need for limiting nutrients in relation to biostimulatory properties, including phosphorus and nitrogen-containing compounds, in all discharges in the Region will be reassessed. In the meantime, the RPA for nutrients in relation to biostimulatory properties, performed for development of this Order, is inconclusive. The Order retains monitoring requirements for phosphorus and nitrogen containing compounds in discharges from the Facility to allow a determination of reasonable potential at such time as the State and Regional Water Boards select an appropriate method for interpretation of the Basin Plan’s narrative objective.

b. Priority Pollutants

The SIP establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above state water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. For this RPA, the Regional Water Board used effluent and receiving water monitoring data generated from a single sample collected on January 26, 2016 from most of the CTR pollutants. Additional data collected during the term of the previous permit from March 2012 to May 2016 for copper, cyanide, bromoform, chlorodibromomethane, chloroform, and dichlorobromomethane was also used in conducting the RPA.

Hardness: 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 SIP requires water quality criteria be properly adjusted for hardness, using the hardness of the receiving water. The hardness-dependent metal criteria

include cadmium, copper, chromium (III), lead, nickel, silver, and zinc. The minimum observed receiving water hardness of 54 mg/L was used to calculate the criteria.

To conduct the RPA, Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority, toxic pollutant from effluent and receiving water data provided by the Permittee, and compared this information to the most stringent applicable water quality criterion (C) for each pollutant with applicable water quality criteria from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

Trigger 1. If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

Trigger 2. If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

Trigger 3. After a review of other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

c. Reasonable Potential Determination

The RPA demonstrated reasonable potential for discharges of copper, cyanide, chlorodibromomethane, and dichlorobromomethane from the Facility to cause or contribute to exceedances of applicable water quality criteria. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for 122 of the 126 priority pollutants.

Table F-5 summarizes the RPA for each pollutant that was reported in detectable concentrations in the effluent or the receiving water. The MECs, most stringent water quality objectives/water quality criteria (WQO/WQCs), and background concentrations (B) used in the RPA are presented, along with the RPA results (Yes or No and which trigger) for each toxic pollutant analyzed. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the monitoring events conducted by the Permittee. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

Table F-5. Summary of Reasonable Potential Analysis Results

CTR #	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL ^{1,2}	B or Minimum DL ^{1,2}	RPA Results ³
2	Arsenic	µg/L	10	1.1	Not Available	No
6	Copper	µg/L	46 ⁴	61	4.6	Yes ⁵
8	Mercury	µg/L	0.050	0.00221	Not Available	No

CTR #	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL ^{1,2}	B or Minimum DL ^{1,2}	RPA Results ³
9	Nickel	µg/L	31	4.2	Not Available	No
13	Zinc	µg/L	71	18	Not Available	No
14	Cyanide	µg/L	5.2	13	2.9	Yes (Trigger 1)
23	Chlorodibromomethane	µg/L	0.401	0.89	<1	Yes (Trigger 1)
26	Chloroform	µg/L	No Criteria	50	10	No
27	Dichlorobromomethane	µg/L	0.56	4	<1	Yes (Trigger 1)
94	Naphthalene	µg/L	No Criteria	0.17	<0.5	No
99	Phenanthrene	µg/L	No Criteria	0.0041	Not Available	No
--	Barium	µg/L	1,000	29	66	No
--	Fluoride	mg/L	2	0.22	0.14	No
--	Nitrate	mg/L	10	19	1.3	Yes (Trigger 1)
--	Nitrite	mg/L	1	0.23	<0.20	No
--	Ammonia Nitrogen, Total (as N)	mg/L	1.86 ⁶	18	0.3	Yes (Trigger 1)
--	Specific Conductance	µmhos/cm	900	590	260	No
--	Total Trihalomethanes ⁷	µg/L	80	55	<0.5	No

Table Notes:

- The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).
- The MEC or B is "Not Available" when there are no monitoring data for a constituent.
- RPA Results:
 = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected.
 = No, if MEC and B or < WQO/WQC or all effluent data are undetected.
 = Undetermined (UD).
- Copper WQO calculated with a water effects ratio (WER) of 8.39 and the most stringent WQO from the CTR using the lowest receiving water hardness of 54 mg/L (8.39 x 5.5 = 46 µg/L).
- See narrative discussion in copper discussion below this table.
- Ammonia criteria are determined on a sliding scale based upon temperature and pH. The criterion represented in this table is based upon chronic exposure and a temperature of 11.6°C and a pH of 7.75.
- The sum of bromoform, chlorodibromomethane, chloroform, and dichlorobromomethane.

Additional details regarding priority pollutant constituents for which reasonable potential was found are included in the following paragraphs:

Cyanide. The CTR establishes a water quality objective for the protection of freshwater aquatic life of 5.2 µg/L. The Permittee sampled the effluent and receiving water for cyanide 24 and 23 times, respectively, during the term of Order No. R1-2012-0012. Cyanide was detected in the effluent in all 24 effluent samples, with results ranging from 1.8 µg/L to

13 µg/L. Cyanide was also detected in all 23 of the receiving water samples, with results ranging from 0.44 µg/L to 2.9 µg/L. A determination of reasonable potential has been made based on the MEC of 13 µg/L exceeding the most stringent water quality objective of 5.2 µg/L. Twelve of the 24 samples exceeded 5.2 µg/L. The Order gives the Permittee the option to analyze for cyanide as total or weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.

Chlorodibromomethane. The CTR establishes a water quality objective for the protection of human health for chlorodibromomethane of 0.401 µg/L. The Permittee sampled the effluent for chlorodibromomethane 24 times during the term of Order No. R1-2012-0012. Chlorodibromomethane was detected in the effluent in four of these samples, with results ranging from 0.14 µg/L to 0.89 µg/L. Chlorodibromomethane was not detected in the receiving water based on one sample. A determination of reasonable potential has been made based on the MEC of 0.89 µg/L exceeding the most stringent water quality objective of 0.401 µg/L. One of the 24 samples exceeded 0.401 µg/L.

Dichlorobromomethane. The CTR establishes a water quality objective for the protection of human health for dichlorobromomethane of 0.56 µg/L. The Permittee sampled the effluent for dichlorobromomethane 24 times during the term of Order No. R1-2012-0012. Dichlorobromomethane was detected in the effluent in ten of the samples with results ranging from 0.23 µg/L to 4.0 µg/L. Dichlorobromomethane was not detected in the receiving water based on one sample. A determination of reasonable potential has been made based on the MEC of 4.0 µg/L exceeding the most stringent water quality objective of 0.56 µg/L. Five of the 24 samples exceeded 0.56 µg/L.

Copper. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper is in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. The default WER used for calculating criteria for copper is 1.0. The Permittee has conducted a WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The Permittee's study concluded that a site specific WER of 8.39 for total recoverable copper and 7.98 for dissolved copper apply to the discharge. Using the worst-case measured hardness from the receiving water (54 mg/L), the U.S. EPA-recommended dissolved-total translator of 0.96, and the site-specific WER, the applicable chronic criterion (maximum 4-day average concentration) is adjusted to 46 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is adjusted to 66 µg/L.

The Permittee sampled the effluent for copper 23 times during the term of Order No. 2012-0012, with effluent concentrations ranging from 0.07 µg/L to 61 µg/L. 22 of the 23 results were less than the WER-adjusted water quality objective of 46 µg/L. An effluent concentration of 61 µg/L that exceeded the WER-adjusted water quality objective was detected on February 6, 2013. The Permittee indicated in the Report of Additional Information, submitted with the ROWD, that this result was believed to be unrepresentative of the effluent due to visual observations of sediment in the sample and potential sample contamination from the use of a brass sampling tap. The Permittee did not submit QA/QC data or other information to support this reported observation. A determination of reasonable potential has been made based on the MEC of 61 µg/L exceeding the most

stringent (WER-adjusted) water quality objective of 46 µg/L. This was the only sample that exceeded 46 µg/L.

Additional details regarding priority pollutant constituents for which reasonable potential was not found but warrant further explanation are included in the following paragraphs:

Total Trihalomethanes. The CTR establishes a water quality objective for the protection of human health for total trihalomethanes (bromoform, chlorodibromomethane, chloroform, and dichlorobromomethane) of 80 µg/L. The Permittee sampled the effluent for total trihalomethanes 19 times during the term of Order No. R1-2012-0012. Total trihalomethanes were detected in the effluent in 18 of the samples with results ranging from 2.6 µg/L to 55 µg/L. Total trihalomethanes were not detected in the receiving water based on one sample. A determination of no reasonable potential has been made based on the MEC of 55 µg/L not exceeding the most stringent water quality objective of 80 µg/L.

4. **WQBEL Calculations**

Final WQBELs have been determined using the methods described in Section 1.4 of the SIP.

Step 1: To calculate the effluent limits, an effluent concentration allowance (ECA) is calculated for each pollutant found to have reasonable potential using the following equation, which takes into account dilution and background concentrations:

$$ECA = C + D (C - B),$$

Where:

C = the applicable water quality criterion (adjusted for effluent hardness and expressed as the total recoverable metal, if necessary)

D = dilution credit (here D= 0, as the discharge does not qualify for a dilution credit)

B = background concentration

Here, no credit for dilution is allowed, which results in the ECA being equal to the applicable criterion (ECA = C).

Step 2: For each ECA based on an aquatic life criterion/objective (copper, cyanide, and ammonia), the long term average discharge condition (LTA) is determined by multiplying the ECA by a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier depends on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the values of the CV. When the data set contains less than 10 sample results, or when 80 percent or more of the data set is reported as non-detect (ND), the CV is set equal to 0.6. Derivation of the multipliers is presented in Section 1.4 of the SIP.

The SIP procedure assumes a 4-day averaging period for calculating the LTA. However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA for ammonia corresponding to the 30-day CCC was calculated assuming a 30-day averaging period.

From Table 1 in the SIP, the ECA multipliers for calculating LTAs at the 99th percentile occurrence probability for copper are 0.134 (acute multiplier) and 0.243 (chronic

multiplier) and for cyanide are 0.394 (acute multiplier) and 0.602 (chronic multiplier). The ECA multipliers for ammonia are 0.280 (acute multiplier), 0.480 (chronic 4-day multiplier), and 0.749 (chronic 30-day multiplier). The LTAs are determined as follows in Table F-7.

Table F-6. Determination of Long Term Averages

Pollutant	Units	ECA			ECA Multiplier			LTA		
		Acute	Chronic 4-Day	Chronic 30-Day	Acute	Chronic 4-Day	Chronic 30-Day	Acute	Chronic 4-Day	Chronic 30-Day
Copper	µg/L	66	46	--	0.134	0.243	--	8.85	11.16	--
Cyanide	µg/L	22	5.2	--	0.394	0.602	--	8.67	3.13	--
Ammonia (as N)	mg/L	8.85	4.64	1.86	0.280	0.480	0.749	2.48	2.23	1.39

Step 3: WQBELs, including an AMEL and MDEL, are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. The CV is set equal to 1.65 for copper, 0.46 for cyanide, and 0.70 for ammonia. The sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic 4-day criterion, and 30 (n = 30) for the chronic 30-day criterion. The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multipliers for copper and cyanide are 7.46 and 2.54, respectively and the AMEL multipliers are 2.52 and 1.42, respectively. From Table 2 of the SIP, the MDEL multiplier for ammonia is 3.57, and the AMEL multiplier is 1.22. Final WQBELs for copper, cyanide and ammonia are determined as follows.

Table F-7. Determination of Final WQBELs Based on Aquatic Life Criteria

Pollutant	Unit	LTA	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
Copper	µg/L	8.85	7.46	2.52	66	22
Cyanide	µg/L	3.13	2.54	1.42	7.9	4.4
Ammonia (as N)	mg/L	1.39	3.57	1.22	5.0	1.7

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective (as for chlorodibromomethane, dichlorobromomethane, and nitrate), the AMEL is set equal to the ECA. From Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.11, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.55 (for chlorodibromomethane). From Table 2 of the SIP, when CV = 1.49 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 6.89, and the AMEL multiplier at the 95th percentile occurrence probability equals 2.39 (for dichlorobromomethane). From Table 2 of the SIP, when CV = 0.84 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 4.20, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.79 (for nitrate). The MDEL for protection of human health is calculated by multiplying the ECA by the ratio of the MDEL multiplier to the AMEL multiplier. Final WQBELs for chlorodibromomethane, dichlorobromomethane, and nitrate, are determined as follows.

Table F-8. Determination of Final WQBELs Based on Human Health Criteria

Pollutant	ECA (µg/L)	MDEL/AMEL	MDEL (µg/L)	AMEL (µg/L)
Chlorodibromomethane	0.4	2.0	0.80	0.40
Dichlorobromomethane	0.56	2.9	1.6	0.56
Nitrate Nitrogen, Total (as N)	10	2.3	23	10

5. Whole Effluent Toxicity (WET)

Monitoring and effluent limitations for whole effluent toxicity protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states “*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life.*” Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Permittee to conduct WET testing for acute and chronic toxicity, as specified in the MRP (Attachment E, section V).

a. Acute Aquatic Toxicity

Consistent with Order No. R1-2012-0012, this Order includes an effluent limitation for acute toxicity in accordance with the Basin Plan, which requires that the average survival of test organisms in undiluted effluent for any three consecutive 96-hour bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

The Order implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring the Permittee to conduct acute toxicity tests on a fish species and on an invertebrate species to determine the most sensitive species. According to the U.S. EPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss*. The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*. This Order requires the Permittee to conduct a screening test using a vertebrate and invertebrate species. After the screening test is completed, monitoring can be reduced to the most sensitive species.

The Permittee monitored acute toxicity 26 times between January 2012 and May 2017 and all sample results were 100 percent survival. Based on this consistent compliance with the acute toxicity effluent limitation, monitoring for acute toxicity has been reduced from monthly to annual as shown in Attachment E of this Order.

b. Chronic Aquatic Toxicity

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Permittee demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*). Attachment E of this Order requires annual chronic WET monitoring to demonstrate compliance with the narrative toxicity objective.

The Permittee conducted chronic toxicity testing using *P. promelas*, *C. dubia*, and *S. capricornutum*. The following table summarizes the chronic toxicity testing results from the term of Order No. R1-2012-0012.

Table F-9. Summary of Chronic Toxicity Results

Date	<i>Pimephales promelas</i>		<i>Ceriodaphnia dubia</i> ¹		<i>Selenastrum capricornutum</i>
	Survival (TUC)	Growth (TUC)	Survival (TUC)	Reproduction (TUC)	Growth (TUC)
March 28, 2012	--	--	--	--	1
January 17, 2013	1	1	1	1	1
February 11, 2014	1	1	1 ² /1 ³	2 ² /1.3 ³	2
March 13, 2014	--	--	1	1	--
April 1, 2014	--	--	1	1	--
April 5, 2014	--	--	1 ² /1 ³	1 ² /1 ³	--
April 8, 2014	--	--	1 ² /1 ³	1 ² /1 ³	--
January 29, 2015	1	1	1 ² /1 ³	1 ² /1 ³	1
January 26, 2016	1	1	1 ² /1 ³	1 ² /1 ³	1

Table Notes:

- Per the analytical laboratory reports, statistical analyses indicated that one or more of the test replicates at certain treatments (e.g., receiving water control, 12.5% effluent treatment) were statistical outliers. Per the U.S. EPA method manual identified in section V.B.4 of Attachment E to this Order, the laboratory report provided analyses both with and without the outlier data. The reports did not provide an explanation for the cause of the outliers. Section 3.1 of Appendix A of the method manual states, "An outlier is an *inconsistent or questionable data point that appears unrepresentative of the general trend exhibited by the majority of the data. Outliers may be detected by tabulation of the data, plotting, and by an analysis of the residuals. An explanation should be sought for any questionable data points. Without an explanation, data points should be discarded only with extreme caution. If there is no explanation, the analysis should be performed both with and without the outlier, and the results of both analyses should be reported.*"
- Outliers included in results.
- Outliers excluded from results.

Based on the observed chronic toxicity to *Ceriodaphnia.dubia* reproduction on February 11, 2014, the Regional Water Board concludes that the discharge has reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective. Therefore, this Order establishes a narrative effluent limitation for chronic toxicity.

Numeric chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in basin plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a Toxicity Reduction Evaluation (TRE) in the event that persistent toxicity is

detected. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-0012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, *"In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works, that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits."* A statewide toxicity plan is under development to address this issue. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision, it is infeasible to develop numeric effluent limitations for chronic toxicity at this time. The SIP revision may require a permit modification to incorporate new statewide toxicity criteria established by the upcoming SIP revision.

This Order includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a revised acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

To ensure compliance with the narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Permittee is required to conduct annual chronic WET testing at Discharge Point 001, as specified in the MRP (Attachment E, section V). Furthermore, the MRP (Attachment E, section V.C) requires the Permittee to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a TRE in accordance with an approved TRE work plan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

c. Test of Significant Toxicity (TST)

Order No. R1-2012-0012 established a numeric chronic toxicity trigger of 1.0 TUc = 100/NOEC, using a five-concentration hypothesis test. In 2010, U.S. EPA endorsed the peer-reviewed *Test of Significant Toxicity (TST) two-concentration hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA's toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) mean response of regulatory management concern—than the NOEC hypothesis-testing approach. The TST hypothesis testing approach more reliably identifies toxicity – in relation to the acute (0.20 or more) mean responses of regulatory management

concern – than the No Observed Effect Concentration (NOEC) approach used previously to establish effluent limitations for acute toxicity.

Since the TST approach has not previously been applied for determining reasonable potential or establishing effluent limitations for acute toxicity, this Order does not include effluent limitations for acute toxicity based on the TST approach. However, this Order does require the Permittee to monitor and report results in a manner that will allow the Regional Water Board to conduct an RPA in accordance with the TST approach at the time of the next permit renewal.

The State Water Board is developing a toxicity amendment to the *Water Quality Control Plan for Enclosed Bays and Estuaries of California* that will standardize the regulation of aquatic toxicity for all non-oceanic surface waters. U.S. EPA's TST approach is an essential component of this draft toxicity amendment as it forms the basis for utilizing numeric water quality objectives and acts as the primary means of determining compliance with the proposed effluent limitations.

In a letter dated February 12, 2014, the State Water Board submitted an alternative test process (ATP) request to U.S. EPA Region 9 for the statewide use of a two-concentration toxicity test design when using the TST approach. This two-concentration test design is composed of a single effluent concentration and a control concentration. U.S. EPA approved the ATP request on March 17th, 2014. In June 2014, the approval was challenged in court on procedural grounds under the Administrative Procedures Act by the Southern California Alliance of Publicly Owned Treatment Works (SCAP) and the Central Valley Clean Water Association (CVCWA). The U.S. EPA withdrew the approval and notified State Water Board in a memo dated February 11, 2015.

It is important to note that U.S. EPA's rescission of its approval of the ATP is not based on the substantive TST statistical analysis or the scientific validity of a two-concentration test design. The withdrawal letter also states that currently there is a proposed rulemaking to change the language in the ATP regulations at 40 C.F.R. part 136.

The benefits of requiring the TST in new or amended permits include improving the statistical power of the toxicity test, and simplifying the analysis as compared to the traditional hypothesis statistical approaches or point estimates. The calculations are straightforward and provide a clear pass/fail result. With the withdrawal of the two-concentration test design approval, an NPDES permit can still require the TST for statistical analyses. Toxicity tests shall be run using a multi-concentration tests design in accordance with 40 C.F.R. section 136.3, and the TST shall be utilized with the biological responses from the permitted in-stream waste concentration (IWC) and the control (effluent concentration of zero). However, even with only two of the five concentration biological responses being used, cost savings in the form of time and effort are still realized for the statistical analysis and data interpretation carried out by the Permittee, lab, and permit manager. This Order requires application of the TST for statistical analysis of whole effluent toxicity data.

Tests of Significant Toxicity Design

The TST's null hypothesis for chronic toxicity is:

H_0 : Mean response (In-stream Waste Concentration (IWC) in % effluent) \leq 0.75 mean response (control)

Results are analyzed using the TST approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

The chronic IWC (in % effluent) for Discharge Point 001 is 100%. The chronic toxicity trigger for Discharge Point 001 is expressed as a null hypothesis (H_0) and regulatory management decision (b value) of 0.75 for the chronic toxicity methods in the MRP. The null hypothesis for this discharge is:

H_0 : Mean response (100% effluent) \leq 0.75 mean response (control)

Results shall be analyzed using the TST hypothesis testing approach in section V.B.6.a of the MRP. Compliance with this chronic toxicity limitation is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

When the chronic toxicity test results in a "Fail" or "F," the Permittee must initiate accelerated monitoring as specified in the MRP (Attachment E, section V). After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Permittee will be required to conduct a TRE, as described by the MRP.

Notification requirements for chronic WET testing include a 72-hour verbal notification requirement and a 14 day written report requirement, if test results indicate toxicity. The 14 day written notification is established in the U.S. EPA WET Guidance documents cited in the MRP. The 72-hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72-hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

This Order includes a requirement for the Permittee to conduct a screening test using at least one vertebrate, invertebrate, and plant species. After the screening test is completed, monitoring can be reduced to the most sensitive species.

This Order also includes a narrative chronic toxicity limitation as required by State Water Board Order No. WQO 2003-0012.

D. Final Effluent Limitation Considerations

1. 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) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R1-2012-0012, with the exception of effluent limitations for total trihalomethanes and copper and mass-based effluent limitations for BOD₅ and TSS.

Order No. R1-2012-0012 included effluent limitations for total trihalomethanes based on the CTR human health criteria. Total trihalomethanes were detected in the effluent based on 19 results collected during the term of Order No. R1-2012-0012. Total trihalomethanes were not detected in the receiving water based on one result collected during the term of Order No. R1-2012-0012. The concentration of total trihalomethanes in the effluent did not exceed the Primary MCL, and the data demonstrate that the discharge no longer demonstrates reasonable potential to cause or contribute to an exceedance of the water quality objectives. The updated effluent data for total trihalomethanes constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). Therefore, this Order does not retain effluent limitations for total trihalomethanes.

Order No. R1-2012-0012 included effluent limitations for copper based on the CTR aquatic life criteria. The Permittee has conducted a WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The Permittee's study concluded that a site specific WER of 8.39 for total recoverable copper and 7.98 for dissolved copper apply to the discharge. Based on effluent monitoring conducted during the term of Order No. R1-2012-0012, the concentration of copper in the effluent exceeded the CTR aquatic life criteria one time, therefore the data demonstrates that the discharge demonstrates reasonable potential to cause or contribute to an exceedance of the water quality objectives. The WER was used to update the applicable CTR aquatic life criteria for copper which resulted in higher effluent limitations.

Order No. R1-2012-0012 established final mass-based effluent limitations for BOD₅ and TSS. Mass limitations for BOD₅ and TSS for discharges of treated wastewater have been removed because Regional Water Board staff misinterpreted the exception of 40 C.F.R. 122.45(f)(2), which states that mass limitations are not required "*when applicable standards and limitations are expressed in terms of other units of measure.*" Secondary treatment standards for BOD₅ and TSS in 40 C.F.R. 133.102, on which the effluent limitations in previous permits were based, are expressed in concentration and percent removal (i.e., other units of measure). The relaxation of effluent limitations for BOD₅ and TSS in this Order is permissible under CWA section 402(o)(2)(B), because Regional Water Board staff has determined that mass-based limitations for BOD₅ and TSS were applied in the previous permits as a result of a mistaken interpretation of law when issuing those previous permits.

Historically, the Regional Water Board routinely incorporated mass-based limits (in addition to concentration-based limits) for BOD₅ and TSS in NPDES permits to encourage correction of infiltration and inflow (I&I). Applied in this way, mass-based limitations effectively restrict a POTW's wet-weather influent flows to less than or equal to the treatment facility's design capacity in situations where POTW's experience excessive I&I as a result of climate conditions and/or aging infrastructure.

In addition, Regional Water Board staff previously held that anti-backsliding regulations prevented the removal of mass-based limitations for BOD₅ and TSS because they were appropriate and necessary to protect water quality and prevent water quality degradation in receiving waters. While it is conceivable that the absence of mass-based limitations for these pollutants may result in an increased pollutant loading to surface waters. Even if there is a resulting increase in pollutant loading, there is no evidence that the increase will result in degradation of water quality. Therefore, relaxation of effluent limitations for BOD₅ and

TSS in this Order is also permissible under CWA section 402(o)(2)(B), based on new information available to the Regional Water Board.

Regional Water Board staff conducted an I/I analysis utilizing the definitions of excessive I/I in the federal regulations at 40 C.F.R. sections 35.2005(b) and 133.103(d). Using influent flow data collected between April 2012 and May 2016 and a population of 930 as reported in the ROWD, the Regional Water Board conducted an analysis of per capita flows for comparison with the definitions of “excessive I/I” in 40 C.F.R section 35.2005(b)(28) and 133.103(d) (i.e., greater than 275 gpd per capita per day). Effluent flows exceeded 275 gpd per capita on 37 occasions, primarily in late November through March each year, during periods corresponding to significant wet weather events.

In addition, the methodology in a report titled *Recommended Standards for Wastewater Treatment Facilities, Policy for the Design, Review, and Approval of Plans and Specifications for Wastewater Collection and Treatment Facilities*, 2014 Edition, A Report of the Wastewater Committee of the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers was used to calculate a peaking factor, above which excessive infiltration is indicated. Using Figure 1 of this methodology report, a peaking factor of 3.8 is the maximum rate of wastewater flow that is calculated for a population of 930. The analysis revealed three exceedances of the peaking factor, all occurring in March 2016, with exceedances ranging from 3.8 to 4.5.

The Permittee conducted a Sewer System Evaluation Survey (SSES) in 2017 pursuant to Administrative Civil Liability Order No. R1-2016-0053. At the completion of the SSES, the Permittee will prepare a report that describes the results of the SSES and identifies capital improvement project to be implemented and a time schedule.

2. Antidegradation Policies

State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality Waters in California (the Antidegradation Policy) requires that disposal of waste into waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires that (1) higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in the policies; and (2) any activity that produces a waste or may produce waste or increased volume or concentration of waste and discharges to existing high quality water will be required to meet waste discharge requirements that will result in the best practicable treatment or control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

a. Surface Water

This Order is consistent with applicable federal and state antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased

volumes of treated wastewater beyond that which was permitted to discharge in accordance with Order No. R1-2012-0012.

b. Groundwater

The distribution of recycled water to land at or below hydraulic agronomic rates and where proper irrigation system design and BMPs are implemented is not expected to result in degradation to surface water because the potential for irrigation runoff will be prevented or minimized.

The discharge of recycled water may result in degradation of groundwater, primarily due to salts and nitrogen, Groundwater monitoring is needed to determine if the storage and use of recycled water is impacting groundwater or resulting in the exceedance of applicable water quality objectives.

Degradation of groundwater by constituents in recycled water may be permitted where it has been demonstrated that any change will be consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the Basin Plan. In addition, it must be demonstrated that discharges to high quality waters meet waste discharge requirements that result in the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance and assure that the highest water quality consistent with the maximum benefit to the people of the state is maintained.

Degradation of groundwater from constituents in recycled water after effective source control, treatment, and control may be determined consistent with maximum benefit to the people of the State, provided that the terms of the Basin Plan and Recycled Water Policy are met. Whether the degradation of groundwater consistent with the Basin Plan and Recycled Water Policy requirements is consistent with the maximum benefit to the people of the State is based on consideration of the four factors that are discussed in the following paragraphs (i through iv):

- i.** Past, present, and probable beneficial uses of the receiving water (as specified in the Basin Plan) have been considered. This Order establishes terms and conditions of discharge to ensure that the discharge does not unreasonably affect present and anticipated beneficial uses of groundwater and surface water. These terms and conditions include use of BPTC, which is a combination of treatment, storage, and application methods that implement the requirements of the Uniform Statewide Recycling Criteria (identified in Attachment G, Finding A.7) and the Basin Plan, including, but not limited to:
 - (a)** Recycled water will be treated to achieve nitrogen control and disinfected, tertiary level recycled water;
 - (b)** Recycled water will be stored in properly lined ponds;
 - (c)** Recycled water will be applied at agronomic rates reflecting the hydraulic and nutrient requirements of the use area;
 - (d)** The Permittee is responsible for ensuring that recycled water meets the quality standards and associated waste discharge requirements of this Order;

- (e) The Permittee must identify and require implementation of BMPs to prevent and minimize the potential for surface runoff or percolation of irrigation water, and to limit public contact with recycled water; and
 - (f) Discharges to surface waters, other than those authorized in this Order, are prohibited.
- ii. Economic and social costs, tangible and intangible, of the recycled water usage compared to the benefits have been considered as follows:
 - (a) The use of recycled water for irrigation could potentially result in degradation of groundwater or risks to public health if the recycled water is mismanaged. These environmental/social risks are offset through high quality treatment as described in i.(a), above and the Permittee's commitment to implementing BMPs to ensure protection of groundwater and public health.
 - (b) The use of recycled water reduces the potential diversion of water from Jones Creek or Green Valley Creek, thus reducing the potential for dewatering these creeks.
 - (c) The use of recycled water reduces the diversion of groundwater for irrigation uses, thus reducing the potential for dewatering groundwater and improving water supply availability, and
 - (d) The use of recycled water provides a sustainable and drought-resistant source of irrigation water for agricultural and urban uses and conserves potable water.
- iii. Environmental aspects of the recycled water usage have been considered as follows:
 - (a) The potential for groundwater degradation (not exceeding water quality objectives) or runoff to surface waters is offset through high quality treatment provided and the Permittee's commitment to irrigation at hydraulic and nutrient agronomic rates and implementation of BMPs to ensure protection of groundwater and to minimize the potential for surface runoff.
 - (b) Groundwater monitoring required by this Order (MRP section VIII.B) will provide a means to assess whether or not there are impacts on groundwater from the use of recycled water. If groundwater monitoring shows evidence of impacts to groundwater, measures can be taken to reduce or eliminate those impacts through the use of additional BMPs or other measures.
 - (c) The use of recycled water in place of both raw and potable water supplies for non-potable uses improves helps to ensure that higher quality water will continue to be available for human uses and for instream uses for fish and wildlife.
- iv. Implementation of feasible alternative treatment or control methods have been considered as follows:

Degradation of groundwater will not result in water quality less than that prescribed in the Basin Plan because this Order requires the Permittee to implement, and ensure that recycled water users implement, the following treatment and control measures necessary to avoid pollution or nuisance and maintain the highest water quality consistent with the maximum benefit to the people of the State:

- (a) Implement treatment and use standards necessary to produce disinfected tertiary recycled water, and implement applicable title 22 requirements;
- (b) Apply recycled water at nutrient and hydraulic agronomic rates (whichever is the limiting rate);
- (c) Identify and implement best management practices to minimize the potential for irrigation runoff and for percolation of recycled water to groundwater;
- (d) Develop, maintain, and implement an Operation and Maintenance/Irrigation Management Plan; and
- (e) Employ trained personnel.

The preceding analysis demonstrates that there is sufficient reason to allow for the potential of limited groundwater degradation, provided the terms of the Basin Plan, the Recycled Water Policy, and this Order are met. The Regional Water Board finds that the limited degradation of water that may occur as the result of recycling under the conditions of this Order provides maximum benefit to the people of California, provided recycled water treatment and use are managed to ensure long-term reasonable protection of beneficial uses of waters of the state. By restricting the use of recycled water to those meeting the Uniform Statewide Recycling Criteria, this Order ensures that recycled water is used safely.

Recycled water requirements in Attachment G require the Permittee to implement management measures and BMPs that ensure that all irrigation occurs in a manner that is protective of groundwater and surface water quality.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅, TSS, and total coliform bacteria. Restrictions on these pollutants are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations for cyanide, chlorodibromomethane, dichlorobromomethane, nitrate, ammonia, chlorine residual, and pH that are more stringent than the minimum, federal technology-based requirements but are necessary to meet water quality standards. These requirements are discussed in section IV.C.3 of the Fact Sheet.

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. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by

U.S. EPA before that date, are nonetheless “*applicable water quality standards for purposes of the CWA*” pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Interim Effluent Limitations – Not Applicable

This Order does not establish interim effluent limitations or schedules for compliance with final recycled water limitations.

F. Land Discharge Specifications and Requirements – Not Applicable

This Order does not authorize discharges to land.

G. Water Recycling Specifications and Requirements

The Permittee has a recycled water system to irrigate urban and agricultural areas from May 15 through September 30 and other times during the year when weather allows (e.g., dry fall, winter, and spring periods).

1. Scope and Authority

Section 13263 of the Water Code requires the Regional Water Board to prescribe requirements for proposed discharges, existing discharges, or material changes in an existing discharge based upon the conditions of the disposal area or receiving waters upon or into which the discharge is made or proposed. The prescribed requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. In prescribing requirements, the Regional Water Board is not obligated to authorize the full waste assimilation capacities of the receiving water.

Water Code section 13241 requires the Regional Water Board to establish water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and prevention of nuisance, recognizing that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. The Basin Plan establishes water quality objectives specific to the North Coast Region for the protection of past, present, and probable future beneficial uses of water. Factors required for consideration during development of applicable water quality objectives, such as the characteristics of the hydrographic unit under consideration, economic considerations, and other factors required in accordance with section 13241 were considered during the Basin Planning and adoption process.

Here, the Regional Water Board considered all of these factors when developing the WDRs for the recycled water discharge. Limitations for BOD₅, TSS, and pH were scientifically derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and the water quality objectives have been approved pursuant to state law. In addition, discharge prohibitions were included to prohibit the discharge or recycling use of untreated or partially treated waste, in order to protect public health and prevent nuisance.

The Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the

receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality of the Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit, the coordinated control of all factors that affect water quality in the area, and the need to develop and use recycled water, which this Order supports.

The Permittee submitted economic data on August 30, 2017. The median sewer user charge for residents in Forestville is currently \$168 per month per equivalent single-family dwelling (ESD). A median household income (MHI) survey was conducted by the Rural Community Assistance Corporation on behalf of the Forestville Water District in early 2017 that determined an MHI of \$48,000. Forestville Water District sewer rates are currently approximately 4.2 percent of MHI based on the results of this survey. The State Water Board Small Community Wastewater Strategy provides periodic updates to the State Water Board on efforts to assist small and/or disadvantaged communities with their wastewater needs. The most recent update on October 22, 2013 indicates that a rate of 1.5 to 2 percent of MHI is generally an affordable baseline for evaluating sewer rate affordability. An economic analysis submitted by the Permittee to the Regional Water Board on March 9, 2009, Forestville Water District requested that the Regional Water Board consider cost and true value in writing additional requirements into the renewed permit. Regional Water Board staff considered Forestville's economic situation in establishing new permit requirements and carefully considered the cost and need for additional monitoring requirements. New requirements were added only as necessary.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. **Beneficial Uses.** Beneficial use designations for groundwater established in the Basin Plan include MUN, IND, PRO, and AGR.
- b. **Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for taste and odor, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

3. **Determining the Need for Requirements for Water Recycling**

- a. The Recycled Water Specifications are established in this Order to conform to requirements contained in title 22, division 4, chapter 3 of the CCR for the recycling use of disinfected tertiary effluent. The Permittee is required to comply with applicable state and local requirements regarding the production and use of recycled wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reuse) and DDW regulations at title 22, sections 60301 – 60357 of the CCR (Water Recycling Criteria). Specific water recycling requirements are enumerated in Attachment G to this Order. The requirement to comply with title 22 requirements is retained from Order No. R1-2012-0012.
- b. **BOD₅ and TSS.** Consistent with Order No. R1-2012-0012, this Order includes discharge specifications for BOD₅ and TSS that consist of a monthly average of 10 mg/L and a weekly average of 15 mg/L. These levels are technically achievable based on the capability of the tertiary treatment system. These specifications are included in the Order to ensure discharges to the recycled water system receive proper treatment.
- c. **pH.** Consistent with Order No. R1-2012-0012, this Order includes instantaneous minimum and maximum effluent limitations for pH of 6.0 and 9.0, respectively, based

on the technology-based effluent limitations required by U.S. EPA pursuant to 40 C.F.R. part 133. These pH limitations are included in the Order to ensure that pH levels are appropriate for the protection of groundwater when discharging to the recycled water system.

- d. **Coliform Bacteria.** Consistent with Order No. R1-2012-0012, this Order includes recycled water specifications for total coliform bacteria that reflect standards for tertiary treated recycled water in the Basin Plan (Section 4, Implementation Plans) and as adopted by the DDW in title 22 of the CCR and are included to ensure that recycled water quality is protective of human health. Recycled water from this Facility meets the most protective title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.
- e. **Nitrate.** The Primary MCL established by DDW for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals) is 10 mg/L. The Permittee conducted monthly monitoring at Monitoring Location REC-001 from March 2012 through May 2017. Monitoring results ranged from non-detect to 39 mg/L based on 62 samples. Eighteen of the samples exceeded the Primary MCL of 10 mg/L. Because nitrate levels in the effluent have been measured at concentrations higher than 10 mg/L N, the Regional Water Board concludes that discharges from the Facility exhibit reasonable potential to cause or contribute to exceedances of applicable water quality objective for groundwater for nitrate. Therefore, this Order includes a new average monthly limitation for nitrate at Discharge Point 003 and 004 equal to 10 mg/L.
- f. **Total Dissolved Solids.** The Secondary MCL for total dissolved solids, established by DDW for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), is 500 mg/L. The Permittee conducted monthly monitoring at Monitoring Location REC-001 from March 2012 through May 2017. Monitoring results ranged from 220 mg/L to 720 mg/L based on 63 samples. Twenty-three of the samples exceeded the Primary MCL of 500 mg/L. Because total dissolved solids levels in the effluent have been measured at concentrations higher than 500 mg/L, the Regional Water Board concludes that discharges from the Facility exhibit reasonable potential to cause or contribute to exceedances of applicable water quality objective for groundwater for total dissolved solids. Therefore, this Order includes a new average monthly limitation for total dissolved solids at Discharge Point 003 and 004 equal to 500 mg/L.

4. **Recycled Water Requirements and Provisions – Attachment G**

The water recycling requirements of this Order (including Attachment G) are consistent with the requirements of title 22 of the CCR, the State Water Board Recycled Water Policy, and State Water Board Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use, adopted by the State Water Board on June 7, 2016. Attachment G of this Order contains Recycled Water Findings, Requirements and Provisions to ensure that recycled water is used in a manner that is protective of groundwater and surface water quality.

A key to reducing the potential for spills is for the Permittee to establish appropriate BMPs to protect against the possibility of recycled water spills. Thus, the Recycled Water Technical Report Requirements in section D of Attachment G require the Permittee to recognize the

possibility of runoff from recycled water use areas and describe measures, including BMPs that the Permittee will implement to minimize the possibility of runoff.

The recycled water requirements of this Order (including Attachment G and section X of the MRP) include requirements for dual-plumbed systems, including requirements for cross-connection prevention. The Permittee supplies recycled water to four dual-plumbed recycled water users at the time of permit adoption.

H. Other Requirements

The Order contains additional specifications that apply to the Facility regardless of the disposal method (surface water discharge, land disposal, or recycling), including:

- 1. Turbidity.** This provision specifies that the turbidity of the filtered wastewater not exceed 0.2 NTU more than 5 percent of the time within a 24-hour period and 0.5 NTU at any time, and is based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following the microfilters and before discharge to the chlorine disinfection system.
- 2. Disinfection Process Requirements for Chlorine Disinfection System.** Chlorine disinfection process requirements, which include CT value and chlorine residual requirements are retained from Order No. R1-2012-0012. These requirements are necessary to determine compliance with requirements for recycled wastewater systems, established at title 22, division 4, chapter 3 of the CCR and to ensure that the disinfection process achieves effective pathogen reduction.
- 3. Storage Ponds.** Storage pond requirements are included in section IV.D.3 of the Order to ensure that future storage ponds are constructed in a manner that protects groundwater and complies with requirements of title 27 of the CCR.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

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

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters.
2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.
3. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.
4. The Basin Plan requires that waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in CCR, title 22, division 4, chapter 15, article 4.1, section 64435, and article 5.5, section 64444.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal 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 to the Order. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. The rationale for the special conditions contained in the Order is provided in section VI.B, below.

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) 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).

2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2 of the Order.

- a. Order Provision VI.A.2.a identifies the state's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 C.F.R. sections 122.41(j)(5) and (k)(2)).
- b. Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

B. Special Provisions

1. Reopener Provisions

- a. **Standard Revisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:
 - i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised 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. **Reasonable Potential (Special Provision VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.
- c. **Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.
- d. **303(d)-Listed Pollutants (Special Provision VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.
- e. **Water Effect Ratios (WERs) and Metal Translators (Special Provision VI.C.1.e).** This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Permittee provide new information and justification for applying a WER or metal translator to a water quality objective for one or more priority pollutants.
- f. **Nutrients (Special Provision VI.C.1.f).** This Order contains effluent limitations for ammonia and nitrate and effluent monitoring for nutrients (ammonia, nitrate, and phosphorus). This provision allows the Regional Water Board to reopen this Order if future monitoring data indicates the need for new or revised effluent limitations for any of these parameters.
- g. **Salt and Nutrient Management Plans (SNMPs) (Special Provision VI.C.1.g).** This provision allows the Regional Water Board to reopen this Order if it adopts a regional or subregional SNMP that is applicable to the Permittee.

DWQ and WQ 2013-0058-EXEC, and any revisions thereto for operation of its wastewater collection system.

b. Source Control and Pretreatment Provisions (Special Provision VI.C.5.b).

Pursuant to Special Provision VI.C.5.b.i, the Permittee shall implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system, and inspect facilities connected to the system.

40 C.F.R. section 403.8(a) requires POTWs with a total design flow greater than 5 mgd and receiving pollutants which pass through or interfere with the operation of the POTW to establish a POTW Pretreatment Program. The Regional Water Board may also require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference or pass through. The Permittee did not report any known industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the Facility in Part F of EPA Application Form 2A and the permitted flow of the Facility is less than 5 mgd; therefore, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, in order to prevent interference with the POTW or pass through of pollutants to the receiving water, the Order requires the Permittee to implement a source control program.

Water Code section 13263.3(d)(1) allows the Regional Water Board to require a Permittee to complete and implement a pollution prevention plan if pollution prevention is necessary to achieve a water quality objective, to include, pursuant to Water Code section 13263.3(d)(3), an analysis of the methods that could be used to prevent the discharge of the pollutants into the POTW. These methods can include application of local limits to industrial or commercial Permittees, pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of pollutants to the POTW. The analysis also shall identify sources, or potential sources, not within the ability or authority of the POTW to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible. This Order includes requirements for the Permittee to implement a source identification and reduction program.

A key component of an effective source control program is the identification and location of possible industrial users within the POTW's wastewater collection system. This information is typically obtained by the POTW through industrial waste surveys. The following types of resources can be consulted in compiling a master list of industrial users:

- i.** Water and sewer billing records
- ii.** Applications for sewer service
- iii.** Local telephone directories
- iv.** Chamber of Commerce and local business directories
- v.** Business license records

- vi. POTW and wastewater collection personnel and field observations
- vii. Business associations
- viii. The internet
- ix. Industrial and non-residential sewer use permit records

In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the Facility, the safety of Facility staff, and to ensure that pollutants do not pass through the treatment Facility to impair the beneficial uses of the receiving water. The proposed Order includes prohibitions for the discharge of pollutants that may interfere, pass through, or be incompatible with treatment operations, interfere with the use of disposal of sludge, or pose a health hazard to personnel.

- c. **Sludge Disposal and Handling Requirements (Special Provision VI.C.5.c).** The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 C.F.R. parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR.
- d. **Biosolids Management (Special Provision VI.C.5.d).** This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. The Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Recycled Water Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.
- e. **Operator Certification (Special Provision VI.C.5.e).** This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, section 3680 of the CCR.
- f. **Adequate Capacity (Special Provision VI.C.5.f).** The goal of this provision is to ensure appropriate and timely planning by the Permittee to ensure adequate capacity for the protection of public health and water quality.

6. Other Special Provisions

- a. **Storm Water (Special Provision VI.C.6.a).** This provision requires the Permittee, if applicable, to obtain coverage under the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, for Discharges of Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001). Currently, the Facility is exempt from these requirements based on the size of the facility (less than 1 mgd). In addition, all storm water that falls within the Facility is captured, treated, and disposed of within the Facility's NPDES permitted wastewater process.

7. Compliance Schedules – Not Applicable

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 C.F.R. requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code section 13383 authorizes the Regional Water Board to require technical and monitoring reports. The MRP, Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring (Table E-2)

1. Influent monitoring requirements at Monitoring Location INF-001 for BOD₅ and TSS are retained from Order No. R1-2012-0012 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.
2. Influent monitoring requirements for flow at Monitoring Location INF-001 are retained from Order No. R1-2012-0012.

B. Effluent Monitoring

Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Locations INT-001B (BOD₅), EFF-001, and EFF-002 is necessary to demonstrate compliance with effluent limitations and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.

1. Monitoring Location INT-001B (Table E-3)

- a. Monitoring frequencies and monitoring for BOD₅ and turbidity have been retained from Order No. R1-2012-0012, at Monitoring Location INT-001B, following the microfilters and prior to the chlorine contact chamber. Requirements to calculate mass-loadings (lbs/day) have been removed, consistent with the discussion in section IV.B.2.c of this Fact Sheet. A requirement to calculate percent removal has been added to Table E-3.

Title 22 requirements for turbidity apply at the end of the filtration process. The Permittee requested that BOD₅ monitoring requirements be evaluated at this location due to laboratory interferences that occasionally occur in the BOD₅ analytical test due to the need to use thiosulfate to remove chlorine from the sample. This location is consistent with the objective of measuring the effectiveness of the treatment process in removing carbonaceous materials which are associated with oxygen demand.

2. Monitoring Location EFF-001 (Table E-4)

- a. Effluent monitoring frequencies and sample types for flow, TSS, total coliform bacteria, chlorine residual, and disinfection CT, have been retained from Order No. R1-2012-0012.

3. Monitoring Location EFF-002 (Table E-5)

- a. Effluent monitoring frequencies and sample types for flow, dilution rate, pH, chlorine residual, dissolved oxygen, temperature, hardness, copper, cyanide, chlorodibromomethane, dichlorobromomethane, ammonia, nitrate, phosphorus, and CTR priority pollutants, have been retained from Order No. R1-2012-0012.

- b. This Order allows the Permittee the option to analyze for cyanide as total or weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.
- c. Effluent monitoring data collected during the term of Order No. R1-2012-0012 indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for chloroform, bromoform.. Therefore, this Order discontinues effluent monitoring requirements for chloroform and bromoform.
- d. This Order includes a new monitoring requirement for Haloacetic Acids to be conducted during the months of October and March during the first year of the permit term. This requirement is being added to all permits for facilities that use chlorine for disinfection to determine whether or not the discharge contains Haloacetic Acids at concentrations that exceed the title 22 drinking water objective of 60 µg/L for Total Haloacetic Acids. If monitoring during the first year of the permit term demonstrates that there is no reasonable potential for Haloacetic Acids, the Permittee will not be required to conduct further monitoring. If the monitoring reveals the presence of Haloacetic Acids at concentrations that exceed the water quality objective or concentrations that are high enough to raise concern that additional monitoring may reveal reasonable potential for Haloacetic Acids, then the Permittee will be required to continue monitoring semi-annually to collect sufficient data to make a reasonable potential determination.
- e. The monitoring frequency for acute toxicity has been reduced from monthly to annual because all monitoring data during the term of Order No. R1-2012-0012 showed 100 percent survival.
- f. The once per permit term CTR priority pollutant monitoring must be performed in time to submit the data with the Report of Waste Discharge; therefore, Table Note 11 in Table E-5 of the MRP specifies that this monitoring must be completed by **February 1, 2022**.
- g. This Order eliminates the effluent monitoring requirement for title 22 pollutants due to the fact that monitoring during the previous permit term demonstrated that cyanide and nitrate are the only two title 22 pollutants that exhibited reasonable potential to exceed applicable water quality objectives. The Regional Water Board finds that this Order's effluent monitoring requirement for the title 22 pollutants that have been identified in the effluent, namely cyanide and nitrate will provide sufficient information to characterize the impacts of the discharge to surface water.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) monitoring requirements are retained from Order No. R1-2012-0012 with modifications to evaluate and report chronic toxicity using TST methods (see section IV.C.5 of this Fact Sheet). The WET requirements are included in this Order to determine compliance with effluent limitations and thereby protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth.

In addition to routine toxicity monitoring, this Order requires the Permittee to maintain and update their TRE Work Plan, in accordance with appropriate U.S. EPA guidance to ensure that the Permittee has a plan to immediately move forward with the initial tiers of a TRE in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

D. Recycling Monitoring Requirements (Table E-6) and Production Requirements (Table E-7)

1. This Order requires the Permittee to comply with applicable state and local requirements regarding the production and use of recycled water.
2. Recycled water monitoring requirements at Monitoring Location REC-001 for flow, pH, nitrate, nitrite, ammonia, organic nitrogen, total dissolved solids, and visual observations have been retained from Order No. R1-2012-0012.
3. Recycled water monitoring data collected during the term of Order No. R1-2012-0012 indicates that the recycled water does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for chloride or boron, for the protection of groundwater. Therefore, this Order discontinues recycled water monitoring requirements for chloride and boron.
4. Recycled water production requirements in Table E-7 have been expanded provide clarity and to match requirements in the State Water Board Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use.

E. Receiving Water Monitoring

1. Surface Water (Table E-8)

- a. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations. Monitoring requirements at Monitoring Locations RSW-001 and RSW-002 for flow, pH, hardness, temperature, turbidity, dissolved oxygen, ammonia, nitrate, phosphorus, copper, cyanide, and CTR priority pollutants have been retained from Order No. R1-2012-0012.

The once per permit term CTR priority pollutant monitoring must be performed in time to submit the data with the Report of Waste Discharge; therefore, Table Note 11 in Table E-5 of the MRP specifies that this monitoring must be completed by **February 1, 2022**.

2. Groundwater (Table E-9)

This Order includes new groundwater monitoring requirements. The Recycled Water Policy requires the development of salt and nutrient management plans (SNMP) for groundwater basins in the State. In the absence of a regional or sub-regional SNMP effort, the regional water boards have the discretion to require groundwater monitoring and/or detailed antidegradation analyses to determine whether or not groundwater is being or has the potential of being impacted by the storage and use of recycled water.

Groundwater monitoring required by this Order will provide the necessary data to facilitate management of salts and nutrients at the recycled water use sites until a SNMP is developed and implemented. Regional Water Board staff's evaluation of groundwater data in the vicinity of the Permittee's recycled water storage and use sites shows that groundwater is

generally shallow (<30 feet deep), high quality, and used for domestic water supply. The data available in the state's Groundwater Ambient Monitoring Assessment (GAMA) database indicates that areas of high quality groundwater exist in the Wilson Grove Formation Highlands Groundwater Basin. However, areas throughout the basin are steadily trending towards degradation for salts and nutrients since the 1960s. The Wilson Grove formation that is prevalent through much of the area is a GAMA priority groundwater basin and is identified as a hydrologically vulnerable basin with areas of highly permeable geology making the underlying groundwater at risk for contamination from human activities. Recycled water is applied at hydraulic and nitrogen agronomic rates at all sites during the normal irrigation season, however, recycled water is applied at greater than agronomic rates on several vineyard sites that utilize recycled water for frost protection. Additionally, there are no agronomic rates for salts and metals.

Nitrate: The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion. Natural background concentrations of nitrate in groundwater are typically less than 1 mg/L. Additionally, the average concentration of nitrate in the Wilson Grove formation have increased from 0.5 mg/L in the 1970s to 3 mg/L in the 2010s. The Permittee sampled its discharge at Monitoring Location REC-001 between May 2012 and July 2017. Monitoring results ranged from non-detect to 7.6 mg/L based on 64 samples with an average of 7.3 mg/L. Because nitrate levels in the effluent have been measured at concentrations greater than background, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to degradation of groundwater due to discharges of nitrate.

Salts: The Secondary MCL for total dissolved solids, (TDS) established by DDW is 500 mg/L for adverse impacts to drinking water. The Agricultural Goal for TDS impacts to sensitive crops is 450 mg/L. The average concentration of TDS in the Wilson Grove formation have increased from 194 mg/L in the 1970s to 290 mg/L in the 2010s. The Permittee sampled its discharge at Monitoring Location REC-001 from March 2012 through July 2017. Monitoring results ranged from 220 mg/L to 720 mg/L based on 65 samples with an average of 458 mg/L. Therefore, the Regional Water Board concludes that discharges from the Facility exhibit reasonable potential to degrade groundwater due to discharges of total dissolved solids.

Groundwater monitoring is necessary to evaluate whether or not the use of recycled water at greater than agronomic rates is impacting groundwater. Furthermore, the Regional Water Board has the unique challenge of protecting and preserving high quality groundwater and its beneficial uses while enabling sustainable practices, such as use of recycled water. Groundwater monitoring is a tool to identify groundwater issues and modify practices, as necessary, to allow the continued use of recycled water and protect groundwater.

F. Other Monitoring Requirements

- 1. Filtration Process Monitoring.** Filtration monitoring requirements are retained from Order No. R1-2012-0012. Monitoring of the surface loading rate at Monitoring Location INT-001 is necessary to demonstrate compliance with technology requirements set forth in DDW's Alternative Treatment Technology Report for Recycled Water (September 2014 or subsequent). Monitoring of effluent turbidity of the tertiary filters at Monitoring Location INT-001 is required to demonstrate compliance with section 60301.320 of title 22 CCR filtration requirements for disinfected tertiary recycled water.

2. **Disinfection Process Monitoring for Chlorine Disinfection System.** Chlorine disinfection system monitoring requirements at Monitoring Location EFF-001 are retained from Order No. R1-2012-0012, and included to ensure effective pathogen reduction.
3. **Visual Monitoring.** Visual monitoring for effluent (Monitoring Location EFF-002) and receiving water (Monitoring Locations RSW-001 and RSW-002) requirements are retained from Order R1-2012-0012 and are necessary to ensure compliance with receiving water limitations in section V of the Order.
4. **Storage Pond Monitoring.** New storage pond monitoring requirements for existing and future storage ponds (PND-001, PND-002, etc.) are included for consistency with requirements in the Statewide Recycled Water General Order to ensure that ponds are properly operated and maintained to protect pond berms and to avoid overflows.
5. **Sludge Monitoring.** New sludge monitoring requirements at Monitoring Location BIO-001 serve as a basis for the Permittee to develop the Sludge Handling and Disposal Activity Report that is required as part of the Annual Report pursuant to section X.D.2.g of the MRP.
6. **Discharge Monitoring Report Quality Assurance (DMR-QA) Study Program.** Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires major permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Permittee can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Permittee can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Permittee shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.
7. **Accelerated Monitoring Requirements.** Tables E-3, E-4, E-5 and E-6 of the MRP include accelerated monitoring requirements for parameters that are required to be monitored daily, weekly, and monthly.
8. **Flow Monitoring.** Section I.D of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices.
9. **Spill Notification.** The MRP that is part of this Order establishes requirements for reporting spills and unauthorized discharges, with the exception of SSOs which must be reported in accordance with the requirements of State Water Board Order No. 2006-0003-DWQ and WQ 2013-0058-EXEC.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National

Pollutant Discharge Elimination System (NPDES) permit and master recycling permit for the Forestville Water District. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at: https://www.waterboards.ca.gov/northcoast/board_decisions/tentative_orders/ and through publication in the **Press Democrat** on **October 26, 2017**.

B. Written Comments

Interested persons were invited to submit written comments concerning these tentative WDRs as provided through the notification process. Comments were due to the Regional Water Board Executive Office electronically via e-mail to NorthCoast@waterboards.ca.gov or on disk (CD or DCD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <https://www.waterboards.ca.gov/northcoast/>

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on **November 27, 2017**.

C. Public Hearing

The Regional Water Board held a public hearing on the draft WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **July 11, 2018**
Time: 8:30 a.m. or as announced in the Regional Water Board's agenda
Location: Regional Water Board Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

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

Please be aware that dates and venues may change. Our Web address is <https://www.waterboards.ca.gov/northcoast/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action:

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

For instruction on how to file a petition for review see

https://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address identified in section VIII.C, 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 Regional Water Board by calling (707) 576-2220.

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 Regional 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 Cathleen Goodwin at Cathleen.Goodwin@waterboards.ca.gov or (707) 576-2687.

Attachment F-1 – Forestville Water District RPA Summary

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Antimony	µg/L	<	0.5	--	--	6	--	--	14	--	6	No
Arsenic	µg/L	=	1.1	--	--	10	340	150	--	--	10	No
Beryllium	µg/L	<	0.1	--	--	4	--	--	--	--	4.0	No
Cadmium	µg/L	<	0.1	--	--	1.5	2.25	1.5	--	--	5.0	No
Chromium (III)	µg/L	<	0.5	--	--	125	1048	125	--	--	--	No
Chromium (VI)	µg/L	<	0.01	--	--	11	16	11	--	--	50	No
Copper	µg/L	=	61	=	4.6	46	66	46	1,300	--	--	No ¹
Lead	µg/L	<	0.25	--	--	1.5	37	1.5	--	--	--	No
Mercury	µg/L	=	0.00221	--	--	0.05	--	--	0.050	--	2.0	No
Nickel	µg/L	=	4.2	--	--	31	279	31	610	--	100	No
Selenium	µg/L	<	2	--	--	5	--	5	--	--	50	No
Silver	µg/L	<	0.1	--	--	1.4	1.4	--	--	--	--	No
Thallium	µg/L	<	0.1	--	--	1.7	--	--	1.7	--	2	No
Zinc	µg/L	=	18	--	--	71	71	71	--	--	--	No
Cyanide	µg/L	=	13	=	2.9	5.2	22	5.2	700	--	150	Yes
Asbestos	MFL	<	0.2	--	--	7	--	--	7	--	7	No
2,3,7,8 TCDD	µg/L	<	4.25E-06	--	--	1.3E-08	--	--	1.3E-08	--	3.0E-05	No
Acrolein	µg/L	<	5	--	--	320	--	--	320	--	--	No
Acrylonitrile	µg/L	<	5	<	5	0.059	--	--	0.059	--	--	No
Benzene	µg/L	<	0.5	<	0.5	1	--	--	1.2	--	1	No
Bromoform	µg/L	<	0.066	<	1	4.3	--	--	4.3	--	--	No
Carbon Tetrachloride	µg/L	<	0.5	<	0.5	0.25	--	--	0.25	--	0.5	No
Chlorobenzene	µg/L	<	0.5	<	0.5	70	--	--	680	--	70	No
Chlorodibromomethane	µg/L	=	0.89	<	1	0.401	--	--	0.401	--	--	Yes
Chloroethane	µg/L	<	0.5	<	0.5	No Criteria	--	--	--	--	--	Uo
2-Chloroethylvinyl ether	µg/L	<	1	--	--	No Criteria	--	--	--	--	--	Uo
Chloroform	µg/L	=	50	=	10	No Criteria	--	--	--	--	--	Uo
Dichlorobromomethane	µg/L	=	4	<	1	0.56	--	--	0.56	--	--	Yes
1,1-Dichloroethane	µg/L	<	0.5	<	0.5	5	--	--	--	--	5	No
1,2-Dichloroethane	µg/L	<	0.5	<	0.5	0.38	--	--	0.38	--	0.5	No
1,1-Dichloroethylene	µg/L	<	0.5	<	0.5	0.057	--	--	0.057	--	6	No
1,2-Dichloropropane	µg/L	<	0.5	<	0.5	0.52	--	--	0.52	--	5	No
1,3-Dichloropropylene	µg/L	<	0.5	<	0.5	0.5	--	--	10	--	0.5	No
Ethylbenzene	µg/L	<	0.5	<	0.5	300	--	--	3,100	--	300	No
Methyl Bromide	µg/L	<	0.5	<	0.5	48	--	--	48	--	--	No
Methyl Chloride	µg/L	<	0.5	<	0.5	No Criteria	--	--	--	--	--	Uo

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Methylene Chloride	µg/L	<	0.5	<	0.5	4.7	--	--	4.7	--	5	No
1,1,2,2-Tetrachloroethane	µg/L	<	0.5	<	0.5	0.17	--	--	0.17	--	1	No
Tetrachloroethylene	µg/L	<	0.5	<	0.5	0.8	--	--	0.8	--	5	No
Toluene	µg/L	<	0.5	<	0.5	150	--	--	6800	--	150	No
1,2-Trans-Dichloroethylene	µg/L	<	0.5	<	0.5	10	--	--	700	--	10	No
1,1,1-Trichloroethane	µg/L	<	0.5	<	0.5	200	--	--	--	--	200	No
1,1,2-Trichloroethane	µg/L	<	0.5	<	0.5	0.6	--	--	0.6	--	5	No
Trichloroethylene	µg/L	<	0.5	<	0.5	2.7	--	--	2.7	--	5	No
Vinyl Chloride	µg/L	<	0.5	<	0.5	0.5	--	--	2	--	0.5	No
2-Chlorophenol	µg/L	<	0.5	--	--	120	--	--	120	--	--	No
2,4-Dichlorophenol	µg/L	<	0.5	--	--	93	--	--	93	--	--	No
2,4-Dimethylphenol	µg/L	<	0.5	--	--	540	--	--	540	--	--	No
2-Methyl- 4,6-Dinitrophenol	µg/L	<	16	--	--	13	--	--	13.4	--	--	No
2,4-Dinitrophenol	µg/L	<	17	--	--	70	--	--	70	--	--	No
2-Nitrophenol	µg/L	<	0.5	--	--	No Criteria	--	--	--	--	--	Uo
4-Nitrophenol	µg/L	<	25	<	25	No Criteria	--	--	--	--	--	Uo
3-Methyl 4-Chlorophenol	µg/L	<	0.5	--	--	No Criteria	--	--	--	--	--	Uo
Pentachlorophenol	µg/L	<	1	<	1	0.28	10	7	0.28	--	1	No
Phenol	µg/L	<	0.5	--	--	21,000	--	--	21000	--	--	No
2,4,6-Trichlorophenol	µg/L	<	0.5	--	--	2.1	--	--	2.1	--	--	No
Acenaphthene	µg/L	<	0.001	--	--	1,200	--	--	1200	--	--	No
Acenaphthylene	µg/L	<	0.001	--	--	No Criteria	--	--	--	--	--	Uo
Anthracene	µg/L	<	0.002	--	--	9,600	--	--	9600	--	--	No
Benzidine	µg/L	<	5	--	--	0.00012	--	--	0.00012	--	--	No
Benzo(a)Anthracene	µg/L	<	0.003	--	--	0.0044	--	--	0.0044	--	--	No
Benzo(a)Pyrene	µg/L	<	0.002	--	--	0.0044	--	--	0.0044	--	0.2	No
Benzo(b)Fluoranthene	µg/L	<	0.003	--	--	0.0044	--	--	0.0044	--	--	No
Benzo(ghi)Perylene	µg/L	<	0.003	--	--	No Criteria	--	--	--	--	--	Uo
Benzo(k)Fluoranthene	µg/L	<	0.003	--	--	0.0044	--	--	0.0044	--	--	No
Bis(2-Chloroethoxy) methane	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Bis(2-Chloroethyl)Ether	µg/L	<	1	--	--	0.031	--	--	0.031	--	--	No
Bis(2-Chloroisopropyl) ether	µg/L	<	2	--	--	1,400	--	--	1400	--	--	No
Bis(2-Ethylhexyl) phthalate	µg/L	<	5	--	--	1.8	--	--	1.8	--	4	No
4-Bromophenyl Phenyl Ether	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Butylbenzyl Phthalate	µg/L	<	10	--	--	3,000	--	--	3000	--	--	No
2-Chloronaphthalene	µg/L	<	10	--	--	1,700	--	--	1700	--	--	No
4-Chlorophenyl Phenyl Ether	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Chrysene	µg/L	<	0.002	--	--	0.0044	--	--	0.0044	--	--	No
Dibenzo(a,h)Anthracene	µg/L	<	0.002	--	--	0.0044	--	--	0.0044	--	--	No
1,2-Dichlorobenzene	µg/L	<	0.5	<	0.5	600	--	--	2700	--	600	No
1,3-Dichlorobenzene	µg/L	<	0.5	<	0.5	400	--	--	400	--	--	No
1,4-Dichlorobenzene	µg/L	<	0.5	<	0.5	5	--	--	400	--	5	No
3,3 Dichlorobenzidine	µg/L	<	5	--	--	0.04	--	--	0.04	--	--	No
Diethyl Phthalate	µg/L	<	2	--	--	23,000	--	--	23000	--	--	No
Dimethyl Phthalate	µg/L	<	2	--	--	313,000	--	--	313000	--	--	No
Di-n-Butyl Phthalate	µg/L	<	10	--	--	2,700	--	--	2700	--	--	No
2,4-Dinitrotoluene	µg/L	<	5	--	--	0.11	--	--	0.11	--	--	No
2,6-Dinitrotoluene	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Di-n-Octyl Phthalate	µg/L	<	10	--	--	No Criteria	--	--	--	--	--	Uo
1,2-Diphenylhydrazine	µg/L	<	1	--	--	0.04	--	--	0.04	--	--	No
Fluoranthene	µg/L	<	0.002	--	--	300	--	--	300	--	--	No
Fluorene	µg/L	<	0.003	--	--	1,300	--	--	1300	--	--	No
Hexachlorobenzene	µg/L	<	0.5	<	0.5	0.00075	--	--	0.00075	--	1	No
Hexachlorobutadiene	µg/L	<	0.5	<	0.5	0.44	--	--	0.44	--	--	No
Hexachlorocyclopentadiene	µg/L	<	1	<	1	50	--	--	240	--	50	No
Hexachloroethane	µg/L	<	1	--	--	1.9	--	--	1.9	--	--	No
Indeno(1,2,3-cd)Pyrene	µg/L	<	0.003	--	--	0.0044	--	--	0.0044	--	--	No
Isophorone	µg/L	<	1	--	--	8.4	--	--	8.4	--	--	No
Naphthalene	µg/L	=	0.17	<	0.5	No Criteria	--	--	--	--	--	Uo
Nitrobenzene	µg/L	<	1	--	--	17	--	--	17	--	--	No
N-Nitrosodimethylamine	µg/L	<	5	--	--	0.00069	--	--	0.00069	--	--	No
N-Nitrosodi-n-Propylamine	µg/L	<	5	--	--	0.005	--	--	0.005	--	--	No
N-Nitrosodiphenylamine	µg/L	<	1	--	--	5	--	--	5	--	--	No
Phenanthrene	µg/L	=	0.0041	--	--	No Criteria	--	--	--	--	--	Uo
Pyrene	µg/L	<	0.001	--	--	960	--	--	960	--	--	No
1,2,4-Trichlorobenzene	µg/L	<	0.5	<	0.5	5	--	--	--	--	--	No
Aldrin	µg/L	<	0.0750	<	0.075	0.00013	3	--	0.00013	--	--	No
alpha-BHC	µg/L	<	0.05	<	0.05	0.0039	--	--	0.0039	--	--	No
beta-BHC	µg/L	<	0.05	<	0.05	0.014	--	--	0.014	--	--	No
gamma-BHC	µg/L	<	0.2	<	0.2	0.019	0.95	--	0.019	--	0.2	No
delta-BHC	µg/L	<	0.05	<	0.05	No Criteria	--	--	--	--	--	Uo
Chlordane	µg/L	<	0.05	<	0.05	0.00057	2.4	0.0043	0.00057	--	0.1	No
4,4'-DDT	µg/L	<	0.02	<	0.02	0.00059	1.1	0.001	0.00059	--	--	No
4,4'-DDE	µg/L	<	0.05	<	0.05	0.00059	--	--	0.00059	--	--	No

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
4,4'-DDD	µg/L	<	0.05	<	0.05	0.00083	--	--	0.00083	--	--	No
Dieldrin	µg/L	<	0.01	<	0.01	0.00014	0.24	0.056	0.00014	--	--	No
alpha-Endosulfan	µg/L	<	0.0500	<	0.05	0.056	0.22	0.056	110	--	--	No
beta-Endosulfan	µg/L	<	0.05	<	0.05	0.056	0.22	0.056	110	--	--	No
Endosulfan Sulfate	µg/L	<	0.05	<	0.05	110	--	--	110	--	--	No
Endrin	µg/L	<	0.1000	<	0.1	0.036	0.086	0.036	0.76	--	2	No
Endrin Aldehyde	µg/L	<	0.05	<	0.05	0.76			0.76	--	--	No
Heptachlor	µg/L	<	0.0100	<	0.01	0.00021	0.52	0.0038	0.00021	--	0.01	No
Heptachlor Epoxide	µg/L	<	0.0100	<	0.01	0.0001	0.52	0.0038	0.0001	--	0.01	No
PCBs sum	µg/L	<	0.50	<	0.5	0.00017		0.014	0.00017	--	0.5	No
Toxaphene	µg/L	<	0.5	<	0.5	0.0002	0.73	0.0002	0.00073	--	3	No
Barium	µg/L	=	29	=	66	1,000	--	--	--	--	1,000	No
Fluoride	mg/L	=	0.22	=	0.14	2	--	--	--	--	2	No
Nitrate Nitrogen (as N)	mg/L	=	19	=	1.3	10	--	--	--	--	10	Yes
Nitrite	mg/L	=	0.23	<	0.2	1	--	--	--	--	1	No
Specific Conductance (EC)	µmhos/cm	=	590	=	260	900	--	--	--	--	900	No
Total Trihalomethanes	µg/L	=	55	<	0.5	80	--	--	--	--	80	No
TCDD Equivalents	µg/L	=	3.50E-06	--	--	1.30E-08	--	--	1.3E-08	--	3.00E-05	No
Ammonia Nitrogen, Total (as N)	mg/L	=	18	=	0.3	1.86	4.64	1.86	--	--	--	Yes

Table Notes:

1. See section IV.C.3.c of the Fact Sheet for a discussion of the RPA results.

ATTACHMENT G

RECYCLED WATER FINDINGS, USE REQUIREMENTS, PROVISIONS AND TECHNICAL REPORT REQUIREMENTS

The Recycled Water Findings, Use Requirements, Provisions, and Technical Report Requirements in this Attachment apply to the Permittee's recycled water system, including storage, distribution, and use.

A. Recycled Water Findings

The North Coast Regional Water Quality Control Board (Regional Water Board) finds that:

BACKGROUND INFORMATION

1. "Recycled water" means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource. (Wat. Code, § 13050(n).)
2. In 1977, the State Water Board adopted Resolution No. 77-1, titled "Policy with Respect to Water Reclamation in California" (Resolution No. 77-1). Resolution No. 77-1, in part, encourages the use of recycled water in the state.
3. In 1996, the State Water Board and DDW set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of recycled water in California, in a document titled Memorandum of Agreement between the *Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water (MOA)*. This Order is consistent with the MOA.
4. Prior to July 1, 2014, CDPH provided public health recommendations to the Water Boards through review and approval of title 22 Engineering Reports prepared pursuant to California Code of Regulations, title 22, section 60323. The Water Boards then issue permits. Effective July 1, 2014, the administration of the Drinking Water Program, including responsibility for review of title 22 Engineering Reports was transferred from the CDPH to the State Water Board.
5. On February 3, 2009, the State Water Board adopted Resolution No. 2009-0011, Adoption of a Policy for the Water Quality Control of Recycled Water (Recycled Water Policy) (Revised January 22, 2013, effective April 25, 2013). The goal of Resolution No. 2009-0011 is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), as identified in Finding A.1, above. In accordance with the Recycled Water Policy, activities involving recycled water use that could impact high quality waters are required to implement best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.
6. On June 3, 2014, the State Water Resources Control Board (State Water Board) adopted Order WQ 2014-0090, Waste Discharge Requirements for Recycled Water Use. On June 7, 2016, the State Water Board adopted Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use (General Order), amending and replacing Order WQ

2014-0090. The General Order was adopted to facilitate recycled water use and reduce demand on potable water supplies and encourages recycled water projects by maintaining a streamlined approach in permitting new recycled water users through a water recycling program. This Order (Order No. R1-2018-0002) incorporates language from the General Order and supports the streamlined approach that allows the Permittee to add recycled water projects through the Permittee's recycled water program and in accordance with requirements of this Order.

7. The Uniform Statewide Recycling Criteria was established for the protection of public health and are codified in the California Code of Regulations, title 22, division 4, chapter 3 (herein referred to as Uniform Statewide Recycling Criteria). Approved uses of recycled water under the Uniform Statewide Recycling Criteria depend on the level of treatment and potential for public contact. Under the Uniform Statewide Recycling Criteria, recycled water is categorized based on treatment levels. There are four categories of recycled water relevant to this Order; they are listed here and defined in the indicated regulations section:
 - a. Undisinfected secondary recycled water (Cal. Code Regs., tit. 22, § 60301.900.)
 - b. Disinfected secondary-23 recycled water (Cal. Code Regs., tit. 22, § 60301.225.)
 - c. Disinfected secondary-2.2 recycled water (Cal. Code Regs., tit. 22, § 60301.220.)
 - d. Disinfected tertiary recycled water (Cal. Code Regs., tit. 22, § 60301.230.)

An approved title 22 Engineering Report addressing protection of public health is required before authorization to use recycled water is granted by the Regional Water Board Executive Officer.

8. Recycled water shall only be used consistent with the Uniform Statewide Recycling Criteria and requirements specified in this Order, including:
 - a. Written approval of a title 22 Engineering Report prior to delivery of recycled water for all use types proposed by the Permittee;
 - b. Use of recycled water are subject to backflow prevention, cross connection tests, and setback requirements to surface impoundments, wells, etc. as contained in the Uniform Statewide Recycling Criteria and the California Code of Regulations, title 17, division 1, article 2.
9. New uses of recycled water not identified at the time that this Order is adopted, may be authorized after Order adoption, as long as such new uses meet the requirements of this Order and an approved title 22 Engineering Report.
10. When used in compliance with the Recycled Water Policy, the Uniform Statewide Recycling Criteria, and all applicable state and federal water quality laws, the Regional Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to raw and potable water supplies for approved uses.
11. This Order authorizes beneficial, non-potable recycled water uses consistent with the Uniform Statewide Recycling Criteria and any additional requirements specified in the Permittee's ROWD and approved by DDW.
12. There are many sources of salts and nutrients in surface and groundwater, including leaching of naturally occurring salts in soils as a result of irrigation and precipitation, animal

wastes, fertilizers and other soil amendments, municipal use including water softeners, and industrial wastewater.

13. The use of recycled water has the potential to increase nutrients in groundwater supplies. In order to minimize the nutrient loading, this Order requires that recycled water used for irrigation purposes be applied at agronomic rates.
14. The use of recycled water for irrigation has the potential to increase salts and other constituents in groundwater, but is not expected to be a significant source of salt loading relative to other potential sources, particularly when recycled water is used in the same watershed in which it would otherwise be discharged. Basin-specific salt and nutrient management plans, however, will provide definitive information on where assimilative capacity is available.
15. The Recycled Water Policy calls on local water and wastewater entities together with other stakeholders who contribute salt and nutrients to a groundwater basin or sub-basin, to fund and develop Salt and Nutrient Management Plans to comprehensively address all sources of salts and nutrients. The State and Regional Water Boards assert the need for comprehensive salt and nutrient management planning and directs that salinity and nutrient increases should be managed in a manner consistent with the Recycled Water Policy. It is the intent of the Recycled Water Policy that every groundwater basin/sub-basin in California ultimately has a consistent Salt and Nutrient Management Plan. The appropriate way to address salt and nutrient issues is through the development of regional or subregional Salt and Nutrient Management Plans.
16. According to Paragraph 7(b)(4) of the Recycled Water Policy, irrigation projects that qualify for streamlined permitting are not required to conduct project-specific receiving water and groundwater monitoring unless otherwise required by an applicable salt and nutrient management plan. This Order requires the Permittee to comply with any future salt and nutrient management plan adopted by the Regional Water Board. Until a salt and nutrient management plan is adopted, groundwater monitoring could be required as needed for development of the salt and nutrient management plan or if necessary to assess impacts of effluent disposal to the recycled water system.
17. The Recycled Water Policy includes monitoring requirements for Constituents of Emerging Concern¹ (CECs) for the use of recycled water for groundwater recharge by surface and subsurface application methods. The monitoring requirements and criteria for evaluating monitoring results in the Recycled Water Policy are based on recommendations from a Science Advisory Panel.² Because this General Order is limited to non-potable uses and does not authorize groundwater replenishment activities, monitoring for CECs is not required.
18. The Recycled Water Policy requires permits for landscape irrigation with recycled water to include priority pollutant monitoring at the recycled water production facility. Annual monitoring is required for design production flows greater than one million gallons per day;

¹ For this Policy, CECs are defined to be chemicals in personal care products, pharmaceuticals including antibiotics, antimicrobials; industrial, agricultural, and household chemicals; hormones; food additives; transformation products, inorganic constituents; and nanomaterials.

² The Science Advisory Panel was convened in accordance with provision 10.b of the Recycled Water Policy. The panel's recommendations were presented in the report; *Monitoring Strategies for Chemicals of Emerging Concern (CECs) in Recycled Water - Recommendations of a Science Advisory Panel*, dated June 25, 2010.

a five year monitoring frequency is required for flows less than one million gallons per day. Priority pollutants are listed in Appendix A of 40 Code of Federal Regulations (CFR) Part

- 19.** This Order requires the Permittee to minimize the potential for surface runoff of recycled water, but recognizes that even with diligent implementation of best management practices (BMPs), incidental runoff events may occur on occasion. Incidental runoff is defined as unintended small amounts (volume) of runoff from recycled water use areas where agronomic rates and appropriate best management practices are being implemented. Examples of incidental runoff include unintended, minimal over-spray from sprinklers that escapes the recycled water use area or accidental breakage of a sprinkler head on a properly maintained irrigation system. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff events are typically infrequent, low volume, accidental, not due to a pattern of neglect or lack of oversight, and are promptly addressed. The Regional Water Board recognizes that such minor violations are unavoidable and present a low risk to water quality. All runoff incidents, including incidental runoff, shall be summarized in the Permittee's quarterly recycled water monitoring report. Enforcement action shall be considered for runoff that is not incidental, inadequate response by the Permittee to incidental runoff incidents, repeated runoff incidents that were within the Permittee's control, where incidental runoff directly causes violations of water quality objectives, incidents that create a condition of pollution or nuisance, and discharges that reach surface water in violation of Discharge Prohibitions in section III of the Order and/or Recycled Water Requirements in Attachment G, section B.4 or B.6.

STATUTORY AND REGULATORY ISSUES

- 20.** State Water Board DDW requirements for completion of the title 22 Recycled Water Engineering Report were identified in letters dated December 22, 2017, and April 25, 2018, that also included recommendations and conditions of approval that are included below as requirements of this Order:
- a.** Update and resubmit the title 22 Recycled Water Engineering Report addressing the comments in DDW's December 22, 2017, and April 25, 2018, letters;
 - b.** There shall be no delivery of recycled water to existing dual-plumbed uses until shut-down tests are conducted and no cross-connections on-site within existing dual-plumbed use areas are documented.
 - c.** New use areas and types of recycled water uses, other than those listed and/or described in the DDW-approved Engineering Report must be addressed by submittal of an addendum to the Engineering Report for DDW approval. The addendums must demonstrate that applicable changes to operations and management programs are in place.
 - d.** Future dual-plumbed use areas shall comply with the requirements specified in section C.16 of this Attachment.
- 21.** Pursuant to Water Code section 13523, the Regional Water Board, after consulting with and receiving the recommendation of the State Water Board DDW, may prescribe water reclamation requirements for water that is used or proposed to be used as recycled water. The requirements shall be established in conformance with the Uniform Statewide

Recycling Criteria pursuant to Water Code section 13521. Pursuant to Water Code section 13523 (b), the requirements for use of recycled water not addressed by the Uniform Statewide Recycling Criteria will be considered on a case-by-case basis by Regional Water Boards, after consulting with and receiving the recommendations of the State Water Board DDW. The State Water Board DDW provides such recommendations and conditions of approval through acceptance letters for title 22 Engineering Reports.

- 22.** This Order implements Water Code section 13523.1 which authorizes issuance of a Master Recycled Water Permit to suppliers or distributors, or both, of recycled water in lieu of issuing individual water recycled water requirements to each recycled water user.
- 23.** Effluent Limitations included in Order No. R1-2018-0002 will ensure compliance with requirements contained in title 22 and the DDW/State Water Board MOA.
- 24.** Recycled water shall only be used on areas that have been evaluated in compliance with the California Environmental Quality Act (CEQA). Future CEQA documents must evaluate the potential environmental impacts of recycled water use on a proposed use site and identify mitigation measures for the protection of water quality to be implemented. Mitigation measures and BMPs must be clearly identified in an Operations and Management Plan as identified in Recycled Water Technical Report Requirement D.2.
- 25.** The uses of recycled water authorized by this Order are exempt from the requirements of Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste in California Code of Regulations, title 27, division 2, subdivision 1, section 20005, et seq. The activities are exempt from the requirements of title 27 so long as the activity meets, and continues to meet, all preconditions listed below. (Cal Code Regs., tit. 27, § 20090.)
 - a.** Sewage—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to California Code of Regulations, title 23, division 3, chapter 9, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludge or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable State Water Board promulgated provisions of this division. (Cal. Code Regs., tit. 27, § 20090(a).)
 - b.** Wastewater—Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields if the following conditions are met: (1) the applicable Regional Water Board has issued WDRs, reclamation requirements, or waived such issuance; (2) the discharge is in compliance with the applicable water quality control plan; and (3) the wastewater does not need to be managed according to, California Code of Regulations, title 22, division 4.5, chapter 11, as a hazardous waste. (Cal. Code Regs., tit. 27, § 20090(b).)
 - c.** Reuse – Recycling of other use of materials salvaged from waste or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of Title 27 regulations.(Cal. Code Regs., tit. 27, § 20090(h).)
- 26.** Pursuant to Water Code section 106.5, 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 encouraging uses of recycled water. Such uses must be consistent with the requirements of California Code of Regulations (including the Uniform Statewide Recycling Criteria). This Order furthers the human right to water by encouraging use of recycled water, thus reducing demand on other sources, including use of potable water used for non-potable uses where recycled water is available.

27. The Regional Water Board consulted with DDW, the Sonoma County Health Department, and the Marin Sonoma Mosquito and Vector Control District and considered any recommendations regarding public health aspects for this use of recycled water.

B. Recycled Water Use Requirements

1. The delivery of recycled water shall cease as soon as possible if:
 - a. Disinfection of wastewater ceases at any time; or
 - b. Recycled water specifications are violated or threaten to be violated.
2. The use of recycled water shall not result in unreasonable waste of water.
3. The use of recycled water shall not create a condition of pollution or nuisance as defined in Water Code section 13050(m).
4. The incidental runoff of recycled water shall not result in water quality less than that prescribed in water quality control plans or policies unless authorized through time schedule provisions in WDRs, waivers of WDRs, or conditional prohibitions regulating agricultural discharges from irrigated lands.
5. All recycled water provided pursuant to this Order shall be treated and managed in conformance with all applicable provisions of the Recycled Water Policy.
6. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of section IV.C of the Order and that all users of recycled water comply with the terms and conditions of this Order and with any rules, ordinances, or regulations adopted by the Permittee.
7. The Permittee shall discontinue delivery of recycled water during any period in which there is reason to believe that the quality of the delivered recycled water is not meeting the Uniform Statewide Recycling Criteria and any other requirements specified in this Order. Notification requirements are as follows:
 - a. The Permittee shall notify recycled water users if recycled water that does not meet the recycled water quality requirements of this Order is released into the recycled water system.
 - b. The Permittee shall notify the Regional Water Board and State Water Board DDW within one (1) business day of determining that delivery of off-specification recycled water has taken place.
 - c. In circumstances where the emergency requires termination of delivery to recycled water users, the Permittee shall copy the Regional Water Board and State Water Board DDW on any correspondence concerning non-compliance between the Permittee and its users. This notification does not supersede any notification requirements contained in Order Provision VI.2.b and Attachment D section V.E.

- c. Implementation of an Operations and Maintenance Plan that provides for detection of leaks (for example, from sprinkler heads), and correction within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever comes first.
 - d. Proper design and aim of sprinkler heads;
 - e. Proper design and operation of the irrigation system;
 - f. Refraining from application during precipitation events;
 - g. Application of recycled water at an agronomic rate that does not exceed the water or nutrient demand of the crop or vegetation being irrigated;
 - h. Use of repeat start times and multiple water days to increase irrigation efficiency and reduce runoff potential;
 - i. Maintenance of recycled water infrastructure (pipelines, pumps, etc.) to prevent and minimize breakage and leaks; and
 - j. Adequate protection of all recycled water reservoirs and ponds against overflow, structural damage, or a reduction in efficiency resulting from a 25-year, 24-hour storm or flood event or greater, and notification of the Regional Water Board Executive Officer, if a discharge occurs.
13. Use areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use.
14. Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities, roadways, or any other area where the public would be accidentally exposed to recycled water. [CCR title 22, section 60310(e)(3)]
15. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff. [CCR title 22, section 60310(e)(3)]
16. All recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities.
17. The Permittee shall implement the requirements of the California Health and Safety Code (CHSC), section 116815 regarding the installation of purple pipe. CHSC section 116815 requires that *"all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape."* Section 116815 also contains exemptions that apply to municipal facilities that have established a labeling or marking system for recycled water used on their premises and for water delivered for agricultural use. The Permittee shall document compliance with this requirement on an annual basis in its annual monitoring report. The Permittee shall continue to implement the requirements of CHSC section 116815 during the term of this Order. [Urban]
18. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access. [CCR title 22, section 60310(I)] [Urban]

- 19.** There shall be no cross-connection between potable water supply and piping containing recycled water. [22 CCR, section 60310(h)] All Users of recycled water shall provide for appropriate backflow protection for potable water supplies as specified in California Code of Regulations, title 17, section 7604 or as determined by the State Water Board on a case-by-case basis to protect public health.
- 20.** Disinfected tertiary recycled water shall not be irrigated within 50 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified in CCR title 22, section 60310(a) have been met and approved by DDW.
- 21.** The use of recycled water shall not cause degradation of any water supply.
- 22.** Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.
- 23.** All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in CCR title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road. DDW may accept alternative signage and wording, or an educational program, provided that applicant demonstrates to DDW that the alternative approach will assure an equivalent degree of public notification.
- 24.** DDW Guidance Memo No. 2003-02: Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines provides guidance for the separation of new potable water mains and recycled water pipelines which shall be implemented as follows: [Urban]

 - a.** There shall be at least a 4-foot horizontal separation between all pipelines transporting recycled water and those transporting disinfected tertiary recycled water and new potable water mains.
 - b.** There shall be at least a 1-foot vertical separation at crossings between all pipelines transporting recycled water and potable water mains, with the potable water main above the recycled water pipeline, unless approved by the DDW.
 - c.** All portions of the recycled water pipeline that cross under a potable water main shall be enclosed in a continuous sleeve.
 - d.** Recycled water pipelines shall not be installed in the same trench as new water mains.
 - e.** Where site conditions make it impossible to comply with the above conditions, any variation shall be approved by DDW and comply with alternative construction criteria for separation between sanitary sewers and potable water mains as described in the DDW document titled "Criteria for Separation of Water Mains and Sanitary Sewers", treating the recycled water line as if a sanitary sewer.
- 25.** A minimum freeboard, consistent with pond design, but not less than 2 feet, shall be maintained under normal operating conditions in any reservoir or pond containing recycled water. When extraordinary operating conditions necessitate a freeboard of less than 2 feet,

the Permittee will document the variance in the monthly self-monitoring report. The report will include an explanation of the circumstances under which the variance is required, the estimated minimum freeboard during the extraordinary period, and any permit violations occurring as a result of the variance.

26. The use of recycled water for dust suppression shall only occur during periods of dry weather, shall be limited to periods of short duration, and shall be limited to areas under the control of the Permittee.
27. The Permittee shall comply with any salt and nutrient management plan that is adopted by the Regional Water Board in the future.

C. Recycled Water Provisions

1. The Permittee shall manage recycled water, and shall develop, establish and enforce administrative procedures, engineering standards, rules, ordinances and/or regulations governing the design and construction of recycled water systems and use facilities and the use of recycled water in accordance with the criteria established in CCR title 22 and this Order. The Permittee shall develop user agreements requiring user compliance with CCR title 22 and this Order. Recycled water engineering standards, rules, ordinances and/or regulations shall be approved by the Regional Water Board Executive Officer and DDW.

Upon approval of the Permittee's procedures, engineering standards, rules, ordinances, and/or regulations, the Permittee may authorize specific additional recycled water projects, in accordance with the approved program and agreements and in accordance with the technical report requirements in section D of this attachment (Attachment G).

2. The Permittee shall conduct periodic inspections of the recycled water use areas, facilities, and operations to monitor and assure compliance with the conditions of this Order. The Permittee shall take whatever actions are necessary, including termination of delivery of recycled water, to correct any user violations.
3. Where dual-plumbed systems are utilized, the Permittee shall, upon prior notification to the user, conduct regular inspections to assure cross-connections are not made with potable water systems and DDW approved backflow prevention devices are installed and operable. Reports of testing and maintenance shall be maintained by the Permittee. The Permittee may use a third party agent to perform cross-connection testing, however, the Permittee is solely responsible for compliance with conditions of this Order and the approved water recycling program.
4. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of this Order and for the operation and maintenance of transport facilities and associated appurtenances. If an entity other than the Permittee has actual physical and ownership control over the recycled water transport facilities, the Permittee may delegate operation and maintenance responsibilities for such facilities to that entity through use agreements. The Permittee shall require the use of the recycled water to be in accordance with the Uniform Statewide Recycling Criteria and to comply with all requirements of this Order, including requirements to apply only at agronomic rates and not cause unauthorized degradation, pollution, or nuisance. If not the same entity, the Permittee shall provide water quality data and communicate to recycled water users the nutrient levels in the recycled water.

5. All persons involved in the operation and/or maintenance of the recycled water system shall attend training regarding the safe and efficient operation of recycled water use facilities.
6. The Permittee shall require recycled water users to comply with the Permittee's use area conditions. Use area requirements shall be consistent with requirements identified in this Attachment (Attachment G).
7. If recycled water will be transported by truck for uses consistent with the Uniform Statewide Recycling Criteria such as dust control, the Permittee shall provide notification and control measures for Users consistent with the provisions of the approved title 22 Engineering Report that addresses protection of public health.
8. A copy of the Water Recycling Use Permit must be provided to recycled water users by the Permittee (electronic format is acceptable). The recycled water users must have the documents available for inspection by State and Regional Water Board staff, State/County officials, and/or the Permittee.
9. The Permittee shall comply with the recycled water monitoring and reporting requirements in Attachment E of this Order. This monitoring program shall be consistent with any applicable Salt and Nutrient Management Plan for the basin/sub-basin. The Permittee is responsible for collecting reports from the recycled water users. Where applicable, recycled water users are responsible for submitting on-site observation reports and use data to the Permittee, who will compile and file an annual report with the Regional Water Board. The Permittee, at its discretion, may assume any of its recycled water users' responsibility for on-site observation reports and use data.
10. The Permittee and Users shall maintain in good working order and operate as efficiently as possible any facility or control system to achieve compliance with this Order. The Permittee may use a third party agent to perform this task, however, the Permittee is solely responsible for compliance with conditions of this permit and the approved water recycling program.
11. The Permittee shall require that personnel receive training to assure proper operation of recycling facilities, worker protection, and compliance with this Order. The Permittee shall require Recycled Water Supervisor(s)³ to be familiar with the conditions in this Order that apply to recycled water. The Recycled Water Use Supervisor(s) shall have authority to ensure recycled water use complies with this Order and the Uniform Statewide Recycling Criteria.
12. The Permittee shall assure that all above ground equipment, including pumps, piping, storage reservoir, and valves which may at any time contain recycled water are identified with appropriate notification as required by the Uniform Statewide Recycling Criteria and California Health and Safety Code section 116815. The Permittee may use a third party agent to perform this task, however, the Permittee is solely responsible for compliance with conditions of this permit and the approved water recycling program.
13. If, in the opinion of the Regional Water Board Executive Officer, recycled water use at proposed new locations cannot be adequately regulated under the Master Recycled Water

³ A person designated by the Permittee that acts as the coordinator between the Permittee (as the supplier of recycled water) and the recycled water users.

Permit, a Report of Waste Discharge may be requested and individual Recycled Water Requirements may be adopted.

- 14.** If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), the Permittee shall notify DDW and the Regional Water Board of any incidents of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident.
- 15.** If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of title 17, CCR and MRP section VII.C.
- 16.** Future dual-plumbed use areas shall comply with the following requirements:
 - a.** Prior to the initial operation of the dual-plumbed recycled water system, the Permittee shall document that there are no cross-connections on-site within the proposed dual-plumbed use area. A description of how the initial separation (cross-connection) test will be performed (pressure, dye, or other method) shall be provided to DDW. The dual-plumbed recycled water system shall be retested for possible cross-connection at least once every four years.
 - b.** The Permittee shall notify DDW prior to conducting the cross-connection control test. DDW staff may witness the test.
 - c.** Provide documentation to describe the method for cross-connection testing (pressure, dye, or other method) and the steps to be taken during the cross-connection control test.
 - d.** Annually thereafter, the Permittee shall ensure that the recycled water system (indoor and outdoor) is inspected for possible cross-connection with the potable water system.
 - e.** The inspections and the testing shall be performed by a cross-connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. Please identify that person in a notification provided to DDW
 - f.** Each dual-plumbed use area must have an adequately trained use area supervisor in order to control the on-site piping and prevent any cross-connections. The use area supervisor must keep as-built plans up to date and on the site.
 - g.** The use area supervisor must be adequately trained on the use of recycled water. The use area supervisor must complete the training before recycled water is delivered.
 - h.** Verify that appropriate backflow prevention devices are installed and have been tested annually in accordance with California Code of Regulations Title 17. Devices must be located on the potable water line, downstream of the meter.
 - i.** The results of the cross-connection inspections and tests must be documented and submitted to DDW.
 - j.** Indicate whether any proposed dual-plumbed use area will receive supplemental water and provide details of properly designed air gap.

D. Recycled Water Technical Report Requirements

The Permittee shall maintain up-to-date recycled water technical reports, as follows:

1. The Permittee shall submit and maintain a DDW-approved title 22 Recycled Water Engineering Report that demonstrates and defines compliance with the Uniform Statewide Recycling Criteria (and any future amendments thereto);
2. The Permittee shall submit revised and/or additional engineering report(s) to the Regional Water Board and DDW, prior to initiating any recycled water use (e.g., new industrial use, recreational surface impoundments, water cooling, new dual-plumbed system, etc.) not addressed in any previously submitted CCR title 22 engineering report(s). The Permittee shall also submit any approval letters prepared by DDW to the Regional Water Board Executive Officer. Engineering report(s) shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain (1) a description of the design of the recycled water system; (2) a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use areas; and (3) a cross-connection control program (title 17 of the CCR) where a dual-plumbed system is used. Engineering reports shall clearly indicate the means for compliance with CCR title 22 regulations and this Order.
3. Prior to the initial operation of any dual-plumbed recycled water system, and annually thereafter, the Permittee shall ensure that the dual-plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the Engineering Report. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to DDW and the Regional Water Board by March 1 of each year. [CCR title 22, section 60316]
4. The Permittee shall submit and maintain an up-to-date Recycled Water Irrigation Operation and Management Plan that includes the following:
 - a. A list of all recycled water users receiving or proposing to receive recycled water, the type of use for each user, the acreage and estimated amount of recycled water use at each use site; the method(s) of conveyance to each user; name(s) of the Recycled Water Use Supervisor at each use site, and maps of each use area.
 - i. Attachment G-1 of this Order provides a list of existing recycled water uses site; and
 - ii. Attachment G-1 will be updated by the Regional Water Board Executive Officer to include new use sites if and when the Permittee submits the required CEQA and technical information for proposed new use sites and receives approval from the Regional Water Board Executive Officer.
 - b. For uses with frequent or routine application (such as irrigation), the Plan shall specify hydraulic and nutrient agronomic rates and demonstrate that the use areas will not exceed these rates, and identify BMPs that are protective of groundwater and surface

water quality and human health. At a minimum, the Permittee shall implement the required BMPs identified in Recycled Water Requirement B.11 and implement other BMPs as appropriate.

- c.** For uses with infrequent or non-routine applications (such as frost protection), the Plan shall specify a list of practices to ensure compliance with this Order.
 - d.** The Plan may include a water and nutrient budget for use area(s), use area supervisor training, periodic inspections, or other appropriate measures.
 - e.** A description of the recycled water operations and maintenance program, including a description of maintenance of equipment and emergency backup systems to maintain compliance with the use area requirements of this Order.; and
 - f.** Emergency procedures and notification.
- 5.** The Permittee shall submit and maintain a Water Recycling Administration report that includes:
- a.** A full description of the Permittee’s water recycling program, including:
 - i.** Description of the Permittee’s authority, rules, and/or regulations;
 - ii.** Design and implementation of the recycled water program;
 - iii.** Cross-connection testing responsibilities and procedures;
 - iv.** Monitoring and reporting program (MRP), if different from the MRP specified in this Order;
 - v.** Recycled water use area inspection program;
 - vi.** Compliance program;
 - vii.** The Permittee’s training program for its employees and use area supervisors; and
 - viii.** Methods used to document that recycled water program procedures are followed (i.e., documentation of cross-connection testing, inspections, and employee and user training).
 - b.** A description of the organization and responsibilities of pertinent personnel involved in the water recycling program, including:
 - i.** Organizational chart;
 - ii.** The name(s), title(s), and phone number(s) of contact person(s) who are charged with operation/oversight of the water recycling program, including the Permittee’s recycled water staff and identification of Recycled Water Use Supervisors at each use site;
 - iii.** Identification of all agencies or entities involved in the production, distribution, and use of recycled water;
 - iv.** A description of legal arrangements, such as, but not limited to, charters, agreements, or Memorandum of Understanding, and inclusion of such legal documents.

Attachment G-1: Approved Recycled Water Use Sites

The recycled water use sites identified in the table below and on the attached map are approved recycled water use sites. The environmental impacts at these recycled water use sites were addressed in the following certified environmental documents (certification date in parentheses):

September 1993 Forestville and Graton Wastewater Treatment Facilities Improvement Project Environmental Impact Report (December 14, 1993) and October 1999 Technical Memorandum, Wastewater Reclamation and Disposal Facilities Upgrade Project for Forestville County Sanitation District (March 2000).

Map ID	Customer	APN	Type of Use/Irrigation Types	Total Site Acreage/Irrigated Acreage	Volume of Recycled Water (acre feet)
1	Earl Stephens	084-040-001	Vineyard Irrigation and Frost Protection Drip & Microspray	11/10	8
3	Marshall Property (Don Marshall)	084-180-029	Mixed Plant Irrigation Drip & Spray Dual-plumbed	2/1.5	2
4	Nancy Carroll	084-050-022	Mixed Plant Irrigation Drip & Spray Dual-plumbed	4.2/3.5	0.2
8	Crinella Properties (Skip Swensen)	084-031-060 084-031-061 084-031-062 084-031-063	Vineyard Irrigation Drip & Microspray	69/19.2	9.4
10	Iron Horse Vineyards (Laurence Sterling)	084-040-009 084-180-001 084-190-001	Vineyard Irrigation and Frost Protection Drip & Spray	220/160	25
12	River Road Vineyards (Marcus Seoden)	084-160-003	Vineyard Irrigation Drip & Microspray	12/8.7	4
14	Forestville Elementary School (Chuck Fish)	083-073-009 083-073-012 083-073-014 083-073-016 084-010-005 084-020-027	Turf Irrigation Spray	15/3.2	7.4

Map ID	Customer	APN	Type of Use/Irrigation Types	Total Site Acreage/Irrigated Acreage	Volume of Recycled Water (acre feet)
15	West Sonoma County Union School District – El Molino High School (Tim Sewell)	083-030-041 083-030-061 083-060-030 083-060-041	Turf Irrigation Spray	39/11.6	23
16	Forestville Youth Park (Fred Von Renner)	083-120-089 083-120-095	Turf Irrigation Spray	8.4/3.2	8.5
--	David Beck and Marjorie Clark	084-150-020	Mixed Plant Irrigation Drip & Hand Dual-plumbed	10/1.1	0.7
--	Sonoma County Regional Parks (Ken Tam)	084-170-025	Mixed Plant Irrigation Drip	0.89/0.08	0.1
Total				391.49/222.08	88.3

