

**North Coast Regional Water Quality Control Board**

**ORDER NO. R1-2018-0003  
NPDES NO. CA0023655  
WDID NO. 1B812020SON**

**WASTE DISCHARGE REQUIREMENTS**

for

**SONOMA WEST HOLDINGS, INCORPORATED  
WASTEWATER TREATMENT FACILITY, PLANT NO. 2  
SONOMA COUNTY**

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

**Table 1. Permittee Information**

<b>Permittee</b>	Sonoma West Holdings, Inc.
<b>Name of Facility</b>	Wastewater Treatment Facility, Plant No. 2
<b>Facility Address</b>	2064 Gravenstein Highway North
	Sebastopol, CA 95472
	Sonoma County
<b>Type of Facility</b>	Multi-tenant Food and Beverage Processing, Packaging, Storage and Warehouse Facility
<b>Facility Design Flow</b>	0.016 and 0.18 million gallons per day (mgd) – average monthly and maximum daily discharge rates for the disposal of industrial process wastewater to surface water at Discharge Point 001.
	0.17 and 0.37 mgd – average monthly and maximum daily land application rates for the disposal of industrial process wastewater at Discharge Point 002.
	2,720 gallons per day (gpd) and 6,000 gpd – average monthly and maximum daily land application rates for the recycling of domestic wastewater at Discharge Point 003.

**Table 2. Discharge Locations**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude (North)</b>	<b>Discharge Point Longitude (West)</b>	<b>Receiving Water</b>
001	Treated process wastewater	38° 25' 22"	122° 51' 04"	Barlow Creek
002	Treated process wastewater	various	various	Land application at Bench Nos. 1 - 7
003	Treated domestic wastewater	38° 25' 13"	122° 50' 53"	Land application at Bermed Bench No. 1

**Table 3. Administrative Information**

This Order was adopted on:	<b>May 17, 2018</b>
This Order shall become effective on:	<b>August 1, 2018</b>
This Order shall expire on:	<b>July 31, 2023</b>
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:	<b>August 1, 2022</b>
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. R1-2010-0019 and Monitoring and Reporting Program (MRP) No. R1-2010-0019, 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 **May 17, 2018**.

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 Matthias St. John, Executive Officer

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## I. FACILITY INFORMATION

Information describing the Sonoma West Holdings, Inc. (Permittee), Wastewater Treatment Facility, Plant No. 2 (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.
- 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) contains background information and rationale for the requirements in this Order, and is hereby incorporated into this Order and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.E, IV.B, IV.C, and V.B of this Order and sections VI, VII, VIII.B, 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.6.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. The discharge of waste to land that is not owned by the Permittee or under agreement for use by the Permittee is prohibited, except for use for fire suppression as provided in title 22, section 60307(b) of the CCR.
- F. 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.
- G. The discharge of process wastewater to Barlow Creek is prohibited during the period from May 15 through September 30 of each year. The discharge of domestic wastewater to Barlow Creek is prohibited at all times.
- H. The Permittee shall minimize the discharge of treated process wastewater to Barlow Creek, specifically limiting discharges to periods when large volumes of wastewater jeopardize the safe operation of the aerated storage pond (Lake Davis). During the period from October 1 through May 14, discharges of treated process wastewater to Barlow Creek is limited to only excess wastewater as needed to safely operate the aerated storage pond and shall not exceed one percent of the flow of Barlow Creek, as measured at Monitoring Location RSW-001U. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:
  - 1. The discharge of treated process 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 Barlow 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 treated process wastewater discharged in a calendar month exceed one percent of the total volume of Barlow Creek in the same calendar month. At the beginning of the discharge season (October 1 to May 14), 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 shall be calculated from the first day of the calendar month to the date when the discharge ceased for the season.
- I. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

- J. The discharge of wastewater, other than process wastewater, into the process wastewater treatment system is prohibited.
- K. The discharge of domestic waste, treated or untreated, to surface waters is prohibited.
- L. The discharge of waste classified as “hazardous,” as defined in title 23, chapter 15, section 2521(a) of the CCR to any part of the domestic and/or process wastewater disposal systems is prohibited.
- M. The recycling use of treated domestic wastewater shall be restricted to irrigation of the bermed portion of Bench No. 1 at Discharge Point 003.
- N. Treated domestic and process wastewater shall not be applied to the bench irrigation areas within 24 hours preceding a forecasted rain event, during rainfall, or 24 hours after a rainfall event, or when soils are saturated.
- O. Treated process wastewater may not be land applied at a rate exceeding 0.37 mgd on any single day or at a rate exceeding 0.17 mgd, as determined from any consecutive 30-day mean daily flow.

**IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

**A. Effluent Limitations – Discharge Point 001**

**1. Effluent Limitations for Discharges to Surface Waters – 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 Location EFF-001 as described in the Monitoring and Reporting Program (MRP) (Attachment E).

**Table 4. Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001)**

Parameter	Units	Effluent Limitations <sup>1</sup>			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	--	80	--	--
pH	s.u.	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	--	80	--	--
Aluminum, Total Recoverable	µg/L	200	530	--	--
Ammonia Nitrogen, Total (as N)	mg/L	1.0	4.6	--	--
Electrical Conductivity @ 25°C	µmhos/cm	900	1,800	--	--
Iron, Total Recoverable	µg/L	300	600	--	--
Manganese, Total Recoverable	µg/L	50	100	--	--
Methylene Blue Active Substances (MBAS)	mg/L	0.50	1.0	--	--

Parameter	Units	Effluent Limitations <sup>1</sup>			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Settleable Solids	ml/L	--	0.2	--	--
Total Dissolved Solids (TDS)	mg/L	500	810	--	--
Copper, Total Recoverable	µg/L	2.2	4.5	--	--
Lead, Total Recoverable	µg/L	0.56	1.1	--	--
Mercury, Total Recoverable	µg/L	0.050	0.10	--	--
Thallium, Total Recoverable	µg/L	1.7	3.4	--	--
Zinc, Total Recoverable	µg/L	22	43	--	--
Cyanide, Free (as CN)	µg/L	4.3	8.5	--	--
<b>Table Notes:</b> See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.					

**b. Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to Barlow 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 these effluent limitations shall be determined in accordance with section VII.I of this Order and section V.A of the MRP (Attachment E).

**c. Chronic Toxicity.** As measured at Monitoring Location EFF-001, there shall be no chronic toxicity in the effluent when discharging to Barlow Creek. Compliance with this 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).

**2. 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 – Discharge Point 002**

**1. Land Discharge Specifications**

**a.** The Permittee shall maintain compliance with the following limitations at Discharge Point 002, with compliance measured at Monitoring Locations STG-001 and LND-001, as described in the attached MRP.

**Table 5. Land Discharge Specifications - Discharge Point 002 (Monitoring Locations STG-001/LND-001)**

Parameter	Units	Discharge Specifications <sup>1</sup>			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	--	80	--	--
pH	s.u.	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	--	80	--	--
Settleable Solids	ml/L	--	1.0	--	--
Total Dissolved Solids	mg/L	500	--	--	--
<b>Table Notes:</b>					
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.					

**2. Land Discharge Requirements**

- a. The Permittee shall properly operate and maintain all treatment, storage, and irrigation equipment.
- b. 1.8 acres of Bench No. 1 shall be bermed and separated to receive only treated domestic wastewater. The remaining portion of Bench No. 1 shall receive only treated process wastewater. The tailwater collection system of Bench No. 1 shall retain all tailwater and prevent commingling of domestic and process wastewaters.
- c. To the maximum extent practical, the inflow of uncontaminated storm water into the process wastewater collection system, including storage pond, shall be prevented.

**C. Water Recycling Specifications and Requirements - Discharge Point 003**

**1. Water Recycling Specifications**

- a. The Permittee shall maintain compliance with the following limitations for the discharge of treated domestic waste at Discharge Point 003, with compliance measured at Monitoring Location REC-001 as described in the attached MRP.

**Table 6. Recycling Discharge Specifications - Discharge Point 003 (Monitoring Location REC-001)**

Parameter	Units	Discharge Specifications <sup>1</sup>			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	50	80	--	--
pH	s.u.	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	50	80	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--



Parameter	Units	Discharge Specifications <sup>1</sup>			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Dissolved Solids	mg/L	500	--	--	--
<b>Table Notes:</b> 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.					

- b. Flow.** The maximum daily flow of domestic waste to the domestic wastewater treatment system shall not exceed 6,000 gpd and the monthly average shall not exceed 2,720 gpd.
- c. Bacteria.** Disinfected treated domestic wastewater discharged at Discharge Point 003 to Bench No 1 shall not contain total coliform bacteria in excess of the following concentrations:
  - i.** The median concentration of the results of bacteriological analysis from samples collected during any calendar month shall not exceed an MPN of 23 per 100 mL, and
  - ii.** No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

**2. Water Recycling Requirements**

- a.** 1.8 acres of Bench No. 1 shall be bermed and separated to receive only treated domestic wastewater. The remaining portion of Bench No. 1 shall receive only treated industrial process wastewater. The tailwater collection system of Bench No. 1 shall retain all tailwater and prevent commingling of domestic and process wastewaters.
- b.** The Permittee shall manage recycled water in accordance with title 22, division 4, chapter 3 (section 60310-60357) of the CCR.
- c.** The user of recycled water shall not create a condition of pollution or nuisance as defined in Waster Code section 13050(m).
- d.** Recycled water shall not be applied to irrigation areas during periods when uncontrolled runoff may occur.
- e.** Recycled water shall be applied in such a manner so as not to exceed the agronomic vegetative uptake of the pasture grass that’s grown within these benches 1 through 7.
- f.** Recycled water and airborne spray shall not be allowed to escape from authorized recycled water use area(s).
- g.** Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities.
- h.** All pipes carrying recycled water shall be installed and maintained to comply with the requirements of California Health and Safety Code section 116915 regarding labeling and marking of pipes that carry recycled water.
- i.** Recycled water shall not be irrigated within 50 feet of any domestic water supply surface intake, unless the technical requirements specified in title 22, division 4,

chapter 3, section 60310(a) of the CCR have been met and approved by State Water Board, Division of Drinking Water (DDW).

- j. Recycled water shall not be impounded within 100 feet of a domestic water supply well unless the technical requirements specified in title 22, division 4, chapter 3, section 60310(b) of the CCR have been met.
- k. The use of recycled water shall not cause degradation of any water supply.
- l. 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 public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.
- m. 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 size no less than 4 inches high by 8 inches wide that include the following wording: "RECYCLED WATER – DO NOT DRINK". These warning signs shall be posted at least every 500 feet with a minimum of one sign at each corner and access road.

## **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., title 27 of the CCR) and reasonable best management practices (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, land discharge 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, or unauthorized release, 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 revised 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 Effects 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. 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, nitrite, and phosphorus). If new water quality objectives for nutrients are established because 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. 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. This Order may be reopened to incorporate provisions consistent with a basin-specific SNMP adopted by the Regional Water Board.

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

At this time, no special studies, technical reports, or additional monitoring requirements are required.

## **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.

**b. Pollution Prevention Plan**

For discharge to surface waters, the Permittee shall prepare and implement a pollution prevention plan for aluminum, ammonia, iron, manganese, MBAS, electrical conductivity, total dissolved solids, copper, lead, mercury, thallium, zinc, and cyanide in accordance with Water Code section 13263.3(d)(2). The pollution prevention plan shall be completed and submitted to the Regional Water Board for executive officer approval.

The Permittee shall provide progress reports annually following submittal of the pollution prevention plan. The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance.

The pollution prevention plan shall include, at a minimum, the following:

- i. An analysis of ammonia, aluminum, iron, manganese, MBAS, electrical conductivity, total dissolved solids, copper, lead, mercury, thallium, zinc, and cyanide in the discharge to surface water, a description of the sources of these pollutants, and a comprehensive review of the processes used by the Permittee that result in the generation and discharge of the pollutants.
- ii. An analysis of the potential for pollution prevention to reduce the generation of the pollutants, including the application of innovative and alternative technologies and any adverse environmental impacts resulting from the use of these methods.
- iii. A detailed description of the tasks and time schedules required to investigate and implement various elements of pollution prevention techniques.
- iv. A statement of the Permittee's pollution prevention goals and strategies, including priorities for short-term and long-term action.

- v. A description of the Permittee's intended pollution prevention activities for the immediate future.
- vi. A description of the Permittee's existing pollution prevention methods.
- vii. A statement that the Permittee's existing and planned pollution prevention strategies do not constitute cross-media pollution transfers, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Board or the Regional Water Board, and information that supports that statement.
- viii. Proof of compliance with the Hazardous Waste Source Reduction and Management Review Act of 1989 [Article 11.9 (commencing with section 25244.12) of Chapter 6.5 of Division 20 of the Health and Safety Code) if the Permittee is also subject to that act.
- ix. An analysis of the relative costs and benefits of the possible pollution prevention activities.

#### **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) - Not Applicable**

**6. Other Special Provisions**

**a. 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 beneficial and legally used pursuant to federal and state regulations as a soil amendment for aquaculture, silviculture, horticulture, and land reclamation activities.
- ii. All collected sludge and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operations and disposal of in accordance with applicable federal and State regulations.
- iii. The use and disposal of biosolids shall 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.

**b. Treatment Pond Operating Requirements**

For the aerated storage pond (Lake Davis), transfer pond, and aerated domestic wastewater pond, the following additional requirements apply:

- i. The dissolved oxygen concentration in the ponds shall not be less than 1.0 mg/L at any time.
- ii. A minimum freeboard, consistent with pond design but not less than 2 feet, shall be maintained at all times in any pond containing process and/or domestic wastewater, except with prior authorization by the Executive Officer.
- iii. All ponds shall be operated and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- iv. Ponds shall have sufficient capacity to accommodate wastewater flow, groundwater infiltration and inflow in the collection system, and seasonal precipitation during the rainy season.
- v. All ponds shall have a foundation or base capable of providing support for the structures, and be capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift and all effects of ground motions resulting from at least the maximum probable earthquake, as certified by a registered civil engineer or certified engineering geologist.

**c. New Tenants and Operational Requirements**

- i. Prospective tenants shall be limited to processors of plant and dairy materials for wine, high proof alcohol, beverage, and food processing and production. Meat processing businesses, businesses producing or utilizing hazardous wastes (except for businesses producing high proof alcohol), and businesses not generating an organic waste stream such as vehicle maintenance and light or heavy industry are prohibited.
- ii. The Permittee shall require a written statement by each new tenant certifying that toxic or otherwise deleterious or hazardous substances (including high proof alcohol) will not be discharged into the collection system. The written statement must require that tenants immediately notify the Permittee if the quality or quantity of the discharge is anticipated to change. Additionally, the tenant must certify in writing that they have read and intend to implement the Facility-Wide Operational BMP Manual established by the Permittee.
- iii. The Permittee shall ensure that adequate grease interceptor or removal equipment is installed prior to commencement of any processing activities involving high fat or oil content substances. Processing activities involving high fat or oil content substances shall not discharge grease to the wastewater treatment system in amounts that impair the performance of the wastewater treatment system.

**d. Storm Water**

- i.** Storm water runoff from Bench Nos. 1 through 7 may be discharged to Barlow Creek if the following criteria are met:
  - (a)** Land application of treated domestic and process wastewater is not occurring;
  - (b)** The first inch of storm water runoff is captured and returned to Lake Davis; and
  - (c)** Prior to discharge of storm water to Barlow Creek, a storm water sample is collected for analysis as described in section IX.A of the attached MRP.
- ii.** The Permittee shall continue to limit inflow of uncontaminated storm water into the process wastewater collection system, including the storage pond, to the maximum extent practicable.

**e. Hauled Wastewater**

The Permittee may accept offsite wine, beverage, and food processing wastewater for onsite treatment and land application at Discharge Point 002 in accordance with the following requirements.

- i.** The Permittee shall maintain a waste hauler manifest that identifies the hauler, the county identification number, the volume and source/generator of the waste, the date and time the waste load was transferred, and the Permittee's representative who was present when the waste was received.
- ii.** The Permittee shall only accept wastewater, which is similar to that generated onsite. Such wastewater shall be limited to wine and similar food and beverage processing wastewaters. Wastewater shall not be accepted from meat processors. No septage or wastewater from commercial facilities (e.g., restaurants) or industrial activity (e.g., vehicle maintenance) shall be accepted. No wastewaters containing nonfood-grade cleaning compounds shall be accepted.
- iii.** Before wastewater is accepted from a new offsite generator, that generator shall provide a written description of the wastewater, including its origin and the anticipated volume to be transferred to the Facility on an annual basis. The generator shall certify that the wastewater to be transferred is as it has been described and to the best of his/her knowledge, that it does not contain any toxic or hazardous pollutants above naturally occurring levels. This documentation from generators shall be maintained onsite and shall be available for review by Regional Water Board staff.
- iv.** The Permittee shall accept wastewater when the Permittee's operations staff is onsite.
- v.** Offsite wastewaters shall be transferred to the Permittee's collection sump or otherwise at a location preceding wastewater screening, settling, and skimming equipment. Offsite wastewaters shall not be transferred directly to the irrigation sump, the transfer pond, or Lake Davis, or any other location where the facility's

initial three-sump (screening/settling/skimming) wastewater treatment equipment will be bypassed.

- vi. Sampling and analysis of accepted offsite wastewaters shall be performed in accordance with the Section III.B of Monitoring and Reporting Program (MRP) included in Attachment E of this Order.

#### **7. Compliance Schedules – Not Applicable**

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

### **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.

#### **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-001.

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**

The narrative chronic toxicity limitation is exceeded when a chronic toxicity test, analyzed using the TST approach, results in "Fail" and the "Percent Effect" is  $\geq 0.50$ . The relative "Percent (%) Effect" at the discharge Instream Waste Concentration (IWC) is defined and reported as:  $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$ . The chronic toxicity IWC for a chronic toxicity test is 100 percent effluent<sup>1</sup>. In addition, compliance with the accelerated monitoring and TRE provisions identified in the MRP (Attachment E, sections V.B. and V.C.) is further required.

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<sup>1</sup> 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 section IV.C.5.c of the Fact Sheet (Attachment F).

## ATTACHMENT A - DEFINITIONS

### **Arithmetic Mean ( $\mu$ )**

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:  $\Sigma x$  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 to surface waters 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.

### **Carcinogenic Pollutants**

Substances that are known to cause cancer in living organisms.

### **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.

**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.

**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).



**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.

**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 ( $\sigma$ )**

A measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

$\mu$  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

Figure B-1. Vicinity Map

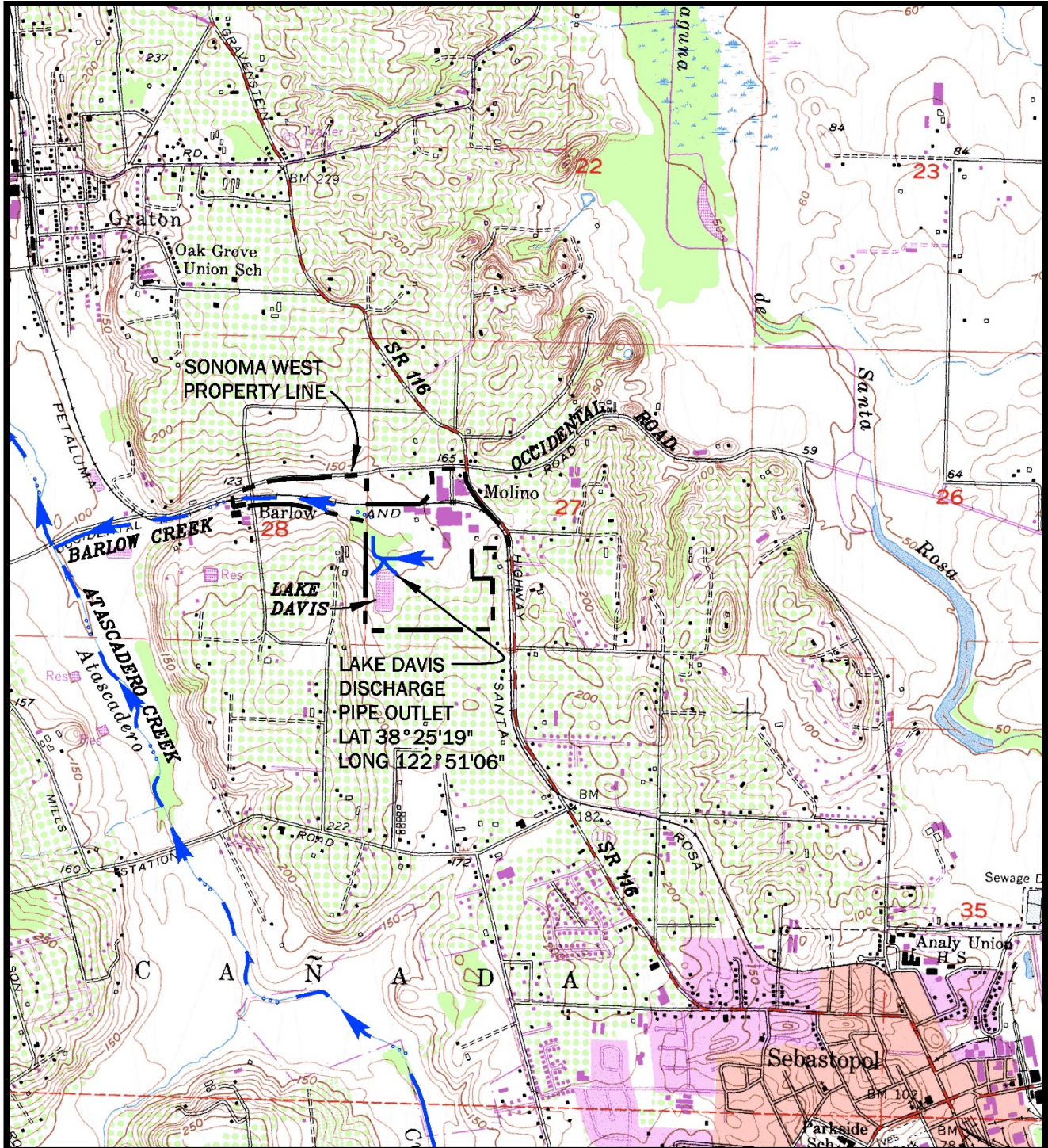


Figure B-2. Site Map



ATTACHMENT C - FLOW SCHEMATIC

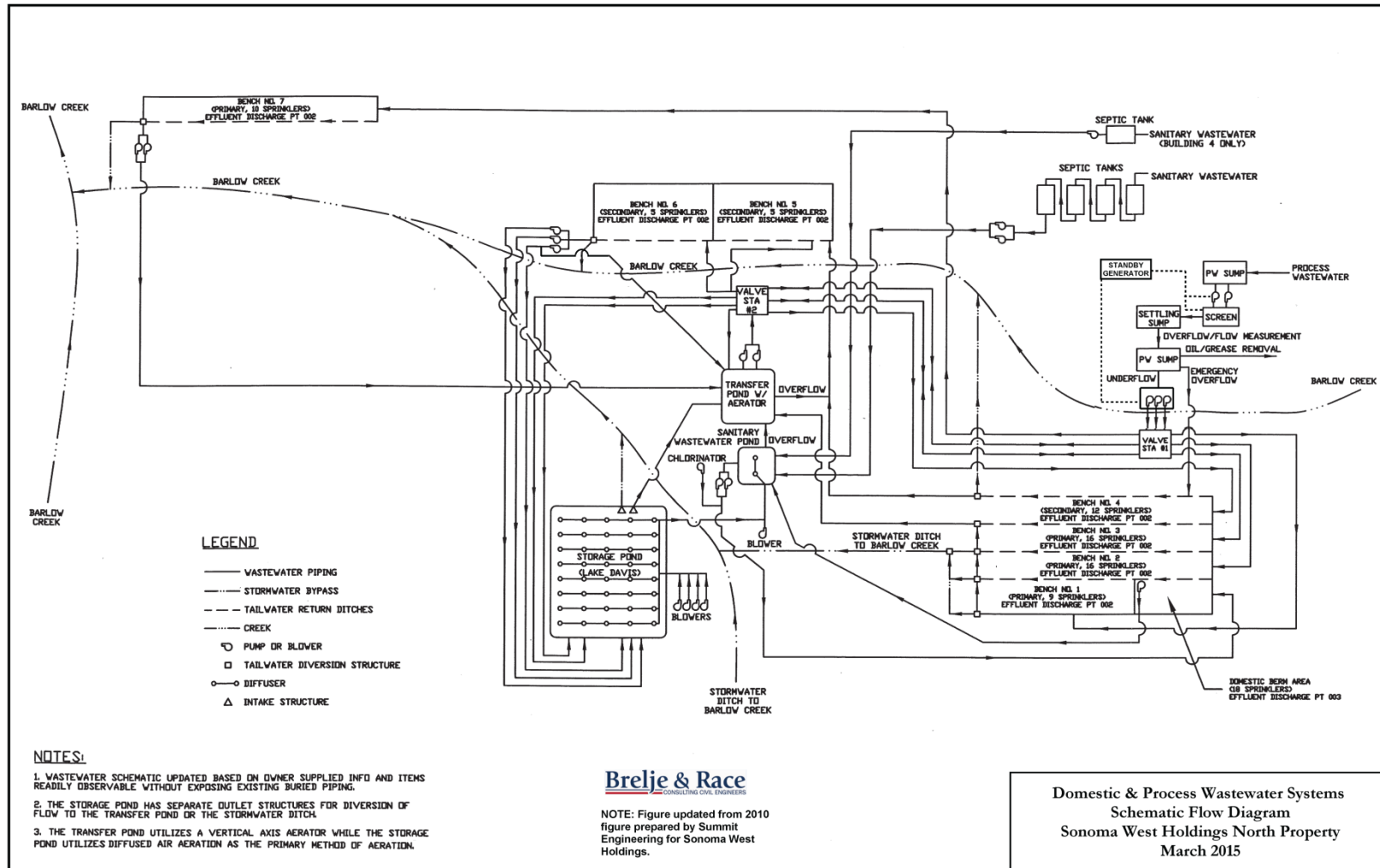


FIGURE 3

## 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).)

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 a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
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).)



**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. Non-Municipal Facilities**

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

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):
  - a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
  - b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):
  - a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
  - b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

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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	Location where all waste tributary to the process wastewater treatment system is present, and preceding any phase of treatment.
001	EFF-001	Location where representative samples of the process wastewater effluent, to be discharged from Lake Davis to Barlow Creek, can be collected at a point after treatment and before contact with the receiving water.
002	STG-001	Process wastewater stored in Lake Davis prior to land application.
	LND-001	Process wastewater that does not get stored in Lake Davis prior to land application.
003	REC-001	Location where representative samples of reclaimed domestic wastewater to be land applied at Bench No.1 can be collected after treatment and before being applied to land.
--	STW-001	Location where a representative sample of bench storm water runoff, to be discharged to Barlow Creek, can be sampled after the first 1" of rain.
--	RSW-001U	In Barlow Creek upstream of the discharge point and any inputs from the bench storm water runoff.
--	RSW-001D	In Barlow Creek in the immediate area downstream of Discharge Point 001.
--	RGW-001	Groundwater monitoring well located in the southeastern portion of the bermed section of Bench No.1, representing up gradient groundwater quality.
--	RGW-002	Groundwater monitoring well, representing groundwater quality within the influence of the land disposal system.
--	RGW-003	Groundwater monitoring well, located in the northeast corner of Bench No. 7, representing up gradient groundwater quality that enters the property from the north boundary.
--	RGW-004	Groundwater monitoring well, located in Bench No. 7 near the point where Barlow Creek exits the property, representing groundwater quality within the influence of Bench No. 7.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	RGW-005	Groundwater monitoring well located in the north portion of the bermed section of Bench No.1, representing groundwater quality within the influence of the recycled water irrigation system.
--	RGW-006	Groundwater monitoring well located at the south corner of Building 1, representing potable water supply well
--	RGW-007	Groundwater monitoring well located north of the Facility, representing potable water supply well (an alternate potable water supply well).

### III. INFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location INF-001

1. The Permittee shall monitor influent to the process wastewater treatment system 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 <sup>1</sup>
Influent Flow <sup>2</sup>	gpd	Meter	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Monthly	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Monthly	Standard Methods

Table Notes:

1. 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.
2. Each quarter, the Permittee shall report the daily average and monthly average flows.

#### B. Offsite Waste Haulers

1. In accordance with section VI.C.6.f of the Order, the Permittee shall maintain a manifest system which includes, for each truck load of wastewater received; the hauler, the volume and the source/generator of the waste, the date and time the waste load was transferred, and the Permittee’s representative who was present when the waste was received. In its quarterly self-monitoring report (SMR), the Permittee shall report the total volume of wastewater received from each generator who transferred wastewater to the Permittee during the reporting period.
2. For any month when outside wastewater is accepted into the treatment process, a representative of the Permittee shall collect at least one grab sample from each accepted load. The Permittee shall ensure that the grab sample is collected in a manner that results in a sample that is representative of that load. The Permittee shall measure the pH of the grab sample within 15 minutes, label the sample with appropriate identification, and refrigerate it to 4.0 ± 0.5 °C. The sample may be discarded after 7 days if there is no indication of plant upset that may be attributed to the accepted load.

3. The Permittee shall collect monthly random<sup>1</sup> samples of each offsite load of wastewater and have them analyzed by a certified laboratory in accordance with the following table:

**Table E-3. Influent Monitoring of Offsite Wastewater**

Parameter	Units	Sample Type <sup>1</sup>	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	Grab	Monthly	Standard Methods
pH	s.u.	Grab	Monthly	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Monthly	Standard Methods
Settleable Solids	ml/L	Grab	Monthly	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Monthly	Standard Methods
<b>Table Notes:</b>				
1. In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.				

#### IV. EFFLUENT MONITORING REQUIREMENTS

##### A. Monitoring Location EFF-001

1. The Permittee shall monitor treated process wastewater while discharging from Lake Davis to Barlow Creek, 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 <sup>1</sup>
Effluent Flow <sup>2</sup>	mgd	Meter	Daily	--
Dilution Rate <sup>10</sup>	% of stream flow	Calculation	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	Grab	Weekly <sup>3</sup>	Standard Methods
pH	s.u.	Grab	Daily <sup>4,5</sup>	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Temperature	°C	Grab	Daily <sup>5</sup>	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Weekly <sup>3</sup>	Standard Methods
Iron, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Manganese, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Methylene Blue Active Substances (MBAS)	mg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods

<sup>1</sup> To select a random sample, the Permittee shall estimate, prior to the beginning of a monthly monitoring period, the number of anticipated wastewater deliveries for the month, and generate a random load number from this total. When the delivery corresponding to the pre-chosen random number is received, the Permittee will collect a representative wastewater sample and have the samples analyzed in accordance with Table E-4 and with standard sample collection and handling procedures.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Nitrite Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
Settleable Solids	mL/L	Grab	Weekly <sup>3</sup>	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly	Standard Methods
Fecal Coliform Bacteria	MPN/100 mL	Grab	Weekly	Standard Methods
Total Dissolved Solids	mg/L	Grab	Weekly <sup>3</sup>	Standard Methods
Turbidity	NTU	Grab	Weekly <sup>3</sup>	Standard Methods
Copper, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	ICPMS (ML 0.5 µg/L) SPGFAA (ML 2 µg/L) <sup>6</sup>
Lead, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	ICPMS (ML 0.5 µg/L) <sup>6</sup>
Mercury, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	EPA Method 245.7 (ML 0.005 µg/L) EPA Method 1631E (ML 0.0005 µg/L) <sup>6</sup>
Thallium, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	ICPMS (ML 1 µg/L) <sup>6</sup>
Zinc, Total Recoverable	µg/L	Grab	Weekly <sup>3</sup>	FAA (ML 20 µg/L) ICP (ML 20 µg/L) ICPMS (ML 1 µg/L) SPGFAA (ML 10 µg/L) <sup>6</sup>
Cyanide, Free(as CN)	µg/L	Grab	Weekly <sup>3</sup>	COLOR (ML 5 µg/L) <sup>6</sup>
CTR Priority Pollutants <sup>7</sup>	µg/L	Grab	Once per permit term <sup>11</sup>	Standard Methods <sup>8</sup>
Acute Toxicity <sup>9</sup>	% Survival, Pass or Fail, and % Effect	Grab	Monthly	See Section V below
Chronic Toxicity <sup>9</sup>	Pass or Fail, and % Effect	Grab	Annually	See Section V below

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
<p><u>Table Notes:</u></p> <ol style="list-style-type: none"> <li>1. In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.</li> <li>2. Each quarter, the Permittee shall report the daily average and monthly average flows.</li> <li>3. Accelerated Monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the two 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 to return to compliance.</li> <li>4. Accelerated Monitoring (daily monitoring frequency). If two daily test results exceed an effluent limitation and discharge continues, the Permittee shall increase monitoring frequency to a minimum of twice a day for a week to evaluate whether an exceedance is persisting. If the exceedance is persisting, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance. If discharge ceases after the initial discharge event, the permittee does not need to begin accelerated monitoring until discharge resumes again. Once discharge resumes, the sample of effluent shall be collected for accelerated monitoring at the onset of the discharge following the method described above.</li> <li>5. pH and temperature monitoring must coincide with monthly monitoring for ammonia.</li> <li>6. ICPMS = Inductively Coupled Plasma/Mass Spectrometry        SPGFAA = Stabilized Platform Graphitic Furnace Atomic Absorption        GCMS = Gas Chromatography/Mass Spectrometry        FAA = Flame Atomic Absorption        ICP = Inductively Coupled Plasma        COLOR = Colorimetric</li> <li>7. 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. Upstream receiving water hardness shall be monitored concurrently with the priority pollutant sample.</li> <li>8. 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.</li> <li>9. Whole effluent acute and chronic toxicity shall be monitored in accordance with the requirements of section V of this Monitoring and Reporting Program.</li> <li>10. This Order includes a prohibition of discharges that exceed one percent of the flow of Barlow Creek; the dilution rate is a calculation of the rate of effluent being discharge to Barlow Creek as a percentage of the flow rate of Barlow Creek.</li> <li>11. If no discharge occurs at Discharge Point 001 during the permit term, the Permittee shall monitor the effluent at Monitoring Location EFF-002 during the discharge season (i.e., October 1 through May 14) in the fourth year of the permit term. The monitoring results shall be submitted to the Regional Water Board in accordance with Table E-1.</li> </ol>				

**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 001, as summarized in Table E-4, above.
2. **Discharge In-stream Waste Concentration (IWC) for Acute Toxicity.** The IWC for this discharge is 100 percent effluent.<sup>2</sup>
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

<sup>2</sup> The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-001.

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.
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 001, 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.<sup>3</sup>
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).
  - 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:  $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$ .

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<sup>3</sup> 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. 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 Executive Officer of the Regional Water Board, 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.** The trigger for accelerated monitoring for chronic toxicity is exceeded when a chronic toxicity test, analyzed using the TST approach, results in “Fail” and the “Percent Effect” is  $\geq 0.50$ . 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) Identification of any reference toxicity testing performed;
    - (e) Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TUC, and IC25;
    - (f) The toxicity test results for the TST approach, reported as “Pass” or “Fail” and “Percent (%) Effect” at the chronic toxicity IWC for the discharge.
    - (g) Identification of any anomalies or nuances in the test procedures or results;
    - (h) 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.

ii. **Compliance Summary.** In addition to the WET report, the Permittee shall submit a compliance summary that includes an updated chronology of chronic toxicity test results expressed in "Pass"/"Fail", NOEC and TUC for tests conducted during the permit term, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). Each compliance summary report shall clearly identify whether or not the effluent discharge is below the chronic toxicity monitoring triggers and, in the event that the effluent discharge exceeds a single sample or median chronic toxicity trigger, the status of efforts (e.g., accelerated monitoring, TRE, TIE, etc.) to identify the source of chronic toxicity as required by section V.B.8 of this MRP.

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 February 14, 2011. The Permittee's TRE Work Plan shall be reviewed 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.9 (above) does not comply with the three sample median minimum limitation (90 percent survival) or in section V.B.9 (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.9 or V.B.9 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 – EFF - 002**

**A. Monitoring Location STG-001**

1. The Permittee shall monitor partially treated process wastewater effluent from Lake Davis (STG-001) that’s land applied at Monitoring Location LND-001, as follows:

**Table E-5. Land Discharge Monitoring – Monitoring Location STG-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>1</sup>	Required Analytical Test Method <sup>1</sup>
Effluent Flow <sup>2</sup>	gpd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	Grab	Monthly <sup>3,4</sup>	Standard Methods
pH	s.u.	Grab	Monthly <sup>3,4</sup>	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Monthly <sup>3,4</sup>	Standard Methods
Dissolved Oxygen	mg/L	Grab	Monthly <sup>3</sup>	Standard Methods
Settleable Solids	ml/L	Grab	Monthly <sup>3,4</sup>	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Monthly <sup>3</sup>	Standard Methods
Fecal Coliform Bacteria	MPN/100 mL	Grab	Monthly <sup>3</sup>	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly <sup>3,4</sup>	Standard Methods
Water Depth	Feet	--	Weekly <sup>3</sup>	Observation
Pond Freeboard	Feet	--	Weekly <sup>3</sup>	Observation

Table Notes:

1. 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.
2. Each quarter, the Permittee shall report the daily average and monthly average flows.
3. Monitoring for these constituents required when discharging to land.
4. 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.

**B. Monitoring Location LND-001**

1. The Permittee shall monitor process wastewater effluent from the third sump that’s land applied (Discharge Point 002) at Monitoring Location LND-001, as follows:

**Table E-6. Land Discharge Monitoring – Monitoring Location LND-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Effluent Flow <sup>2</sup>	gpd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	Grab	Monthly <sup>6</sup>	Standard Methods
pH	s.u.	Grab	Monthly <sup>6</sup>	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Monthly <sup>6</sup>	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Semiannually	Standard Methods
Chloride	mg/L	Grab	Semiannually	Standard Methods
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Monthly	Standard Methods
Iron, Total Recoverable	µg/L	Grab	Semiannually	Standard Methods
Manganese, Total Recoverable	µg/L	Grab	Semiannually	Standard Methods
Methylene Blue Active Substances (MBAS)	µg/L	Grab	Semiannually	Standard Methods
Settleable Solids	ml/L	Grab	Monthly <sup>6</sup>	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Semiannually	Standard Methods
Fecal Coliform Bacteria	MPN/100 mL	Grab	Semiannually	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly <sup>6</sup>	Standard Methods
Thallium, Total Recoverable	µg/L	Grab	Semiannually	Standard Methods
Title 22 Pollutants <sup>3</sup>	µg/L	Grab	Once per permit term	Standard Methods
CTR Priority Pollutant Metals <sup>4</sup>	µg/L	Grab	Once per permit term <sup>5</sup>	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.
- Each quarter, the Permittee shall report the daily average and monthly average flows.
- Title 22 Pollutants are those pollutants for which DDW has established Maximum Contaminant Levels (MCLs) at title 22, division 4, chapter 15, article 4, section 64431 (Inorganic Chemicals) and article 5.5, section 64444 (Organic Chemicals) of the CCR.
- CTR Priority Pollutant Metals include the 14 metals identified by the California Toxics Rule at 40 C.F.R. section 131.38, as follows: antimony, arsenic, beryllium, cadmium, chromium III, chromium VI, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc. The Permittee shall analyze for total recoverable metals. Hardness shall be monitored concurrently with the priority pollutant metals sample.
- If no discharge occurs at Discharge Point 001 during the permit term, the Permittee shall monitor the effluent at Monitoring Location EFF-002 during the discharge season (i.e., October 1 through May 14) in the fourth year of the permit term. The monitoring results shall be submitted to the Regional Water Board in accordance with Table E-12.
- 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. If discharge ceases after the initial discharge event, the permittee does not need to begin accelerated monitoring until discharge resumes again. Once discharge resumes, the sample of effluent shall be collected for accelerated monitoring at the onset of discharge, and once more within 7 days of the resumed discharge date."

**VII. RECYCLING MONITORING REQUIREMENTS**

**A. Monitoring Location REC-001**

1. During periods of discharge at Discharge Point 003, the Permittee shall monitor treated domestic wastewater discharged to Bench No. 1 at Monitoring Locations REC-001, as follows:

**Table E-7. Recycling Monitoring – Monitoring Location REC-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Flow <sup>2</sup>	gpd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	Grab	Weekly <sup>4</sup>	Standard Methods
pH	s.u.	Grab	Weekly <sup>4</sup>	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Weekly <sup>4</sup>	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Semiannually	Standard Methods
Chloride	mg/L	Grab	Semiannually	Standard Methods
Chlorine, Total Residual <sup>3</sup>	µg/L	Grab	Weekly	Standard Methods
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Monthly	Standard Methods
Manganese, Total Recoverable	µg/L	Grab	Semiannually	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly <sup>5</sup>	Standard Methods
Nitrite Nitrogen, Total (as N)	mg/L	Grab	Semiannually	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly	Standard Methods
Fecal Coliform Bacteria	MPN/100 mL	Grab	Weekly	Standard Methods
Total Dissolved Solids	MPN/100 mL	Grab	Monthly <sup>5</sup>	Standard Methods

**Table Notes:**

1. 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.
2. Each quarter, the Permittee shall report the daily average and monthly average flows.
3. Samples shall be collected at a point following disinfection and prior to discharge. All chlorine measurements shall be reported as total chlorine residual.
4. Accelerated monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation and discharge continues, 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 to return to compliance. If discharge ceases after the initial discharge event, the permittee does not need to begin accelerated monitoring until discharge resumes again. Once discharge resumes, the sample of effluent shall be collected for accelerated monitoring at the onset of the discharge. 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.



**VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

**A. Monitoring Location RSW-001U and RSW-001D**

1. The Permittee shall monitor Barlow Creek at Monitoring Locations RSW-001U and RSW-001D during periods of discharge at Discharge Point 001, as follows:

**Table E-8. Receiving Water Monitoring – Monitoring Location RSW-001U and RSW-001D**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Flow <sup>2</sup>	mgd	Gauge or Meter <sup>3</sup>	Daily	--
pH	s.u.	Grab	Monthly <sup>4</sup>	Standard Methods
Dissolved Oxygen	mg/L	Grab	Monthly	Standard Methods
Hardness, Total (as CaCO <sub>3</sub> ) <sup>2</sup>	mg/L	Grab	Monthly	Standard Methods
Temperature	°C	Grab	Monthly <sup>4</sup>	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
CTR Priority Pollutants <sup>2,5</sup>	µg/L	Grab	Once per permit term <sup>7</sup>	Standard Methods <sup>6</sup>

**Table Notes:**

1. 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.
2. Monitoring is required at Monitoring Location RSW-001U only.
3. The Permittee shall propose a method of measurement for the receiving water flow **within 30 days** of the effective date of this Order for approval by the Executive Officer.
4. pH and temperature monitoring must coincide with monthly effluent monitoring for ammonia.
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.
7. If no discharge occurs at Discharge Point 001 during the permit term, the Permittee shall monitor the effluent at Monitoring Location EFF-002 during the discharge season (i.e., October 1 through May 14) in the fourth year of the permit term. The monitoring results shall be submitted to the Regional Water Board in accordance with Table E-1.

**B. Groundwater Monitoring – Monitoring Locations RGW-001 through RGW-007**

1. The Permittee shall monitor groundwater at Monitoring Locations RGW-001, RGW-002, RGW-003, RGW-004, RGW-005, RGW-006 and RGW-007 as follows:

**Table E-9. Groundwater Monitoring Requirements – Monitoring Locations GW-01 through GW-07**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>2</sup>
pH	s.u.	Grab/meter	Quarterly <sup>3</sup>	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Chloride	mg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Dissolved Oxygen	mg/L	Grab/meter	Quarterly <sup>3</sup>	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>2</sup>
Specific Conductance @ 25°C	µmhos/cm	Grab/meter	Quarterly <sup>3</sup>	Standard Methods
Iron, Total Recoverable	µg/L	Grab	Semiannually <sup>1</sup>	Standard Methods
Manganese, Total Recoverable	µg/L	Grab	Semiannually <sup>1</sup>	Standard Methods
Methylene Blue Active Substances (MBAS)	mg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Nitrite Nitrogen, Total (as N)	mg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Total Dissolved Solids	mg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Lead, Total Recoverable	mg/L	Grab	Semiannually <sup>1</sup>	Standard Methods
Zinc, Total Recoverable	mg/L	Grab	Semiannually <sup>1</sup>	Standard Methods
Cyanide, free	µg/L	Grab	Semiannually <sup>1</sup>	Standard Methods
Groundwater Elevation	relative to mean sea level	--	Quarterly <sup>3</sup>	Observation
<b>Table Notes:</b>				
1. For semiannual monitoring, two sample events shall occur each year – (during the dry season) and (during the wet season).				
2. In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.				
3. For newly added constituents monitoring shall be completed for one year. Adjustments to sampling frequency may be considered after collecting data from one full hydrologic cycle.				

2. By **October 1, 2018**, the Permittee shall submit a Quality Assurance/Quality Control Plan for its groundwater monitoring program that addresses specific procedures to be followed to ensure that groundwater sampling data is reliable and defensible. The QA/QC plan shall be developed in accordance with acceptable QA/QC standards. The plan shall include a procedure for testing an additional sample anytime there are detections of monitored pollutants above a specific threshold.
3. **Groundwater Monitoring Reports.** Groundwater monitoring data, including monitoring location (latitude/longitude), groundwater elevation (as compared to mean sea level), boring logs, and well construction details shall be uploaded to Geotracker.
  - a. Groundwater elevation and gradient contour maps shall be developed on a quarterly basis;
  - b. To better understand pollutant fate and transport and trends over time, all groundwater analytical data for the site should be tabulated and graphed.
  - c. Groundwater reports should include iso-concentration contour maps for the constituents of concern (e.g. total dissolved solids)

4. **Groundwater Salinity Assessment.** To address elevated salinity concentrations in Bench 1-4 and Bench 7, the Permittee shall prepare and submit a Groundwater Salinity Assessment Work Plan for Executive Officer review and approval by **January 1, 2019**. The submitted work plan shall include a schedule of implementation and at a minimum, shall include a salinity source assessment, and a method for assessing the horizontal extent of elevated salinity concentrations down-gradient of land applications areas. The Permittee shall implement the work plan in accordance with the approved schedule of implementation.

**IX. OTHER MONITORING REQUIREMENTS**

**A. Monitoring Location STW-001**

1. Prior to the first monthly storm water runoff discharge to Barlow Creek, the Permittee shall monitor storm water runoff from the benches at Monitoring Location STW-001 as follows:

**Table E-10. Storm Water Monitoring – Monitoring Location STW-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Biochemical Oxygen Demand 5-day @ 20°C (BOD5)	mg/L	Grab	Monthly	Standard Methods
pH	s.u.	Grab	Monthly	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Monthly	Standard Methods
Settleable Solids	mg/L	Grab	Monthly	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Monthly	Standard Methods
<u>Table Notes:</u>				
1. In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.				

**B. Visual Monitoring (Monitoring Locations EFF-001, RSW-001U, and RSW-001D)**

1. During periods of discharge to Barlow Creek, visual observations of the discharge and receiving water shall be recorded 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 monthly SMRs.

**C. Monitoring for Development of Effluent Limit Guideline (ELGs) for Discharge to Surface Waters.**

1. In order to develop ELGs for process wastewater generated from Redwood Hill Farms and Dynamic Nutraceuticals, the Permittee shall be required to monitor flow, BOD, and TSS from the ELG regulated waste streams prior to the co-mingling process. The daily biochemical oxygen demand, or BOD5 input/day, (in lbs) of materials used in the processing/production of yogurt and cheese, and freeze dried sprouts is also required. Data on flow, BOD, and TSS as well as the BOD5 input/day of materials used in the processing/production of yogurt and cheese, and freeze dried sprouts should be collected over a minimum of a one year period to accurately capture seasonal variations in the influent process wastewater.

**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 Schedule<sup>1</sup>**

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 (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 (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 (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 (February 1, May 1, August 1, November 1)
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30 July 1 through December 31	September 1, each year March 1, each year
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
<p><u>Table Notes:</u></p> <p>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.</p>			

**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 (± 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 [NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov) 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, 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/](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 VI.C.3.a.ii(e)	Pollutant Minimization Program, Annual Facility Report	<b>March 1</b> , annually, following development of Pollutant Minimization Program
MRP Effluent Monitoring Requirement VIII.B.2	Quality Assurance/Quality Control Plan.	<b>October 1, 2018</b>
MRP Effluent Monitoring Requirement V.C.2	Detailed TRE Work Plan	<b>Within 30 days</b> of an accelerated monitoring test that results in "Fail"
MRP Effluent Monitoring Requirements VIII.B.4	Groundwater Salinity Assessment Work Plan	<b>January 1, 2019</b>
MRP Effluent Monitoring Requirements VIII.B.4	Groundwater Salinity Assessment	In accordance with the schedule provided within the approved work plan.

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. In the event that a paper copy of the annual report is required, the Permittee shall submit the report to the email address in section IX.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. 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. **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.

**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 Board<sup>4</sup> 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.

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<sup>4</sup> 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.



**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 dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this 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**

<b>WDID</b>	1B812020SON
<b>Permittee</b>	Sonoma West Holdings, Incorporated
<b>Name of Facility</b>	Wastewater Treatment Facility, Plant No. 2
<b>Facility Address</b>	2064 Gravenstein Highway North
	Sebastopol, CA 95472
	Sonoma County
<b>Facility Contact, Title and Phone</b>	Mike Babbini Real Estate Manager, (707) 829-4612
<b>Authorized Person to Sign and Submit Reports</b>	Craig R. Stapleton, President, (203_ 622-1382
<b>Mailing Address</b>	Same as Facility Address
<b>Billing Address</b>	Same as Facility Address
<b>Type of Facility</b>	Multi-tenant Food and Beverage Processing, Packaging, Storage, and Warehousing Facility
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	2
<b>Complexity</b>	B
<b>Pretreatment Program</b>	No
<b>Recycling Requirements</b>	Producer
<b>Facility Permitted Flow</b>	0.026 and 0.048 million gallons per day (mgd) – average monthly and maximum daily discharge rates for the disposal of industrial process wastewater to surface water at Discharge Point 001. 0.17 and 0.37 mgd - average monthly and maximum daily land application rates for the disposal of industrial process wastewater at Discharge Point 002. 2,720 and 6,000 gallons per day (gpd) – average monthly and maximum daily land application rates for the recycling of domestic wastewater at Discharge Point 003.

<b>Facility Design Flow</b>	0.026 and 0.048 mgd – average monthly and maximum daily discharge rates for the disposal of industrial process wastewater to surface water at Discharge Point 001. 0.17 and 0.37 mgd - average monthly and maximum daily land application rates for the disposal of industrial process wastewater at Discharge Point 002. 2,720 and 6,000 gpd – average monthly and maximum daily land application rates for the recycling of domestic wastewater at Discharge Point 003.
<b>Watershed</b>	Russian River Hydrologic Unit, Guerneville Hydrologic Subarea
<b>Receiving Water</b>	Barlow Creek, tributary to the Russian River via Atascadero Creek and Green Valley Creek
<b>Receiving Water Type</b>	Inland surface water

- A. Sonoma West Holdings, Inc. (hereinafter Permittee) is the owner and operator of the Wastewater Treatment Facility, Plant No. 2 (hereinafter Facility), a wastewater treatment system for a multi-tenant food and beverage processing, packaging, storage, and warehousing facility.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the 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, 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 industrial wastewater from a food and beverage processing, packaging, storage, and warehousing facility to overland flow treatment fields.. The Permittee was previously regulated by Order No. R1-2010-0019 and NPDES Permit No. CA0023655 adopted on April 29, 2010 and expired on June 13, 2015. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C. The Permittee filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on December 15, 2014. Supplemental information was received on January 9, 2015. The application was deemed complete on January 9, 2015.

**II. FACILITY DESCRIPTION**

The Facility was historically operated as an apple processing facility under the name of Vacu-Dry Company. The process wastewater treatment system was specifically designed and operated for this type of activity and land application was the primary disposal method. Under previous Order No. R1-2003-0059, the average process wastewater flow was 175,000 gpd with maximum flows of up to 370,000 gpd during apple processing operations.

In 1999, the Permittee sold its proprietary process and ceased apple processing. The Facility has since been marketed as a multi-tenant food and beverage processing facility and leases space to several commercial enterprises. As of February 2016, the Facility has 23 tenants including 11 wineries, five

storage units, four food and beverage processors, two cell towers, and a transportation business office. Tenants are currently limited by the Permittee to wine, beverage, and food processing businesses. The Permittee requested in the ROWD that the tenant description be expanded to include processors of high proof alcohol processing and production. Wastewaters from these activities are expected to be similar to that of wineries. Therefore, this Order includes high proof alcohol processing and production within the potential tenant description; however, the Permittee must notify and obtain approval from the Regional Water Board prior to allowing a discharge containing wastewater from a processor of high proof alcohol. The Regional Water Board will evaluate the potential wastewater source to ensure that the quality and quantity is similar to the existing source wastewater. The prohibition on meat processing businesses, businesses producing or utilizing hazardous wastes, and businesses not generating an organic waste stream, such as vehicle maintenance and light or heavy industry, is retained in this Order.

In September 2008, the Permittee notified the Regional Water Board of its intent to accept process wastewaters from offsite wineries and food and beverage processors. The Order acknowledges the Regional Water Board's approval of this practice but establishes several terms and conditions for the monitoring and control of the practice. Regional Water Board staff will be particularly attentive to the nature of offsite wastes accepted and to the Permittee's efforts to protect local surface and groundwater quality from and prevent nuisance conditions attributable to pollutants in the offsite wastes accepted. If appropriate, a prohibition against the acceptance of offsite wastewaters will be considered during enforcement actions taken by the Regional Water Board for violations of terms or conditions of the Order.

Peak wastewater flows are generated during the fall months corresponding with the local grape harvest. Based on the monitoring data submitted from October 1, 2011 through March 31, 2016, all tenants are currently generating a total of approximately 14,886 gpd of process wastewater with a peak flow of approximately 178,550 gpd. Domestic wastewater from tenant facilities is also collected and treated onsite and then land applied. The domestic treatment system has a design treatment capacity of 6,000 gpd. Consistent with Order No. R1-2010-0019, this Order does not include a limitation on the rate of discharge at Discharge Point 001, but requires the Permittee to limit discharges of process wastewater from Lake Davis to Barlow Creek to periods when large volumes of wastewater jeopardize the safe operation of the storage pond, not to exceed one percent of the flow of Barlow Creek.

The Order retains maximum rates of application of process wastewater to land of 0.17 mgd (average) and 0.37 mgd (daily maximum) from Order No. R1-2010-0019. The Regional Water Board understands that these rates have been determined by the Permittee to represent the maximum amount of process wastewater that can be land applied onsite while maintaining protection of local surface and groundwaters and preventing conditions of nuisance. The migration of any pollutants from land application areas to local surface water, the demonstration of a statistically significant degradation of groundwater, or the creation of nuisance conditions by the land application of wastewater will be viewed as caused by discharges that exceed the assimilative capacity of the land application areas and are in violation of the Order. Because the average and maximum land application rates were determined by the Permittee at a time when the facility was processing apples exclusively, and the Permittee is currently land applying wastewaters of different origin, the Regional Water Board expects the Permittee to adhere to those limits on land application rates or to whatever lower limits may be necessary to protect local surface and groundwater and to prevent nuisance. The description of maximum land application rates for process wastewater of 0.17 (monthly average) and

0.37 mgd (daily maximum) by the Order will not be viewed as reason or a permissible excuse for violations of other terms and conditions of the Order.

**A. Description of Wastewater and Biosolids Treatment and Controls**

The design and operation of the process wastewater treatment system is specifically suited to treat organic wastes from beverage and food operations. The system is not designed to treat process wastewater from other types of industrial activity. Therefore, the permit contains provisions restricting the types of waste that may ultimately be treated by the centralized process wastewater treatment system. A schematic drawing of the process and domestic wastewater treatment systems has been included in Attachment C.

The process wastewater treatment system is comprised of a segregated process wastewater collection sewer within each building, which collects wastewater through trench drains and sumps, a centralized collection sump, rotary screen for large solids removal, a second settling sump equipped with overflow weir, and a third sump where oil and grease can be removed if necessary. Process wastewaters flow by gravity from the third sump to an irrigation sump and are pumped either to land discharge fields, the transfer pond, or the aerated storage pond (Lake Davis). The Permittee uses seven benches for land application of process wastewater. (A bench is a plot of ground that has been modified with spray irrigation facilities and contoured to facilitate irrigation runoff collection). These benches are used for additional process water treatment and disposal during the dry season. Bench Nos. 1, 2, 3, and 7 occupy 16.2 acres, while Bench Nos. 4, 5, and 6 occupy 7.6 acres. Tailwater from the portion of Bench No. 1 that is applied with process wastewater, and tailwater from Benches Nos. 2, and 3 flows by gravity to the transfer pond while tailwater from Bench 7 requires pumping. From the transfer pond, process wastewater can be pumped either to the benches or to the aerated storage pond (Lake Davis). All process tailwater is pumped to the aerated storage pond. All benches are used to grow pasture grasses and are principally used during the summer dry season when direct discharge to Barlow Creek is prohibited. During times of heavy precipitation or when the benches are saturated, process wastewater is pumped directly to the aerated storage pond. The minimum level of treatment of process wastewater includes screening of solids and oil/water separation at all times, land application of wastewater to the benches for discharges to land, and aeration in the storage pond for discharges to surface waters. Provisions governing the application of process wastewater have been included in this permit.

The 6-acre storage pond (Lake Davis) has a capacity of 15 million gallons and is equipped with an aeration system. Process wastewater collected in the storage pond can be disposed of in two ways. Process wastewater can flow by gravity back to the transfer pond where it can be pumped to the benches for irrigation or, during the wet season of the year, treated effluent in compliance with permit conditions may be discharged directly to Barlow Creek. The Permittee has previously documented that the Facility has sufficient capacity to hold all process wastewater generated during both dry and wet seasons, except during extreme storm events. During storm events, while the Facility is not discharging to the benches, storm water runoff from Bench Nos. 1 through 7 may be discharged to Barlow Creek if the following criteria are met: (1) the first inch of storm water runoff is captured and returned to Lake Davis and (2) prior to storm water runoff discharge to Barlow Creek, a sample is collected for analysis as described in the Monitoring and Reporting Program.

The Facility's domestic wastewater treatment system is designed to provide treatment for a peak flow of 6,000 gpd and an average flow of 2,720 gpd, equivalent to a peak employee day of 400 full

time employees and an average employee day of 182 employees. Domestic wastewater is collected in four 1,500 gallon septic tanks where settling and anaerobic treatment occurs, and then flows to a lined and aerated domestic wastewater pond. Domestic wastewater is filtered and disinfected with chlorine prior to being applied to Bench No. 1. Domestic tailwater from Bench No. 1 is retained by a constructed berm, which prevents commingling of domestic and process tailwaters, and is allowed to percolate and evaporate. Commingling of treated domestic wastewater and treated process wastewater is prohibited. Runoff from all benches directly to Barlow Creek can occur during storm events, when discharge to land is not occurring and certain other protective permit conditions, described above, are met.

The Permittee has complied with all setback requirements in the Water Quality Control Plan, North Coast Region (Basin Plan), through conducting application and percolation tests to determine the appropriate application rates and by construction of a downgradient berm for Bench No. 1 to ensure that domestic tailwater is not commingled with process tailwater from the other benches.

Historically, the Permittee operated cold storage processing equipment. Since issuance of Order No. R1-2010-0019, the Permittee has ceased operation of cold storage processing and the equipment no longer exists at the Facility.

**B. Discharge Points and Receiving Waters**

1. Between October 1<sup>st</sup> and May 14<sup>th</sup> each year, and once advanced treatment and ELGs have been implemented, the Facility may potentially discharge treated process wastewater from Lake Davis to Barlow Creek at Discharge Point 001 at 38° 25' 22" N latitude and 122° 51' 04" W longitude. Discharges of treated process wastewater to Barlow Creek is limited to only excess wastewater as needed to safely operate the aerated storage pond and shall not exceed one percent of the flow of Barlow Creek, as measured at Monitoring Location RSW-001. Barlow Creek is located within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area within the Russian River Hydrologic Unit.
2. The Permittee also land applies treated process wastewater to Bench Nos. 1 through 7 at Discharge Point 002, and recycles treated domestic wastewater for irrigation at Bench No. 1, Discharge Point 003. These discharge points are used during the dry season for irrigation of pasture grasses.

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

Effluent limitations contained in Order No. R1-2010-0019 for discharges from Discharge Point 001 are as follows. The Permittee did not discharge at Discharge Point 001 during the term of Order No. R1-2010-0019; therefore, effluent monitoring data from Monitoring Location EFF-001 is not available.

**Table F-2. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation		Monitoring Data	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Maximum Daily Discharge
<b>Discharge Point 001 - Monitoring Location EFF-001<sup>4</sup></b>					
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	--	80	--	--
pH	s.u.	6.5 – 8.5		--	--
Total Suspended Solids (TSS)	mg/L	--	--	--	--
Settleable Solids	ml/L	--	--	--	--
Temperature	°C	--	--	--	--
Chemical Oxygen Demand (COD)	mg/L	--	--	--	--
Cadmium, Total Recoverable	µg/L	1.8 <sup>1</sup>	--	--	--
Copper, Total Recoverable	µg/L	6.0 <sup>1</sup>	--	--	--
Cyanide, Total (as CN)	µg/L	4.3	--	--	--
Nickel, Total Recoverable	µg/L	37 <sup>1</sup>	--	--	--
Selenium, Total Recoverable	µg/L	4.1	--	--	--
Zinc, Total Recoverable	µg/L	52 <sup>1</sup>	--	--	--
Acute Toxicity	% Survival	70 <sup>2</sup> /90 <sup>3</sup>	--	--	--
Chronic Toxicity	TUc	--	--	--	--
<b>Discharge Point 002 - Monitoring Location STG-001</b>					
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	--	80	--	640
Total Suspended Solids (TSS)	mg/L	--	80	--	160
pH	s.u.	6.5 – 8.5		7.0 - 8.8	
Settleable Solids	ml/L	--	1.0	--	1.5
<b>Discharge Point 003 - Monitoring Location REC-001</b>					
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	50	80	109	270
Total Suspended Solids (TSS)	mg/L	50	80	52	120
pH	s.u.	6.5 – 8.5		6.2 – 8.8	
Total Coliform	MPN/100 mL	23 <sup>5</sup>	240 <sup>6</sup>	1600 <sup>7</sup>	1600 <sup>8</sup>
Flow	gpd	6,000	2,720	9	9



Parameter	Units	Effluent Limitation		Monitoring Data	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Maximum Daily Discharge
<p><u>Table Notes:</u></p> <ol style="list-style-type: none"> <li>Final effluent limitations for cadmium, copper, nickel, and zinc are hardness-dependent and must be determined at the time of monitoring. Values in Table 6 of Order No. R1-2010-0019 are based on a receiving water hardness of 85 mg/L CaCO<sub>3</sub>. See Appendix E-1 in Attachment E of Order No. R1-2010-0019 for the full table of hardness-dependent final cadmium, copper, nickel, and zinc effluent limitations, which are determined based on the hardness of the receiving water at the time the discharge is sampled.</li> <li>Minimum for any one bioassay.</li> <li>Median for any three or more consecutive bioassays.</li> <li>The Permittee did not discharge at Discharge Point 001 during the term of Order No. R1-2010-0019; therefore, effluent monitoring data from Monitoring Location EFF-001 is not available.</li> <li>The median concentration of the results of bacteriological analysis from samples collected during any calendar month shall not exceed an MPN of 23 per 100 mL</li> <li>No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.</li> <li>Highest monthly median.</li> <li>Maximum observed result.</li> <li>Order No. R1-2010-0019 did not require influent monitoring for the domestic wastewater system, therefore influent flow data is not currently available.</li> </ol>					

**D. Compliance Summary**

- The Permittee was not assessed any administrative civil liability during the term of Order No. R1-2010-0019.  
 “During the term of Order No. R1-2010-0019, the Permittee’s process wastewater stored in Lake Davis exceeded the effluent limitations in 16 samples: 6 BOD5, 8 TSS, 1pH and 1 settleable solids.”
- In addition, the Permittee’s discharge of treated domestic wastewater that is recycled to land had 34 effluent limitation violations, including 23 BOD<sub>5</sub>, 5 TSS, 6 pH, and 11 total coliform. BOD and TSS violations typically occur when the Permittee begins filling Lake Davis in late fall/early winter. The Permittee adjusts aeration and pH in Lake Davis and in its domestic wastewater treatment pond accordingly to address BOD and TSS violations. In response to total coliform violations, the Permittee reviews sampling procedures and chlorine dosing and efficacy.

**E. Planned Changes**

As discussed further in section II of this Fact Sheet, the Permittee is planning to allow processors of high proof alcohol processing and production to lease space at the Facility and discharge to the process wastewater treatment system. This Order includes high proof alcohol processing and production within the potential tenant description; however, the discharge of high proof alcohol into the collection system is prohibited and furthermore, the Permittee must notify and obtain approval from the Regional Water Board prior to allowing a discharge containing wastewater from a processor of high proof alcohol. The Permittee does not have any additional changes planned for this permit term.

### 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.

#### 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.

#### 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. The Basin Plan does not specifically identify beneficial uses for Barlow Creek, but does identify present and potential uses for the Russian River within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area, to which Barlow creek is tributary via Atascadero Creek and Green Valley Creek. Beneficial uses applicable to Barlow Creek are summarized in Table F-3, below:

**Table F-3. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Barlow Creek, tributary to the Russian River 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 (EST).</p> <p><u>Potential:</u>            Industrial process supply (PRO);            Hydropower generation (POW),            Shellfish harvesting (SHELL); and            Aquaculture (AQUA).</p>
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>

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.

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.** 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. Resolution No. 68-16 incorporates 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 in this 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. 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. This Order includes effluent limitations for BOD<sub>5</sub>, TSS, and settleable solids for discharges to Barlow Creek. Compliance with the effluent limitations will ensure sediment is not discharged at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River.

Regarding temperature, Regional Water Board is proposing to address the Russian River temperature impairment in part through the development of a region-wide temperature TMDL

implementation policy. 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. Therefore, because of the summer discharge prohibition, discharges from the Facility are not expected to contribute to temperature loadings to the Russian River during critical periods.

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. Concentrations of total coliform bacteria in Lake Davis, STG-001, were consistently greater than 1,600 MPN/100 mL. Monitoring data for total and fecal coliform bacteria in the discharge from the process wastewater treatment system at Monitoring Location LND-001 is not available to determine if the source of high coliform levels in Lake Davis is the process wastewater. Therefore, this Order establishes monitoring for total and fecal coliform bacteria at Monitoring Locations STG-001 and LND-001 to determine if the discharge of process wastewater has a reasonable potential to cause or contribute to the impairment for bacteria.

#### **E. Other Plans, Policies and Regulations**

1. On January 16, 2015, the Permittee received coverage under the 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) for storm water discharges from the Facility. This Order includes additional storm water requirements for storm water discharges from the benches to Barlow Creek, including conditions for discharge and monitoring requirements.
2. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Permittee must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211.

#### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include 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* (4<sup>th</sup> 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. R1-2010-0019 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.6.c of this Order (Sludge Disposal and Handling Requirements).

This prohibition is established in this Order 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 California Code of Regulations (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. R1-2010-0019 and 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.

- 5. Discharge Prohibition III.E.** The discharge of waste to land that is not owned by the Permittee or under agreement for use by the Permittee is prohibited, except for use for fire suppression as provided in title 22, section 60307(b) of the CCR.

This prohibition is retained from Order No. R1-2010-0019, 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.

- 6. Discharge Prohibition III.F.** 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 is established in this Order. 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.

- 7. Discharge Prohibition III.G.** The discharge of waste to Barlow Creek is prohibited during the period from May 15 through September 30 of each year. The discharge of domestic waste to Barlow Creek is prohibited at all times.

This prohibition is retained from Order No. R1-2010-0019 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).

- 8. Discharge Prohibition III.H.** The Permittee shall minimize the discharge of treated process wastewater to Barlow Creek, specifically limiting discharges to periods when large volumes of wastewater jeopardize the safe operation of the aerated storage pond (Lake Davis). During the period from October 1 through May 14, discharges of treated process wastewater to Barlow Creek is limited to only excess wastewater as needed to safely operate the aerated storage pond and shall not exceed one percent of the flow of Barlow Creek, as measured at Monitoring Location RSW-001. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

- a.** The discharge of treated process 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 Barlow 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 treated process wastewater discharged in a calendar month exceed one percent of the total volume of Barlow 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 shall be calculated from the first day of the calendar month to the date when the discharge ceased for the season.

This prohibition has been modified from Order No. R1-2010-0019 and is required by the Basin Plan (Chapter 4, North Coastal Basin Discharge Prohibition No. 4). The Basin Plan prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 4 does not specify how compliance to the one-percent flow requirement will be determined. The Basin Plan allows, on a case-by-case basis, exception to the one percent restriction. The Regional Water Board may allow such exception under the following conditions:



- c. The wastewater treatment facility shall be reliable;
- d. The discharge of waste shall be limited to rates and constituent levels which protect the beneficial uses of the receiving waters;
- e. The exception is limited to that increment of wastewater which remains after reasonable alternatives for recycling have been addressed; and
- f. The exception shall comply with state and federal antidegradation requirements.

Order No. R1-2010-0019 required compliance with the one percent flow prohibition in Atascadero Creek, to which Barlow Creek is tributary. However, following the adoption of Order No. R1-2010-0019, the Regional Board informed the Permittee of its intent to stop permitting discharge to Barlow Creek based on the one percent flow prohibition in Atascadero Creek. Under Special Provision VI.C.2.c of Order No. R1-2010-0019, the Permittee conducted a study to determine, among other things, whether discharges to Barlow Creek would be viable under anticipated regulations, and whether an exemption to the 1% flow prohibition at Barlow Creek would still be protective of the beneficial uses of the Barlow Creek. The Permittee completed the study and submitted *Summary Report: Surface Receiving Water Study, Sonoma West Holdings North Site* (Receiving Water Study) on October 1, 2014. Results of the study indicate that a 40% discharge rate in Barlow Creek (equivalent to the 1% rate in Atascadero Creek) would result in the exceedances of specific conductance and total dissolved solids (TDS) basin plan objectives. Results of the study also indicate that a 40% discharge rate in Barlow Creek would result in increased nutrient loading to Barlow Creek based on nitrogen and phosphorus samples collected from Lake Davis on three separate sampling events between April 2013 and March 2014.

Additionally, concentrations of copper, zinc, and cyanide measured in effluent samples exhibited reasonable potential to cause or contribute to an exceedance of California Toxics Rule (CTR) criteria or Basin Plan objectives (see Fact Sheet section IV.C.3) and thus could potentially cause impairments to Barlow Creek. Given these findings from the 2014 Receiving Water Study, any allowance for higher discharge flows would further increase the risk of impairment of beneficial uses within Barlow Creek. For this reason, the Regional Water Board has determined that an exception to the 1% flow restriction in Barlow Creek is not appropriate at this time. This Order changes the point of compliance for the one percent flow restriction from Atascadero Creek to Barlow Creek since Barlow Creek is the designated discharge location for surface water discharges.

This prohibition, set forth in Provision III.H of this Order, specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season if the flow in Barlow Creek is read at least once daily, and the discharge flow rate shall not be set for greater than one percent of the flow of Barlow Creek at the time of the daily reading.

9. **Discharge Prohibition III.I.** 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 established in this Order and is based on the discharge prohibitions contained in section 13375 of the Water Code.

- 10. Discharge Prohibition III.J.** The discharge of wastewater, other than process wastewater, into the process wastewater treatment system is prohibited.

Prohibition III.E in Order No. R1-2010-0019 allowed for cold storage defrost water as well as process wastewater to be introduced to the process wastewater treatment system. The Permittee no longer operates cold storage and the equipment has been removed from the Facility. As a result, this prohibition is modified to prohibit all wastewater other than process wastewater from being discharged into the process wastewater treatment system. In accordance with section VI.C.6.d of the Order, the Permittee can accept offsite process wastewaters for onsite treatment and land application.

- 11. Discharge Prohibition III.K.** The discharge of domestic waste, treated or untreated, to surface waters is prohibited.

This prohibition has been retained from Order No. R-2010-0019. This prohibition is based on the general objectives of the Basin Plan (no discharge unless necessary) and is consistent with Basin Plan Chapter 4, North Coastal Basin Discharge Prohibition No. 4 which requires that any discharge of municipal wastewater receive advanced treatment prior to discharge to the Russian River and its tributaries (no advanced treatment is available at this Facility).

- 12. Discharge Prohibition III.L.** The discharge of waste classified as “hazardous,” as defined in title 23, chapter 15, section 2521(a) of the CCR to any part of the domestic and/or process wastewater disposal systems is prohibited.

This prohibition has been retained from Order No. R1-2010-0019. The Permittee’s treatment system is not designed to treat hazardous wastes. As such, the prohibition is necessary for the protection of receiving water beneficial uses.

- 13. Prohibition III.M.** The recycling use of treated domestic wastewater shall be restricted to irrigation of the bermed portion of Bench No.1 at Discharge Point 003.

This prohibition has been retained from Order No. R1-2010-0019 and is consistent with not allowing any surface water discharge of domestic wastewater (under Prohibition III.K).

- 14. Prohibition III.N.** Treated domestic and process wastewater shall not be applied to the bench irrigation areas within 24 hours preceding a forecasted rain event, during rainfall, or 24 hours after a rainfall event, or when soils are saturated.

This prohibition has been retained from Order No. R1-2010-0019 and is necessary to prevent discharges of process wastewater in storm water.

- 15. Prohibition III.O.** Treated process wastewater may not be land applied at a rate exceeding 0.37 mgd on any single day or at a rate exceeding 0.17 mgd, as determined from any consecutive 30-day mean daily flow.

This prohibition has been retained from Order No. R1-2010-0019 and is based on the assimilative capacity of the Permittee’s land application areas, documented by the Capacity Assessment Report dated July 22, 2003.

- 16. Order No. R1-2010-0019, Discharge Prohibition III.M.** Cold storage defrost water shall only be discharged to Lake Davis. The direct discharge of cold storage defrost wastewater to Barlow Creek is prohibited.

This prohibition has been discontinued in this Order. Defrost water is no longer generated and the cold storage process equipment has been removed from 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 Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

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

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

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

## 2. Applicable Technology-Based Effluent Limitations

- a. **BOD<sub>5</sub>, TSS, and Settleable Solids.** Maximum daily effluent limitations (MDELs) for BOD<sub>5</sub> and TSS of 80 mg/L and settleable solids of 0.2 ml/L at Discharge Point 001 are retained from Order No. R1-2010-0019 and are based on BPJ.. The settleable solids limitation is retained from Order No. R1-2010-0019, consistent with anti-backsliding regulations in 40 C.F.R. section 122(l). The current tenant mix at this Facility is oriented towards wine production. Other tenants also discharge waste streams that can be treated by the existing treatment process. This Order currently does not incorporate EPA's Effluent Limit Guidelines (ELGs) that are specific for food and beverage products processing since all discharges are directed to land application. In order for staff to develop appropriate ELGs and determine compliance, the Facility would need to monitor and provide influent data on flow, BOD<sub>5</sub>, and TSS measurements for the ELG regulated wastestreams over a minimum one year period (see attachment E, section IX.C.1). Should the Permittee decide to discharge treated effluent to surface waters, the Order may be reopened to revise effluent limits for BOD and TSS based on national ELGs. Discharge to surface waters is prohibited until such time that ELGs have been established
- b. **Chemical Oxygen Demand and Temperature.** Order No. R1-2010-0019 also included technology-based effluent limitations for temperature and chemical oxygen demand for discharges of defrost water from the cold storage process. The Permittee no longer operates cold storage processes and the associated equipment has been removed from the Facility. As a result, this Order discontinues the effluent limitations for temperature and chemical oxygen demand at Discharge Point 001.

## 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. The rationale for these requirements 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.

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, Barlow Creek (a tributary to the Russian River), has the beneficial use designation of municipal and domestic supply.

### 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. The RPA for this Facility was conducted as follows.

#### a. Non-Priority Pollutants

- i. **pH.** The effluent limitation for pH of 6.5 to 8.5 is retained from Order No. R1-2010-0019. This limitation is based on the water quality objective for all surface waters established in Chapter 3, Table 3-1 of the Basin Plan.
- ii. **Aluminum.** 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 objective. The MCL for aluminum (200 µg/L) is therefore applicable as a water quality objective for Barlow Creek. Representative monitoring results collected at Monitoring Locations LND-001 and STG-001 from January 2011 to June 2016 showed a maximum concentration of 2,100 µg/L.

Using the methodology described in the SIP for determining reasonable potential, because aluminum levels at Monitoring Locations LND-001 and STG-001 have been measured at concentrations greater than 200 µg/L, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality objectives for the receiving water. Therefore, an average monthly effluent limitation (AMEL) of 200 µg/L and an MDEL of 530 µg/L for aluminum have been established in this Order.

- iii. **Electrical Conductivity.** 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 objectives. The MCL for electrical conductivity (900 µmhos/cm) is therefore applicable as a water quality objective for Barlow Creek. Representative monitoring results collected at Monitoring Locations LND-001 and STG-001 from January 2011 to June 2016 showed a maximum concentration of 1,000 µmhos/cm.

Using the methodology described in the SIP for determining reasonable potential, because electrical conductivity levels at Monitoring Locations LND-001 and STG-001 have been measured at concentrations greater than 900 µmhos/cm, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality objectives for the receiving water. Therefore, an AMEL of 900 µmhos/cm and an MDEL of 1,800 µmhos/cm for electrical conductivity have been established in this Order.

- iv. **Iron.** 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 objectives. The MCL for iron (300 µg/L) is therefore applicable as a water quality objective for Barlow Creek. Representative monitoring results collected at Monitoring Locations LND-001 and STG-001 from January 2011 to June 2016 showed a maximum concentration of 3,300 µg/L.

Using the methodology described in the SIP for determining reasonable potential, because iron levels at Monitoring Locations LND-001 and STG-001 have been measured at concentrations greater than 300 µg/L, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality objectives for the receiving water. Therefore, an AMEL of 300 µg/L and an MDEL of 600 µg/L for iron have been established in this Order.

- v. **Manganese.** 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 objectives. The MCL for manganese (50 µg/L) is therefore applicable as a water quality objective for Barlow Creek. Representative monitoring results collected at Monitoring Location LND-001 from January 2011 to June 2016 showed a maximum concentration of 55 µg/L.

Using the methodology described in the SIP for determining reasonable potential, because manganese levels at Monitoring Location LND-001 have been measured at concentrations greater than 50 µg/L, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality objective for the receiving water. Therefore, an AMEL of 50 µg/L and an MDEL of 100 µg/L for manganese have been established in this Order.

- vi. **Methylene Blue Active Substances (MBAS).** 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 objectives. The MCL for MBAS (0.5 mg/L) is therefore applicable as a water quality objective for Barlow Creek. Representative monitoring results collected at Monitoring Locations LND-001 and STG-001 from January 2011 to June 2016 showed a maximum concentration of 1.6 mg/L.

Using the methodology described in the SIP for determining reasonable potential, because MBAS levels at Monitoring Locations LND-001 and STG-001 have been measured at concentrations greater than 0.5 mg/L, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality objective for the receiving water. Therefore, an AMEL of 0.50 mg/L and an MDEL of 1.0 mg/L for MBAS have been established in this Order.

**vii. Nitrogen Compounds**

- (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. Monthly samples were collected at Monitoring Location STG-001 from January 2011 through January 2015 and analyzed for nitrate. Monitoring results ranged between non-detect to 0.96 mg/L based on 30 samples. Because nitrate levels in the effluent were below 10 mg/L N, the Regional Water Board concludes that discharges from the Facility does not have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water for nitrate.
- (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 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. Adequate information is not available to determine if these freshwater mussels are present in the receiving water. The 2013 Freshwater Criteria document states, “*In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.*”

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 7.9 and temperature of 15.6°C at Monitoring Location RSW-001U, the assumed presence of salmonids and mussels) to calculate U.S. EPA’s 2013 Freshwater Criteria, which result in acute and chronic criteria of 6.77 mg/L and 3.08 mg/L, respectively.

Monitoring results at Monitoring Location STG-001 ranged from non-detect to 7.8 mg/L based on 30 samples collected between January 2011 and January 2015. Upstream receiving water data ranged from non-detect to 0.3 mg/L, based on three samples collected in April 2013, February 2014, and March 2014. 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 are established for ammonia consisting of an AMEL of 1.0 mg/L and an MDEL of 4.6 mg/L. Fact Sheet section IV.C.4 provides calculations of the ammonia AMEL and MDEL.

- viii. Phosphorus.** 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 includes 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.
- ix. Coliform Bacteria.** The Basin Plan includes a water quality objective for fecal coliform bacteria that states, “*In waters designated for contact recreation (REC-1), the median fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed 50/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml.*” As discussed in section III.C.1 of this Fact Sheet, contact recreation (REC-1) is an existing beneficial use for Barlow Creek; therefore, the water quality objective for fecal coliform bacteria is applicable to Barlow Creek.

Monitoring data for fecal coliform bacteria is not available at Monitoring Locations LND-001 or STG-001 to determine the presence of fecal coliform bacteria in the process wastewater. Fecal coliform bacteria are a subgroup of total coliform bacteria found mainly in the intestinal tracts of warm-blooded animals.

Monitoring data for total coliform bacteria at Monitoring Location STG-001 from January 2011 through June 2016 resulted in total coliform measurements that were  $\geq 1600$  MPD/100 mL in 39 out of 41 samples. Since the process wastewater generated at the Facility does not contain human or animal wastes, fecal and total coliform bacteria are not expected to be present in the process wastewater, and the source of the high total coliform bacteria levels observed at Monitoring Location STG-001 may be from birds and other wildlife that have access to Lake Davis. However, monitoring data is not available from Monitoring Location LND-001 to verify that the process wastewater generated at the Facility is not a source of bacteria. Due to the lack of data for fecal coliform bacteria at Monitoring Locations LND-001 and STG-001, reasonable potential to exceed the water quality objective for fecal coliform bacteria cannot be determined. Therefore, this Order does not include effluent limitations for fecal coliform bacteria, but instead establishes monitoring requirements at Monitoring Locations EFF-001, LND-001, and STG-001.

- x. **Total Dissolved Solids.** 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 objectives. The MCL for total dissolved solids (500 mg/L) is therefore applicable as a water quality objective for Barlow Creek. Representative monitoring results collected at Monitoring Locations LND-001 and STG-001 from January 2011 to January 2015 showed a maximum concentration of 1,100 mg/L.

Using the methodology described in the SIP for determining reasonable potential, because total dissolved solids levels at Monitoring Locations LND-001 and STG-001 have been measured at concentrations greater than 500 mg/L, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality objectives for the receiving water. Therefore, an AMEL of 500 mg/L and an MDEL of 810 mg/L have been established in this Order.

**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. The Facility did not discharge to the receiving water through Discharge Point 001 during the term of Order No. R1-2010-0019. Therefore, the RPA is based on sample data for treated process wastewater that was discharged to land via Discharge Point 002 (Monitoring Location LND-001) or data from samples of treated process wastewater stored in Lake Davis prior to discharge through Discharge Point 002 (Monitoring Location STG-001). Monitoring data from these locations is

representative of the treated process wastewater that may be discharged at Discharge Point 001.

**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 30 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, lead, mercury, thallium, zinc, and cyanide 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 120 of the 126 priority pollutants.

Table F-4 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-4. Summary of Reasonable Potential Analysis Results**

CTR #	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL <sup>1,2</sup>	B or Minimum DL <sup>1,2</sup>	RPA Results <sup>3</sup>
2	Arsenic	µg/L	10	3.1	<4.8	No
4	Cadmium	µg/L	1.0	0.28	0.2	No
5a	Chromium (III)	µg/L	77	5.6	<10	No
5b	Chromium (VI)	µg/L	11	2.6	8.5	No
6	Copper	µg/L	3.3	83	27	Yes (Trigger 1)
7	Lead	µg/L	0.69	7.3	5.3	Yes (Trigger 1)
8	Mercury	µg/L	0.050	0.05	0.15	Yes (Trigger 1)
9	Nickel	µg/L	19	12	12	No
10	Selenium	µg/L	5.0	<0.12	0.34	No
12	Thallium	µg/L	1.7	32	<0.40	Yes (Trigger 1)
13	Zinc	µg/L	43	130	59	Yes (Trigger 1)
14	Cyanide	µg/L	5.2	5.9	6.1	Yes (Trigger 1)
26	Chloroform	µg/L	No Criteria	3.5	<0.5	No
39	Toluene	µg/L	150	44	<0.3	No
--	Aluminum	µg/L	200	2,100	5,500	Yes (Trigger 1)
--	Ammonia Nitrogen, Total (as N)	mg/L	1.2 <sup>4</sup>	7.8	0.3	Yes (Trigger 1)
--	Iron	µg/L	300	3,300	Not Available	Yes (Trigger 1)
--	Manganese	µg/L	50	55	Not Available	Yes (Trigger 1)
--	Methylene Blue Active Substances (MBAS)	mg/L	0.5	1.6	Not Available	Yes (Trigger 1)
--	Electrical Conductivity	µmhos/cm	900	1,000	270	Yes (Trigger 1)
--	Total Dissolved Solids	mg/L	500	1,100	200	Yes (Trigger 1)

CTR #	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL <sup>1,2</sup>	B or Minimum DL <sup>1,2</sup>	RPA Results <sup>3</sup>
<p><u>Table Notes:</u></p> <ol style="list-style-type: none"> <li>The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "&lt;", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).</li> <li>The MEC or B is "Not Available" when there are no monitoring data for a constituent.</li> <li>RPA Results:            = Yes, if MEC &gt; WQO/WQC, or B &gt; WQO/WQC and MEC is detected.            = No, if MEC and B or &lt; WQO/WQC or all effluent data are undetected.            = Undetermined (UD).</li> <li>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 15.6°C and a pH of 7.9.</li> </ol>						

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

Copper. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented 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 water effects ratio (WER) used for calculating criteria for copper is 1.0. Using the worst-case measured hardness from the receiving water (30 mg/L), the U.S. EPA recommended dissolved-total translator of 0.96, and the default WER of 1.0, the applicable chronic criterion (maximum 4-day average concentration) is 3.3 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 4.5 µg/L. The Permittee collected eight samples for copper at Monitoring Locations LND-001 and STG-001 during the term of Order No. R1-2010-0019. The results varied from 3.3 µg/L to 83 µg/L. A determination of reasonable potential has been made based on the MEC of 83 µg/L exceeding the most stringent water quality objective of 3.3 µg/L.

Lead. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. The criteria for lead are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for lead in freshwater are 0.966 for both the acute and the chronic criteria. The default WER used for calculating criteria for lead is 1.0. Using the worst-case measured hardness from the receiving water (30 mg/L), the U.S. EPA recommended dissolved-total translator of 0.966, and the default WER of 1.0, the applicable chronic criterion (maximum 4-day average concentration) is 0.69 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 18 µg/L. The Permittee collected two samples for lead at Monitoring Locations LND-001 and STG-001 during the term of Order No. R1-2010-0019. The sample result from Monitoring Location LND-001 on August 21, 2013 was 7.3 µg/L and the sample result from Monitoring Location STG-001 on February 28, 2014 was 1.8 µg/L. Lead was measured in the receiving water at a concentration of 5.3 µg/L based on one sample collected on February 28, 2014. A determination of reasonable potential has been made based on the MEC of 7.3 µg/L exceeding the most stringent water quality objective of 0.69 µg/L.

Mercury. The CTR establishes a water quality objective for the protection of human health for mercury of 0.050 µg/L. The Permittee conducted mercury analyses on two effluent samples during the term of Order No. R1-2010-0019. Mercury results varied from <0.025 µg/L to 0.05 µg/L. Since the MEC was equal to the most stringent criteria, mercury demonstrates reasonable potential to cause or contribute to an exceedance of water quality criteria.

Thallium. The CTR establishes a water quality objective for the protection of human health for thallium of 1.7 µg/L. The Permittee conducted thallium analyses on two samples at Monitoring Locations LND-001 and STG-001 during the term of Order No. R1-2010-0019. Thallium was measured at 32 µg/L in an August 21, 2013 sample and was not detected in a February 28, 2014 sample. Thallium was not detected in the receiving water based on two samples. A determination of reasonable potential has been made based on the MEC of 32 µg/L exceeding the most stringent water quality objective of 1.7 µg/L.

Zinc. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for zinc in freshwater are 0.986 for the chronic criteria and 0.978 for the acute criteria. The default WER used for calculating criteria for zinc is 1.0. Using the worst-case measured hardness from the receiving water (30 mg/L), the U.S. EPA recommended dissolved-total translators of 0.986 and 0.978, and the default WER of 1.0, the applicable chronic criterion (maximum 4-day average concentration) is 43 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 43 µg/L. The Permittee collected eight samples for zinc at Monitoring Locations LND-001 and STG-001. The results varied from 9.7 µg/L to 130 µg/L. A determination of reasonable potential has been made based on the MEC of 130 µg/L exceeding the acute and chronic water quality objective of 43 µg/L.

Cyanide. The CTR establishes cyanide water quality (µg/L, free cyanide) objectives for the protection of freshwater aquatic life and for the protection of human health. The applicable chronic criterion (maximum 4-day average concentration) is 5.2 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 22 µg/L. The Permittee conducted cyanide analyses on seven samples at Monitoring Locations LND-001 and STG-001 during the term of Order No. R1-2010-0019. Cyanide was measured at concentrations ranging from 2.7 µg/L to 5.9 µg/L. A determination of reasonable potential has been made based on the MEC of 5.9 µg/L exceeding the most stringent water quality objective of 5.2 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:

Cadmium: Order No. R1-2010-0019 included effluent limitations for cadmium. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for cadmium. The criteria for cadmium are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for cadmium in freshwater are 0.994 for acute criteria and 0.959 for chronic criteria. The default WER used for calculating criteria for cadmium is 1.0. Using the worst-case measured hardness from the receiving water (30 mg/L), the U.S. EPA recommended dissolved-total translators of 0.994 and 0.959,

and the default WER of 1.0, the applicable chronic criterion (maximum 4-day average concentration) is 1.0 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 1.2 µg/L. The Permittee sampled Monitoring Locations LND-001 and STG-001 for cadmium on five sample events during the term of Order No. R1-2010-0019. The data demonstrated that cadmium was not detected in the effluent (MDL 0.04 µg/L to 0.2 µg/L). Therefore, cadmium in the effluent does not exhibit reasonable potential to cause or contribute to an exceedance of water quality criteria.

Nickel. Order No. R1-2010-0019 included effluent limitations for nickel. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for nickel. The criteria for nickel are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for nickel in freshwater are 0.998 for the acute criteria and 0.997 for the chronic criteria. The default WER used for calculating criteria for nickel is 1.0. Using the worst-case measured hardness from the receiving water (30 mg/L), the U.S. EPA recommended dissolved-total translators of 0.998 and 0.997, and the default WER of 1.0, the applicable chronic criterion (maximum 4-day average concentration) is 19 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 170 µg/L. The Permittee sampled Monitoring Locations LND-001 and STG-001 for nickel on five dates during the term of Order No. R1-2010-0019. Resulting nickel concentrations varied from 3.5 µg/L to 12 µg/L. The maximum nickel concentration in the receiving water was 12 µg/L based on five samples collected during the term of Order No. R1-2010-0019. Therefore, nickel in the effluent does not exhibit reasonable potential to cause or contribute to an exceedance of water quality criteria.

Selenium. Order No. R1-2010-0019 included effluent limitations for selenium. The most stringent water quality objective for selenium is 5.0 µg/L. The Permittee sampled Monitoring Locations LND-001 and STG-001 for selenium on five sample events during the term of Order No. R1-2010-0019. The data demonstrated that selenium was not detected in the effluent (MDL 0.12 µg/L to 0.5 µg/L). Therefore, selenium in the effluent does not exhibit reasonable potential to cause or contribute to an exceedance of water quality criteria.

#### 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 (ammonia, copper, lead, zinc, and cyanide), 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 99<sup>th</sup> percentile occurrence probability for copper, lead, zinc, and cyanide are 0.321 (acute multiplier) and 0.527 (chronic multiplier). The ECA multipliers for ammonia are 0.14 (acute multiplier), 0.25 (chronic 4-day multiplier), and 0.54 (chronic 30-day multiplier). The LTAs are determined as follows in Table F-5.

**Table F-5. 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
Ammonia (as N)	mg/L	6.8	3.0	1.2	0.14	0.25	0.54	0.90	0.74	0.64
Copper	µg/L	4.5	3.3	--	0.32	0.53	--	1.4	1.7	--
Lead	µg/L	18	0.69	--	0.32	0.53	--	5.7	0.36	--
Zinc	µg/L	43	43	--	0.32	0.53	--	14	23	--
Cyanide	µg/L	22	5.2	--	0.32	0.53	--	7.1	2.7	--

**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. Here, the CV is set equal to 0.6 for copper, lead, zinc, and cyanide; and is set equal to 1.6 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 99<sup>th</sup> percentile occurrence probability was used to determine the MDEL multiplier and a 95<sup>th</sup> percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier for copper, lead, zinc, and cyanide is 3.11, and the AMEL multiplier for these same constituents is 1.55. From Table 2 of the SIP, the MDEL multiplier for ammonia is 7.28, and the AMEL multiplier is 1.54. Final WQBELs for copper, lead, zinc, cyanide, and ammonia are determined as follows.



**Table F-6. Determination of Final QBELs Based on Aquatic Life Criteria**

Pollutant	Unit	LTA	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
Ammonia (as N)	mg/L	0.64	7.28	1.54	4.6	1.0
Copper	µg/L	1.4	3.11	1.55	4.3	2.2
Lead	µg/L	0.36	3.11	1.55	1.1	0.56
Zinc	µg/L	14	3.11	1.55	43	22
Cyanide	µg/L	2.7	3.11	1.55	8.4	4.2

**Step 4:** When the most stringent water quality criterion/objective is a human health criterion/objective (as for mercury, thallium, aluminum, iron, manganese, MBAS, electrical conductivity, and total dissolved solids), 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 mercury, thallium, iron, manganese, MBAS, and electrical conductivity). From Table 2 of the SIP, when CV = 1.14 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 5.5, and the AMEL multiplier at the 95th percentile occurrence probability equals 2.1 (for aluminum). From Table 2 of the SIP, when CV = 0.37 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 2.1, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.3 (for total dissolved solids). 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 QBELs for mercury, thallium, aluminum, iron, manganese, MBAS, electrical conductivity, and total dissolved solids, are determined as follows.

**Table F-7. Determination of Final QBELs Based on Human Health Criteria**

Pollutant	Units	ECA	MDEL/AMEL	MDEL	AMEL
Mercury	µg/L	0.050	2.01	0.10	0.050
Thallium	µg/L	1.7	2.01	3.4	1.7
Aluminum	µg/L	200	2.65	530	200
Iron	µg/L	300	2.01	600	300
Manganese	µg/L	50	2.01	100	50
MBAS	mg/L	0.5	2.01	1.0	0.50
Electrical Conductivity	µmhos/cm	900	2.01	1,800	900
Total Dissolved Solids	mg/L	500	1.62	810	500

**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 includes effluent limitations and 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. R1-2010-0019, 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. Attachment E of this Order requires annual acute WET monitoring.

**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 did not discharge to Barlow Creek at Discharge Point 001 during the term of Order No. R1-2010-0019; therefore, chronic toxicity testing was not conducted and reasonable potential to exceed the Basin Plan's narrative toxicity objective for chronic toxicity cannot be determined. Consistent with Order No. R1-2010-0019, this Order includes narrative effluent limitations for chronic toxicity; however, the effluent limitation has been revised and are based on the approach described in the *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 discussed further below.

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."* The process to revise the SIP is underway. 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 effluent limitation 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 effluent limitation also serves as a 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. R1-2010-0019 established a numeric chronic toxicity limitation of 1.0 TU<sub>c</sub> = 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 17<sup>th</sup>, 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.

Chronic WET limitations will be established if future monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

#### **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. R1-2010-0019, with the exception of effluent limitations for chemical oxygen demand, temperature, cadmium, nickel and selenium.

Order No. R1-2010-0019 included technology-based effluent limitations for chemical oxygen demand and temperature. These limitations were developed based on BPJ to address wastewater contributions from cold storage processing operations. Since issuance

of Order No. R1-2010-0019, the Permittee has ceased cold storage processing and does not anticipate future use. Furthermore, the Permittee has removed the associated equipment from the site. As a result, this Order discontinues effluent limitations for chemical oxygen demand and temperature at Discharge Point 001. Regulations in 40 C.F.R. section 122.44(l) provide that relaxed limitations may be allowed where there have been material and substantial alternations or additions to the permitted facility. The cessation of cold storage processing operations constitutes a material and substantial alteration, which allows for the relaxation of limitations for chemical oxygen demand and temperature.

Order No. R1-2010-0019 included effluent limitations for cadmium, nickel and selenium. These limitations were originally established in previous Order No. R1-2003-0059 based on the RPA. There were no discharges during the term of Order No. R1-2003-0059, thus an RPA was not performed for the development of Order No. R1-2010-0019 and the effluent limitations for cadmium, nickel, and selenium were retained in Order No. R1-2010-0019. Based on more recent data collected at Monitoring Locations LND-001 and STG-001 from the term of Order No. R1-2010-0019, these constituents did not exhibit reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives (see discussion in section IV.C.3). The updated effluent data for cadmium, nickel, and selenium 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 cadmium, nickel, or selenium.

## **2. Antidegradation Policies**

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. R1-2010-0019.

## **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 BOD<sub>5</sub>, TSS, and settleable solids. 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 aluminum, ammonia, electrical conductivity, iron, manganese, MBAS, total dissolved solids, copper, lead, mercury, thallium, zinc, and cyanide 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.

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

**E. Interim Effluent Limitations – Not Applicable**

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

**F. Land Discharge Specifications and Requirements**

**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.

Here, the Regional Water Board considered all of these factors when developing the WDRs for the land discharge. Limitations for BOD<sub>5</sub>, pH, TSS, settleable solids, and total dissolved solids 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 land discharge 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 (except as provided for in Attachment D, Standard Provisions G (Bypass) and H (Upset)) to protect public health and prevent nuisance.. In addition, 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 in the vicinity of the discharge, including water quality of Barlow Creek, the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area, and trends/ current conditions of the Wilson Grove Formation Highlands groundwater basin as well as the Permittee’s need to maintain a land discharge. The Permittee did not submit any evidence regarding whether the WDRs for discharges to land would interfere with the development of needed housing within the region or the costs of compliance, particularly anything to show that the costs of compliance with the Order would be unmanageable.

**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, AGR, IND, and PRO.
- 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 Discharges to Land

The following land discharge specifications apply to land discharges to Bench Nos. 1-7 at Discharge Point 002.

- a. **BOD<sub>5</sub>, TSS, and Settleable Solids.** Consistent with Order No. R1-2010-0019, this Order includes effluent limitations for BOD<sub>5</sub>, TSS, and settleable solids. The limitations for these parameters were based on BPJ. The Regional Water Board finds that these limitations are necessary to achieve applicable water quality standards.

This Order currently does not incorporate EPA's Effluent Limit Guidelines (ELGs) that are specific for food and beverage products processing since all discharges are directed to land application. Should the Permittee decided to discharge treated effluent to surface waters, the Order may be reopened to revise effluent limits for BOD and TSS based on national ELGs. In order for staff to develop appropriate ELGs and determine compliance, the Facility would need to monitor and provide influent data on flow, BOD<sub>5</sub>, and TSS measurements for the ELG regulated wastestreams over a minimum one year period (see attachment E, section IX.C.1).

- b. **pH.** Consistent with Order No. R1-2010-0019, this Order retains, from Order No. R1-2010-0019, instantaneous minimum and maximum effluent limitations for pH of 6.5 and 8.5, respectively. These pH limitations are included in the Order to ensure that pH levels are appropriate for the protection of groundwater.
- c. **Electrical Conductivity.** The Secondary MCL for electrical conductivity, 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 900 µg/L. The Permittee conducted groundwater monitoring for electrical conductivity up gradient and down gradient of Bench No. 1 on five sample dates from March 2011 to March 2016. The average electrical conductivity at the up gradient well (Monitoring Location RGW-001) was 258 µmhos/cm, whereas the average electrical conductivity in the down gradient well (Monitoring Location RGW-002) was 370 µmhos/cm. These results show electrical conductivity in groundwater increasing downgradient of the Bench Nos. 1-4, indicating that the discharge has an impact on electrical conductivity in groundwater, although measurements are below the MCL. Effluent monitoring at Monitoring Locations STG-001 and LND-001 conducted on four sample dates during the term of Order R1-2010-0019 resulted in electrical conductivity ranging from 400 µmhos to 1,000 µmhos. In order to ascertain the impact of the discharge on groundwater quality, this Order includes new monthly monitoring requirements for electrical conductivity at Monitoring Location LND-001.
- d. **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. Total dissolved solids concentrations at Monitoring Locations LND-001 and STG-001 ranged from 250 mg/L to 1,800 mg/L, and frequently exceeded the Secondary MCL, based on samples collected from January 2011 through February 2015, which is representative of treated process wastewater discharged to Bench Nos. 1-7 at Discharge Point 002.

During the period of March 2011 to March 2016, the Permittee conducted groundwater monitoring up gradient of Bench Nos. 1-4 at Monitoring Location RGW-001 on five



sample dates and conducted down gradient groundwater monitoring at Monitoring Location RGW-002 on 11 sample dates. The average concentration of total dissolved solids at the up gradient well was 190 mg/L, whereas the average concentration at the down gradient well was 283 mg/L.

Similarly, for groundwater samples collected from March 2011 through March 2016 at Bench No. 7, the average up gradient total dissolved solids concentration at Monitoring Location RGW-003 was 366 mg/L (based on 11 samples), whereas the average downgradient concentration at Monitoring Location RGW-004 was 465 mg/L (based on eight samples).

These results show total dissolved solids concentration in groundwater increasing down gradient of the Bench Nos. 1-4 and 7, indicating that the discharge has an impact on total dissolved solids concentrations in groundwater. In order to limit further increases of total dissolved solids in groundwater, this Order includes an average monthly limitation at Discharge Point 002 of 500 mg/L for total dissolved solids based on the Secondary MCL.

- e. **Maintenance.** This Order retains the requirement from Order No. R1-2010-0019 to ensure that effluent is land applied in a manner to prevent impacts to groundwater or surface water.
- f. **Bench No. 1.** The requirement to segregate wastewaters is necessary to separately evaluate requirements for domestic wastewater and treated process wastewater that is land applied.
- g. **Reuse/Land Application Plan Development.** Barlow Creek has limited capacity to receive wastewater discharges without resulting in impacts to beneficial uses. As such, this Order retains the requirement for the Permittee to continue to update a plan to maximize land application of treated process wastewater.
- h. **Storm Water.** This provision is retained from Order No. R1-2010-0019 to ensure that the discharge of storm water from the facility grounds, including the land application benches, does not transport pollutants from the industrial process wastewaters to surface waters.

## G. Water Recycling Specifications and Requirements

This Order authorizes the Permittee to reuse treated domestic wastewater that complies with Water Recycling Specifications and Requirements contained in section IV.C of the Order for irrigation of the bermed area of Bench No. 1.

### 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 change 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 waste discharge requirements for the recycled water discharge. Limitations for BOD<sub>5</sub>, pH, TSS, nitrate, and total dissolved solids were derived based upon the treatment capability of the Facility in order to implement water quality objectives that protect the beneficial uses of both surface and groundwater. Both beneficial uses and the water quality objectives have been approved pursuant to state law, and then submitted to and approved by U.S. EPA. In addition, discharge prohibitions were included to prohibit the recycling use of untreated or partially treated wastewater.

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 Russian River Hydrologic Unit, the coordinated control of all factors which affect water quality in the area, and the need to develop and use recycled water, which this Order supports. The Permittee did not submit any evidence regarding whether the waste discharge requirements for recycled water discharges would interfere with the development of needed housing within the region or the costs of compliance, particularly anything to show that the costs of compliance with the Order would be unmanageable.

## **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, AGR, IND, and PRO.
- 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**

Section IV.C. of this Order contains Water Recycling Specifications and Requirements to ensure that recycled water is used in a manner that is protective of groundwater and surface water quality. The Water Recycling Specifications and Requirements are established in this Order to conform to requirements contained in title 22, division 4, chapter 3 of the CCR for recycled water use of disinfected secondary-23 recycled water. 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 Reclamation) and DDW regulations at title 22, sections 60301 – 60357 of the CCR (Water Recycling Criteria).

The Water Recycling Specifications and Requirements are established in this Order to conform to requirements contained in title 22, division 4, chapter 3 of the CCR for the recycled water use of disinfected tertiary effluent. Specific water recycling requirements are enumerated in section IV.C of this Order. The requirement to comply with title 22 requirements is retained from Order No. R1-2010-0019.

- a. **BOD<sub>5</sub> and TSS.** Consistent with Order No. R1-2010-0019, this Order retains effluent limitations for BOD<sub>5</sub> and TSS. The limitations for these parameters were based on BPJ.
- b. **pH.** Consistent with Order No. R1-2010-0019, this Order includes instantaneous minimum and maximum effluent limitations for pH of 6.5 and 8.5. These pH limitations are included in the Order to ensure that pH levels are appropriate for the protection of groundwater.
- c. **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 Permittee conducted monthly monitoring of its domestic wastewater discharge from January 2011 through January 2015. Monitoring results ranged from 5.6 mg/L to 120 mg/L based on 49 samples. Because nitrate levels in 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 equal to 10 mg/L.
- d. **Total Coliform Bacteria.** The Order retains the effluent limitations for total coliform bacteria of 23 MPN/100 mL as a monthly median and 240 MPN/100 mL as a daily maximum. These limitations are based on regulations for secondary-23 recycled water contained in title 22, division 4, chapter 3 of the CCR to ensure that the quality of the water discharged to land is protective of human health. These requirements are necessary to ensure protection of public health. These limitations can be reasonably achieved through proper operation of the Permittee's wastewater treatment facilities and are retained from Order No. R1-2010-0019.
- e. **Electrical Conductivity.** The Secondary MCL for electrical conductivity, 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 900 mg/L. The Permittee conducted groundwater monitoring for electrical conductivity up gradient and down gradient of Bench No. 1 on five sample dates from March 2011 to March 2016. The average electrical conductivity concentration at the up gradient well (Monitoring Location RGW-001) was 258 µmhos/cm, whereas the average electrical conductivity concentration in the down gradient well (Monitoring Location RGW-005) was 544 µmhos/cm. These results show electrical conductivity concentration in groundwater increasing down gradient of Bench No. 1, indicating that the discharge has an impact on concentrations in groundwater. The Permittee was not required to

monitor electrical conductivity at Monitoring Location REC-001; therefore, there is no discharge data for comparison to the MCL. In order to characterize the impact of the discharge on groundwater quality, this Order includes new monthly monitoring requirements for electrical conductivity at Monitoring Location REC-001.

- 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. Domestic wastewater effluent discharged to Bench No. 1 exhibited total dissolved solids concentrations ranging from 340 mg/L to 15,000 mg/L based on samples collected from January 2011 through February 2015. The Permittee conducted groundwater monitoring up gradient and down gradient of Bench No. 1 on five sample dates from March 2011 to March 2016. The average concentration of total dissolved solids at the up gradient well was 190 mg/L, whereas the average downgradient concentration was 372 mg/L. These results show total dissolved solids concentration in groundwater increasing down gradient of the Bench No. 1, indicating that the discharge has an impact on concentrations in groundwater. In order to limit further increases in ground water total dissolved solids, this Order establishes an average monthly limitation at Discharge Point 003 of 500 mg/L for total dissolved solids based on the Secondary MCL.
- g. Domestic Waste Flow.** The Order requires that the maximum daily flow of domestic waste to the domestic wastewater treatment system shall not exceed 6,000 gpd and the mean daily flow of domestic wastewater not exceed 2,720 gpd averaged over a calendar month. This requirement has retained from Order No. R1-2010-0019. This discharge specification is based on the design capacity of the domestic wastewater treatment system equipment, prior to land discharge.
- h. Wastewater Recycling Additional Requirements.** Additional requirements governing the use area of land applied domestic wastewater are included in this Order to ensure proper operation and application of effluent. These requirements are in accordance with title 22, division 4, chapter 3 of the CCR (section 60310-60357).

#### **H. Other Requirements – Not Applicable**

### **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 dissolved oxygen, pH, turbidity, suspended materials, floating materials, tastes and odors, color, settleable material and sediment, biostimulatory substances, toxicity, temperature, pesticides, oil and grease, and water quality standards, including Basin Plan objectives and title 22 MCLs.

**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 revised narrative or 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 Effects 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, nitrite, 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.

### 2. Special Studies and Additional Monitoring Requirements

At this time, no special studies, technical reports, or additional monitoring requirements are required.

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

- a. Pollutant Minimization Program (Special Provision VI.C.3.a).** This provision is included in this Order pursuant to section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.
- b. Pollution Prevention Plan.** CWC section 13263.3(d)(1) identifies conditions under which the Regional Water Board may require a pollution prevention plan in a permit. One of the conditions is when the Regional Water Board determines that pollution prevention is necessary to achieve a water quality objective. Several pollutants that may be present in the effluent at Discharge Point 001 exhibited reasonable potential to exceed CTR criteria or Basin Plan objectives. A pollution prevention plan, in concert with proper operation of the treatment system is therefore necessary to achieve effluent limitations protective of CTR criteria/Basin Plan objectives. The Pollution Prevention Plan required components specified in this Order are from section 13263.3(d)(2) of the Water Code.

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

- a. Operation and Maintenance (Special Provisions VI.C.4.a and b).** 40 C.F.R. section 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of this Order, is an integral part of a well-operated and maintained facility.

**5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**

**6. Other Special Provisions**

- a. Solids Disposal and Handling Requirements (Special Provision VI.C.6.a).** This provision is retained from Order No. R1-2010-0019. The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid stream waste is regulated by 40 C.F.R. parts 257, 258, 501, and 503; and the State Water Board promulgated provisions of title 27, division 2 of the CCR.
- b. Treatment Pond Operating Requirements (Special Provision VI.C.6.C).** This provision includes design, operation, and maintenance requirements necessary to minimize the risk of water quality impacts due to leakage, spills, and structural failure.
- c. New Tenants and Operational Requirements (Special Provision VI.C.6.c).** As described in Order No. R1-2010-0019 tenants are limited by the Permittee to wine, beverage, and food processing businesses. In the ROWD submitted December 15, 2014 the Permittee requested the tenant description be expanded to include processors of high proof alcohol processing and production. Wastewaters from these activities are expected to be similar to that of wineries. Therefore, this Order includes high proof alcohol processing and production as a potential tenant description; however, the Permittee must notify and obtain approval from the Regional Water Board prior to allowing a discharge containing wastewater from a processor of high proof alcohol. The Regional Water Board will evaluate the potential wastewater source to ensure that the quality and quantity is similar to the existing source wastewater. The prohibition

on meat processing businesses, businesses producing or utilizing hazardous wastes, and businesses not generating an organic waste stream, such as vehicle maintenance and light or heavy industry is retained in this Order.

- d. **Storm Water (Special Provision VI.C.6.d).** This provisions is retained from Order No. R1-2010-0019 to ensure that the discharge of storm water from the Facility, including the land application benches, does not transport pollutants from the industrial process wastewaters to surface waters. The Permittee is also covered under the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, for Discharges of Storm Water Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001).
- e. **Hauled Wastewater (Special Provision VI.C.6.e).** The Order includes several requirements meant to ensure that the volume and character of wastewaters accepted by the Permittee are compatible with current onsite wastewater treatment and land application practices.

#### 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

- 1. Influent monitoring requirements at Monitoring Location INF-001 for BOD<sub>5</sub> are retained from Order No. R1-2010-0019 and are necessary to assess the overall performance of the treatment system.
- 2. Influent monitoring requirements for flow at Monitoring Location INF-001 are retained from Order No. R1-2010-0019.
- 3. Influent monitoring, recordkeeping requirements, and random sampling requirements for offsite generated wastewater are retained from Order No. R1-2010-0019. In addition, influent monitoring requirements for BOD<sub>5</sub>, TSS, pH, settleable solids, and total coliform bacteria are retained to ensure that the offsite generated wastes being treated are similar in composition to wastes generated onsite and can be effectively treated with the existing treatment system.

#### B. Effluent Monitoring

- 1. Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Location EFF-001 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.



- a. Effluent monitoring frequencies and sample types for flow, pH, temperature, BOD<sub>5</sub>, TSS, settleable solids, copper, cyanide, zinc, total coliform bacteria, turbidity, nitrate, and ammonia have been retained from Order No. R1-2011-0019 to determine compliance with effluent limitations, where applicable, and characterize the effluent for these parameters.
- b. Order No. R1-2010-0019 included effluent limitations and monitoring requirements for chlorine residual, cadmium, nickel, and selenium. The Permittee does not use chlorine to disinfect the discharge. Although chlorine is used for disinfection by some tenants, it is anticipated that any chlorine residual will dissipate within Lake Davis prior to discharge to Barlow Creek. Monitoring data collected over the term of Order No. R1-2010-0019 indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality criteria for cadmium, nickel, and selenium. Therefore, this Order discontinues effluent monitoring requirements for these constituents.
- c. Monitoring data collected over the term of Order No. R1-2010-0019 demonstrated that the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality criteria for aluminum, electrical conductivity, iron, manganese, MBAS, total dissolved solids, lead, mercury, and thallium. Therefore, this Order establishes weekly monitoring requirements for these constituents at Monitoring Location EFF-001 to determine compliance with the applicable effluent limitations.
- d. This Order includes a prohibition of discharges that exceed one percent of the flow of Barlow Creek. Therefore, this Order requires the Permittee to calculate and report the dilution rate.
- e. This Order includes new effluent monitoring requirements for nitrite and phosphorus in order to determine if the discharge has the reasonable potential to exceed the narrative Basin Plan objective for biostimulatory substances.
- f. As discussed in section IV.C.3 of this Fact Sheet, monitoring data for fecal coliform bacteria is not available to determine if fecal coliform bacteria in the process wastewater has a reasonable potential to cause or contribute to an exceedance of the Basin Plan water quality objective. This Order establishes monitoring requirements for fecal coliform bacteria to provide information to make a reasonable potential determination in the next permit renewal.
- g. Consistent with Order R1-2010-0019, this Order requires effluent monitoring for CTR priority pollutants annually to generate adequate data to perform an RPA.

**C. Whole Effluent Toxicity Testing Requirements**

Whole effluent toxicity (WET) monitoring requirements are retained from Order No. R1-2010-0019 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. Land Discharge Monitoring Requirements**

1. Land discharge monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Locations STG-001 and LND-001 is necessary to demonstrate compliance with land discharge specifications in section IV.B of the Order and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.
2. **Monitoring Location STG-001**
  - a. Monitoring requirements at Monitoring Location STG-001 for BOD<sub>5</sub>, TSS, dissolved oxygen, pH, settleable solids, total coliform bacteria, water depth, and pond freeboard have been retained from Order No. R1-2010-0019 to determine compliance with land discharge specifications, where applicable, and characterize discharges from Lake Davis for these parameters.
  - b. This Order establishes flow monitoring to quantify the amount of wastewater discharged from Lake Davis to land in order to determine compliance with Prohibition III.O of this Order.
  - c. As discussed in section IV.C.3 of this Fact Sheet, monitoring data for fecal coliform bacteria is not available to determine if fecal coliform bacteria in the process wastewater has a reasonable potential to cause or contribute to an exceedance of the Basin Plan water quality objective. This Order establishes monitoring requirements for fecal coliform bacteria to provide information to make a reasonable potential determination in the next permit renewal.
  - d. Land discharge and groundwater monitoring data indicated that discharges of process wastewater to land are contributing to increased concentrations of total dissolved solids and electrical conductivity in the underlying groundwater. Therefore, this Order establishes a land discharge specification for total dissolved solids. This Order establishes monthly monitoring for total dissolved solids and semiannual monitoring for electrical conductivity to determine compliance with the land discharge specification and characterize the process wastewater.
3. **Monitoring Location LND-001**
  - a. Consistent with Order No. R1-2010-0019, this Order includes land discharge specifications for BOD<sub>5</sub>, TSS, pH, and settleable solids applicable to discharges of process wastewater to Bench Nos. 1-7 at Discharge Point 002; however, Order No. R1-2010-0019 only required compliance monitoring for these parameters at Monitoring Location STG-001. Because the Permittee has the ability to discharge to the benches directly from the treatment system without prior storage in Lake Davis, this Order establishes monitoring requirements for these pollutants at Monitoring Location LND-

001 to determine compliance with the land discharge specifications for discharges that do not get stored in Lake Davis prior to land application.

- b. Land discharge and groundwater monitoring data indicated that discharges of process wastewater to land are contributing to increased concentrations of total dissolved solids and electrical conductivity in the underlying groundwater. Therefore, this Order establishes a land discharge specification for total dissolved solids. This Order establishes monthly monitoring for total dissolved solids and electrical conductivity to determine compliance with the land discharge specification for total dissolved solids and characterize the process wastewater for electrical conductivity.
- c. Monitoring data collected at Monitoring Locations LND-001 and STG-001 indicated that the process wastewater discharged to land contains pollutant concentrations exceeding the applicable MCLs and Basin Plan objectives for aluminum, chloride, total coliform bacteria, manganese, thallium, iron, and MBAS, as shown in the following table. However, groundwater monitoring data for some constituents/parameters is insufficient to determine if discharges to land are impacting groundwater. Therefore, this Order establishes monitoring requirements for these parameters at Monitoring Location LND-001 and RGW-001 to RGW-007 to characterize the process wastewater quality and collect sufficient information to determine if the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives in the underlying groundwater.

**Table F-8. Land Discharge Monitoring Data and Water Quality Objectives**

Parameter	Units	Range of Concentrations at Monitoring Locations LND-001 and STG-001	Applicable Objectives	Basis
Aluminum	µg/L	63-2,100	200	Secondary MCL
Chloride	mg/L	16-88	250	Secondary MCL
Total Coliform Bacteria	MPN/100 ml	30-1,600	1.1	Basin Plan
Manganese	µg/L	<7-55	50	Secondary MCL
Thallium	µg/L	<0.5-32	2.0	Primary MCL
Iron	mg/L	1,200-3,300	300	Secondary MCL
MBAS	mg/L	0.49-1.6	0.5	Secondary MCL

- d. Prohibition O of this Order establishes flow monitoring to quantify the amount of wastewater discharged from Lake Davis to land in order to ensure treated process wastewater is not applied to land at a rate exceeding 0.37 mgd on any single day, or at a rate exceeding 0.17 mgd as determined from any consecutive 30-day mean daily flow period.
- e. As discussed in section IV.C.3 of this Fact Sheet, monitoring data for fecal coliform bacteria is not available to determine if fecal coliform bacteria in the process wastewater has a reasonable potential to cause or contribute to an exceedance of the Basin Plan water quality objective. This Order establishes monitoring requirements for total and fecal coliform bacteria to determine if the process wastewater is a source of pathogens in the discharge and provide information to make a reasonable potential determination in the next permit renewal.

- f. Consistent with Order R1-2010-0019, this Order requires effluent monitoring for title 22 pollutants once during the permit term to characterize the discharge
- g. The Permittee discharges to Barlow Creek at Discharge Point 001 as necessary, when large volumes of wastewater jeopardize safe operation of Lake Davis. The Permittee did not discharge to Barlow Creek during the term of Order No. R1-2010-0019. To ensure adequate data is available to conduct an RPA for the next permit renewal, if no discharge occurs during the permit term, this Order requires sampling at Monitoring Location LND-001 during the discharge season (i.e., October 1 through May 14) in the fourth year of the permit term for priority pollutant metals.

**E. Recycling Monitoring Requirements**

1. Monitoring at Monitoring Location REC-001 is necessary to demonstrate compliance with land discharge specifications in section IV.C of the Order and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.
2. Monitoring requirements at Monitoring Location REC-001 for flow, BOD<sub>5</sub>, TSS, pH, chlorine residual, and total coliform bacteria have been retained from Order No. R1-2010-0019 to determine compliance with recycling specifications, where applicable, and characterize the discharge.
3. Land discharge and groundwater monitoring data indicated that discharges of domestic wastewater to land are contributing to increased concentrations of total dissolved solids and electrical conductivity in the underlying groundwater. Therefore, this Order establishes a recycling specification for total dissolved solids. This Order establishes monthly monitoring for total dissolved solids and electrical conductivity to determine compliance with the land discharge specification and characterize the process wastewater.
4. This Order includes new recycling specifications for nitrate because nitrate was found in elevated concentrations in the recycled water (see section IV.G.3.c of this Fact Sheet). Therefore, this Order establishes monitoring of treated domestic wastewater for nitrate to determine compliance with the recycling specification and characterize the impact of the discharge to groundwater.
5. Monitoring data collected at Monitoring Location REC-001 indicated that the domestic wastewater discharged to land contains pollutant concentrations exceeding the applicable MCLs and Basin Plan objectives for aluminum, chloride, nitrite, total coliform bacteria, and manganese, as shown in the following table. However, groundwater monitoring data is not available to determine if discharges to land are impacting groundwater. Therefore, this Order establishes semiannual monitoring requirements for these parameters at Monitoring Location REC-001 and RGW-001 to RWG-007 to characterize the process wastewater quality and collect sufficient information to determine if the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives in the underlying groundwater.

**Table F-9. Land Discharge Monitoring Data and Water Quality Objectives**

Parameter	Units	Range of Concentrations at Monitoring Locations LND-001 and STG-001	Applicable Objectives	Basis
Aluminum	µg/L	<11-1,300	200	Secondary MCL
Chloride	mg/L	53-1,300	250	Secondary MCL
Nitrite	mg/L	<0.4-15	1.0	Primary MCL
Total Coliform	MPN/100 ml	<2-1,600	1.1	Basin Plan
Manganese	µg/L	<7-260	50	Secondary MCL

**F. Receiving Water Monitoring**

**1. Surface Water**

- a. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations.
- b. Monitoring requirements at Monitoring Locations RSW-001 and RSW-002 for dissolved oxygen, pH, turbidity, and hardness have been retained from Order No. R1-2010-0019.
- c. This Order establishes monthly receiving water monitoring for temperature to provide data to properly adjust water quality criteria for ammonia.
- d. This Order establishes upstream receiving water monitoring for flow in Barlow Creek at Monitoring Location RSW-001 to determine compliance with Prohibition III.H of this Order.
- e. This Order establishes annual monitoring for CTR priority pollutants at Monitoring Location RSW-001 to generate adequate data to perform an RPA.

**2. Groundwater**

- a. Groundwater monitoring is required to demonstrate compliance with the Groundwater Limitations. Groundwater monitoring requirements for total dissolved solids, electrical conductivity, dissolved oxygen, pH, nitrate, and groundwater elevation are retained from Order No. R1-2010-0019. Assessing groundwater elevation, gradient and flow direction is also necessary for evaluating potential for migration of off-site sources of salts and nutrients.
- b. As discussed in sections VII.D and VII.E of this Fact Sheet, aluminum, chloride, total coliform bacteria, manganese, nitrite, thallium, iron, and MBAS were present in the process and/or domestic wastewater discharges to land, but groundwater data is not available to determine the impacts of these discharges to groundwater. Therefore, this Order establishes new groundwater monitoring requirements for these pollutants to determine if the discharges are causing degradation of groundwater.
- c. Order No. R1-2010-0019 included groundwater monitoring requirements, in part, based on the Permittee’s Groundwater Monitoring and Reporting Plan. In addition, Order No. R1-2010-0019 required sampling to be performed in September for the dry season and March for the wet season. Specifying the sampling month facilitates compliance determination for Regional Water Board Staff and provides year-to-year data consistency for analysis. The groundwater monitoring requirements, including the locations of wells, are retained from Order No. R1-2010-0019.

- d. Based on a review of groundwater monitoring data collected from the site, total dissolved solids concentrations are consistently higher in down-gradient wells than up-gradient wells at Domestic Bench 1 and Bench 7 (see Fact Sheet section F.3.d). In accordance with the recommendations provided in the December 11, 2013, Technical Memo from Brelje & Race, the Permittee should identify potential sources of elevated total dissolved solids detected in groundwater. Additionally, a salinity assessment work plan is warranted to determine the full horizontal extent of groundwater degradation.
- e. Groundwater monitoring required by this Order will provide important and necessary data to properly manage the impacts of salts and nutrients that may be generated from the facility, on the underlying groundwater. Regional Water Board staff's evaluation of groundwater data in the vicinity of the disposal 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 within 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, prevalent through much of the area, is considered 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. Although discharges from the Facility may be occurring at hydraulic and nitrogen agronomic rates, during the normal irrigation season, there are no recommended agronomic rates for salts and metals.

#### **G. Other Monitoring Requirements**

1. **Visual Monitoring.** This Order establishes visual monitoring requirements to ensure compliance with receiving water limitations in section V of the Order.
2. **Accelerated Monitoring Requirements.** Table E-5 of the MRP includes accelerated monitoring requirements for parameters that are required to be monitored daily, weekly, monthly, and annually.
3. **Flow Monitoring.** Section I.D of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices.
4. **Storm Water.** Monitoring requirements for bench storm water runoff during storm events, prior to discharging to Barlow Creek, and monitoring requirements for determination of solid waste generation, are retained from Order R1-2010-0019.

### **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 for the Sonoma West Holdings, Incorporated, Wastewater Treatment Facility, Plant No. 2. 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/](https://www.waterboards.ca.gov/northcoast/board_decisions/tentative_orders/) and through publication in the **Press Democrat** on **November 3, 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](mailto: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 <http://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 **December 4, 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: **May 17, 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 <http://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 [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](http://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 4:00 p.m.,

Order No. R1-2018-0003  
Sonoma West Holdings, Inc.  
NPDES No. CA0023655

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 Imtiaz-Ali Kalyan at [Imtiaz-Ali.Kalyan@waterboards.ca.gov](mailto:Imtiaz-Ali.Kalyan@waterboards.ca.gov) or (707) 576-2805.



**Attachment F-1 – Sonoma West Holdings Inc. RPA Summary**

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Antimony	µg/L	<	0.5	<	2.6	6	--	--	14	--	6	No
Arsenic	µg/L	--	3.1	<	4.8	10	340	150	--	--	10	No
Beryllium	µg/L	<	0.5	<	0.7	4	--	--	--	--	4.0	No
Cadmium	µg/L	--	0.28	--	0.2	1.0	1.16	1.0	--	--	5.0	No
Chromium (III)	µg/L	--	5.6	<	10	77	647.8	77.2	--	--	--	No
Chromium (VI)	µg/L	--	2.6	--	8.5	11	16	11	--	--	50	No
Copper	µg/L	--	83	--	27	3.3	4.5	3.3	1,300	--	--	Yes
Lead	µg/L	--	7.3	--	5.3	0.69	18	0.69	--	--	--	Yes
Mercury	µg/L	--	0.05	--	0.15	0.05	--	--	0.050	--	2.0	Yes
Nickel	µg/L	--	12	--	12	19	169.4	18.8	610	--	100	No
Selenium	µg/L	<	0.12	--	0.34	5	--	5	--	--	50	No
Silver	µg/L	<	0.19	<	1.2	0.5	0.5	--	--	--	--	No
Thallium	µg/L	--	32	<	0.4	1.7	--	--	1.7	--	2	Yes
Zinc	µg/L	--	130	--	59	43	43.2	43.2	--	--	--	Yes
Cyanide	µg/L	--	5.9	--	6.1	5.2	22	5.20	700	--	150	Yes
Asbestos	MFL	<	5	<	22.4	7	--	--	7	--	7	No
2,3,7,8 TCDD	µg/L	<	4.79E-06	<	4.74E-06	1.3E-08	--	--	1.3E-08	--	3.0E-05	No
Acrolein	µg/L	<	5	<	5	320	--	--	320	--	--	No
Acrylonitrile	µg/L	<	2	<	2	0.059	--	--	0.059	--	--	No
Benzene	µg/L	<	0.5	<	0.5	1	--	--	1.2	--	1.0	No
Bromoform	µg/L	<	0.5	<	0.5	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	<	0.5	<	0.5	0.401	--	--	0.401	--	--	No
Chloroethane	µg/L	<	0.5	<	0.5	No Criteria	--	--	--	--	--	No
2-Chloroethylvinyl ether	µg/L	<	1	<	1	No Criteria	--	--	--	--	--	No
Chloroform	µg/L	--	3.5	<	0.5	No Criteria	--	--	--	--	--	No
Dichlorobromomethane	µg/L	<	0.5	<	0.5	0.56	--	--	0.56	--	--	No
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	--	--	3100	--	300	No
Methyl Bromide	µg/L	<	0.5	<	0.5	48	--	--	48	--	--	No
Methyl Chloride	µg/L	<	0.5	<	0.5	No Criteria	--	--	--	--	--	No

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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	--	44	<	0.3	150	--	--	6,800	--	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	<	4.8	<	0.95	120	--	--	120	--	--	No
2,4-Dichlorophenol	µg/L	<	4.8	<	0.95	93	--	--	93	--	--	No
2,4-Dimethylphenol	µg/L	<	4.8	<	0.95	540	--	--	540	--	--	No
2-Methyl- 4,6-Dinitrophenol	µg/L	<	24	<	4.8	13	--	--	13.4	--	--	No
2,4-Dinitrophenol	µg/L	<	24	<	4.8	70	--	--	70	--	--	No
2-Nitrophenol	µg/L	<	24	<	4.8	No Criteria	--	--	--	--	--	No
4-Nitrophenol	µg/L	<	24	<	4.8	No Criteria	--	--	--	--	--	No
3-Methyl 4-Chlorophenol	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Pentachlorophenol	µg/L	<	0.2	<	4.8	0.28	6	5	0.28	--	1	No
Phenol	µg/L	<	4.8	<	0.95	21,000	--	--	21,000	--	--	No
2,4,6-Trichlorophenol	µg/L	<	4.8	<	0.95	2.1	--	--	2.1	--	--	No
Acenaphthene	µg/L	<	4.8	<	0.95	1,200	--	--	1,200	--	--	No
Acenaphthylene	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Anthracene	µg/L	<	4.8	<	0.95	9,600	--	--	9,600	--	--	No
Benidine	µg/L	<	24	<	4.8	0.00012	--	--	0.00012	--	--	No
Benzo(a)Anthracene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	--	No
Benzo(a)Pyrene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	0.2	No
Benzo(b)FlNoranthene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	--	No
Benzo(ghi)Perylene	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Benzo(k)FlNoranthene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	--	No
Bis(2-Chloroethoxy) methane	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Bis(2-Chloroethyl)Ether	µg/L	<	4.8	<	0.95	0.031	--	--	0.031	--	--	No
Bis(2-Chloroisopropyl) ether	µg/L	<	4.8	<	0.95	1,400	--	--	1,400	--	--	No
Bis(2-Ethylhexyl) phthalate	µg/L	<	9.7	<	1.9	1.8	--	--	1.8	--	4	No
4-Bromophenyl Phenyl Ether	µg/L	<	24	<	4.8	No Criteria	--	--	--	--	--	No
Butylbenzyl Phthalate	µg/L	<	4.8	<	0.95	3,000	--	--	3,000	--	--	No
2-Chloronaphthalene	µg/L	<	4.8	<	0.95	1,700	--	--	1,700	--	--	No
4-Chlorophenyl Phenyl Ether	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No

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Chrysene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	--	No
Dibenzo(a,h)Anthracene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	--	No
1,2-Dichlorobenzene	µg/L	<	0.5	<	0.95	600	--	--	2,700	--	600	No
1,3-Dichlorobenzene	µg/L	<	0.5	<	0.95	400	--	--	400	--	--	No
1,4-Dichlorobenzene	µg/L	<	0.5	<	0.95	5	--	--	400	--	5	No
3,3 Dichlorobenzidine	µg/L	<	9.7	<	1.9	0.04	--	--	0.04	--	--	No
Diethyl Phthalate	µg/L	<	4.8	<	0.95	23,000	--	--	23,000	--	--	No
Dimethyl Phthalate	µg/L	<	4.8	<	0.95	313,000	--	--	313,000	--	--	No
Di-n-Butyl Phthalate	µg/L	<	4.8	<	0.95	2,700	--	--	2,700	--	--	No
2,4-Dinitrotoluene	µg/L	<	4.8	<	0.95	0.11	--	--	0.11	--	--	No
2,6-Dinitrotoluene	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Di-n-Octyl Phthalate	µg/L	<	9.7	<	1.9	No Criteria	--	--	--	--	--	No
1,2-Diphenylhydrazine	µg/L	<	4.8	<	0.95	0.04	--	--	0.04	--	--	No
FlNoranthene	µg/L	<	4.8	<	0.95	300	--	--	300	--	--	No
FlNorene	µg/L	<	4.8	<	0.95	1,300	--	--	1,300	--	--	No
Hexachlorobenzene	µg/L	<	0.01	<	0.95	0.00075	--	--	0.00075	--	1	No
Hexachlorobutadiene	µg/L	<	0.5	<	0.95	0.44	--	--	0.44	--	--	No
Hexachlorocyclopentadiene	µg/L	<	0.05	<	4.8	50	--	--	240	--	50	No
Hexachloroethane	µg/L	<	4.8	<	0.95	1.9	--	--	1.9	--	--	No
Indeno(1,2,3-cd)Pyrene	µg/L	<	4.8	<	0.95	0.0044	--	--	0.0044	--	--	No
Isophorone	µg/L	<	4.8	<	0.95	8.4	--	--	8.4	--	--	No
Naphthalene	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Nitrobenzene	µg/L	<	4.8	<	0.95	17	--	--	17	--	--	No
N-Nitrosodimethylamine	µg/L	<	24	<	4.8	0.00069	--	--	0.00069	--	--	No
N-Nitrosodi-n-Propylamine	µg/L	<	4.8	<	0.95	0.005	--	--	0.005	--	--	No
N-Nitrosodiphenylamine	µg/L	<	4.8	<	0.95	5	--	--	5	--	--	No
Phenanthrene	µg/L	<	4.8	<	0.95	No Criteria	--	--	--	--	--	No
Pyrene	µg/L	<	4.8	<	0.95	960	--	--	960	--	--	No
1,2,4-Trichlorobenzene	µg/L	<	4.8	<	0.95	5	--	--	--	--	5	No
Aldrin	µg/L	<	0.019	<	0.00095	0.00013	3	--	0.00013	--	--	No
alpha-BHC	µg/L	<	0.019	<	0.00095	0.0039	--	--	0.0039	--	--	No
beta-BHC	µg/L	<	0.019	<	0.00095	0.014	--	--	0.014	--	--	No
gamma-BHC	µg/L	<	0.01	<	0.00095	0.019	0.95	--	0.019	--	0.2	No
delta-BHC	µg/L	<	0.019	<	0.00095	No Criteria	--	--	--	--	--	No
Chlordane	µg/L	<	0.1	<	0.00095	0.00057	2.4	0.0043	0.00057	--	0.1	No
4,4'-DDT	µg/L	<	0.019	<	0.00095	0.00059	1.1	0.001	0.00059	--	--	No
4,4'-DDE	µg/L	<	0.019	<	0.00095	0.00059	--	--	0.00059	--	--	No

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4,4'-DDD	µg/L	<	0.019	<	0.00095	0.00083	--	--	0.00083	--	--	No
Dieldrin	µg/L	<	0.01	<	0.00095	0.00014	0.24	0.056	0.00014	--	--	No
alpha-Endosulfan	µg/L	<	0.019	<	0.00095	0.056	0.22	0.056	110	--	--	No
beta-Endosulfan	µg/L	<	0.019	<	0.00095	0.056	0.22	0.056	110	--	--	No
Endosulfan Sulfate	µg/L	<	0.0019	<	0.0019	110	--	--	110	--	--	No
Endrin	µg/L	<	0.0019	<	0.00095	0.036	0.086	0.036	0.76	--	2	No
Endrin Aldehyde	µg/L	<	0.0019	<	0.00095	0.76	--	--	0.76	--	--	No
Heptachlor	µg/L	<	0.00095	<	0.00095	0.00021	0.52	0.0038	0.00021	--	0.01	No
Heptachlor Epoxide	µg/L	<	0.00095	<	0.00095	0.0001	0.52	0.0038	0.0001	--	0.01	No
PCBs sum	µg/L	<	0.19	<	0.019	0.00017	--	0.014	0.00017	--	0.5	No
Toxaphene	µg/L	<	0.38	<	0.0019	0.0002	0.73	0.0002	0.00073	--	3	No
Aluminum	µg/L	--	2,100	--	5,500	200	--	--	--	--	200	Yes
Barium	µg/L	--	44	<	50	1,000	--	--	--	--	1,000	No
Chloride	mg/L	--	88	--	12	250	--	--	--	--	250	No
Fluoride	mg/L	--	0.13	--		2	--	--	--	--	2	No
Iron	µg/L	--	3,300	--		300	--	--	--	--	300	Yes
Manganese	µg/L	--	55	--		50	--	--	--	--	50	Yes
MBAS	mg/L	--	1.6	--		0.5	--	--	--	--	0.5	Yes
Nitrate	mg/L	--	0.96	--	1.1	10	--	--	--	--	10	No
Nitrate + Nitrite	mg/L	--	1.36	--	1.1	10	--	--	--	--	10	No
Nitrite	mg/L	--	0.4	<	0.4	1	--	--	--	--	1	No
Specific Conductance (EC)	umhos/cm	--	1,000	--	270	900	--	--	--	--	900	Yes
Sulfate	mg/L	--	35	--	14	250	--	--	--	--	200	No
Total Dissolved Solids	mg/L	--	1,100	--	200	500	--	--	--	--	500	Yes
Total Trihalomethanes	µg/L	--	3.5	<	0.5	80	--	--	--	--	80	No
Ammonia Nitrogen, Total (as N)	mg/L	=	7.8	=	0.3	1.2	6.77	1.19	--	--	--	Yes