ORDER NO. R1-2016-0015
NPDES NO. CA0025135
(Modified in accordance with Order No. R1-2017-0047 on December 13, 2017)
WDID NO. 1B82046OSON

WASTE DISCHARGE REQUIREMENTS AND WATER RECYCLING REQUIREMENTS

FOR THE

CITY OF HEALDSBURG
WASTEWATER TREATMENT, RECYCLING AND DISPOSAL FACILITY
SONOMA COUNTY

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

Table 1. Permittee Information

Permittee	City of Healdsburg
Name of Facility	City of Healdsburg Wastewater Treatment, Recycling and Disposal Facility
Facility Address	340 Foreman Lane
	Healdsburg, CA 95448
	Sonoma County
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	1.4 million gallons per day (mgd) (average dry weather treatment capacity) 4.0 mgd (peak wet weather treatment capacity)

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Tertiary treated wastewater	38° 34' 48"	122° 51' 48"	Basalt Pond, part of the Russian River
002	Tertiary treated wastewater	--	--	25 million gallon recycled water storage pond

Table 3. Administrative Information

This Order was adopted on:	**June 16, 2016**
This Order shall become effective on:	**August 1, 2016**
This Order shall expire on:	**July 31, 2021**
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:	**November 1, 2020**
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:	Major

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDR) Order No. R1-2010-0034 and Monitoring and Reporting Program (MRP) No. R1-2010-0034, are rescinded upon the effective date of this Order except for enforcement purposes, and in order to meet the provisions contained in division 7 of the California Water Code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 **June 16, 2016, and modified on December 13, 2017.**

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Matthias St. John, Executive Officer

16_0015_City_of_Healdsburg_WWTF_NPDES_Modification

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I. FACILITY INFORMATION

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

II. FINDINGS

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

A. Legal Authorities. This Order is 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 California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

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, III.F, IV.B, IV.C, V.B., and VI.C.5.a of this Order and sections VI, VII, and X.E of the Monitoring and Reporting Program are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Notification of Interested Parties. The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

E. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

III. DISCHARGE PROHIBITIONS

A. The discharge of any waste not disclosed by the Permittee and not within the reasonable contemplation of the Regional Water Board is prohibited.

B. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

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

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

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

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

G. The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.

H. The average dry weather flow of waste through the Facility shall not exceed 1.4 mgd, measured daily and averaged over a calendar month. The peak daily wet weather flow of waste through the Facility shall not exceed 4.0 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections VII.K and VII.L of this Order.

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

J. During the period from October 1 through May 14, discharges of treated wastewater to Basalt Pond, part of the Russian River, shall not exceed one percent of the flow of the Russian River, as measured by the sum of flows at United States Geological Survey (USGS) Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth.[1] For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

1. The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement

[1] When flows in Dry Creek exceed 200 cfs, a flow of 200 cfs in Dry Creek shall be used in the calculation of the sum of flows in the Russian River.

of the Russian River.[2] Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,

2. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River 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 based on the first day of the calendar month to the date when the discharge ceased for the season.

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

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. The discharge of tertiary 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

Parameter	Units	Effluent Limitations[1]				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--
pH	s.u.	--	--	--	6.5	8.5
Ammonia Nitrogen, Total (as N)	mg/L	0.19	--	0.53	--	--

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

b. Percent Removal. The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.

[2] An alternative flow gauging location may be established if it is determined that measurements at an alternative location are more representative of conditions at the point of discharge. In the event that a new gauge station is established, the Monitoring and Reporting Program will be modified to identify the new flow monitoring gauge.

c. Disinfection. Disinfected effluent discharged from the Facility through Discharge Point 001 to Basalt Pond shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001:

i. The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (mL), using the bacteriological results of the last 7 days for which analysis have been completed[3];

ii. The number of coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period; and

iii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

d. Acute Toxicity. There shall be no acute toxicity in treated wastewater discharged to Basalt Pond. 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).

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 – Not Applicable

This Order does not authorize discharges of waste to land.

C. Water Recycling Specifications and Requirements – Discharge Point 002

1. Water Recycling Specifications

a. The Permittee shall maintain compliance with the following limitations at Discharge Point 002, with compliance measured at Monitoring Location REC-001, as described in the attached MRP.

Table 5. Recycling Discharge Specifications

Parameter	Units	Discharge Specifications[1]				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--
pH	s.u.	--	--	--	6.0	9.0

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

[3] See section VII.H of this Order regarding compliance with bacteriological limitations.

b. Disinfection. Disinfected effluent discharged from the Facility to the 25 million gallon recycled water storage pond at Discharge Point 002 shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location REC-001:

i. The median concentration shall not exceed an MPN of 2.2 per 100 milliliters, using the bacteriological results of the last 7 days for which analysis have been completed;

ii. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters, in more than one sample in any 30-day period; and

iii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

2. Water Recycling Requirements

a. The Permittee shall comply with applicable state and local requirements regarding the production of recycled water, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and State Water Board, Division of Drinking Water (DDW) regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria). By the effective date of this Order, the Permittee will be enrolled under the State Water Resources Control Board General Waste Discharge Requirements for Recycled Water Use, Order WQ 2014-0090-DWQ for the use of recycled water.

D. Other Requirements

1. Filtration Process Requirements

a. Filtration Rate. The rate of filtration through the tertiary filters, as measured at Monitoring Location INT-001A, shall not exceed five (5) gallons per minute per square foot of surface area or other filtration rates authorized in writing by the Regional Water Board Executive Officer and under conditions recommended by DDW.

b. Turbidity. The effluent from the advanced wastewater treatment process filters shall at all times be filtered such that the filtered effluent does not exceed any of the following specifications at Monitoring Location INT-001B prior to discharge to the disinfection unit:

i. 0.2 NTU more than 5 percent of the time during any 24-hour period; and

ii. 0.5 NTU at any time.

c. Filtered effluent in excess of the turbidity specifications shall not enter the recycling distribution system. Filtered effluent in excess of turbidity specifications shall be automatically diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in section IX.A.1.c of the MRP (Attachment E).

2. Disinfection Process Requirements

The Permittee shall operate the ultraviolet light (UV) disinfection system in accordance with the operating protocol and technical and administrative requirements set out by DDW in order to ensure compliance with disinfection effluent limitations specified in section IV.A.1.b

and disinfection water recycling specifications in section IV.C.1.c of this Order. Specifically, the Permittee shall:

a. Disinfect tertiary treated wastewater using a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. At a minimum, the Permittee shall demonstrate a 99.99 percent removal and/or inactivation of MS2 through the UV disinfection system only.

b. Provide continuous, reliable monitoring of flow, UV transmittance, UV intensity, UV dose, and UV power at Monitoring Location INT-002, and turbidity at Monitoring Location INT-001B. The Permittee must demonstrate compliance with the UV dose requirement.

c. Operate the UV disinfection system to provide a minimum UV dose of 80 millijoules per square centimeter (mJ/cm^2) at all times at Monitoring Location INT-002, unless otherwise approved by DDW.

d. Ensure that the UV transmittance (at least 254 nanometers) in the wastewater does not fall below 65 percent of maximum at any time, unless otherwise approved by DDW.

e. Visually inspect the quartz sleeves and cleaning system components per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and check the efficacy of the cleaning system.

f. Wipe/Clean the quartz sleeves at least every 24 hours following the manufacturer's procedures to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be increased as necessary to ensure compliance with permit requirements such as UV dose and total coliform organism requirements.

g. Operate the UV disinfection system in accordance with an approved operations and maintenance plan, which specifies clearly the operational limits and responses required for critical alarms. The Permittee shall maintain a copy of the approved operations plan at the treatment plant and make the plan readily available to operations personnel and regulatory agencies. The Permittee shall post a quick reference plant operations data sheet at the treatment plant. The data sheet shall include the following information:

  i. The alarm set points for secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power.

  ii. The values of secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power when flow must be diverted to waste.

  iii. The values of high daily and weekly median total coliform when an operational response must be taken.

  iv. The required frequency of calibration for all meters measuring turbidity, flow, UV transmittance, and power.

  v. The required frequency of mechanical cleaning/wiping and equipment inspection.

  vi. The UV lamp age tracking procedures and replacement intervals.

h. Replace lamps every 9,000 hours of operation, or sooner, if there are indications that the lamps are failing to provide adequate disinfection. The Permittee shall maintain lamp age and lamp replacement records for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, Section IV).

i. Properly calibrate flow meters and UV transmittance (UVT) monitors to ensure proper disinfection.

j. Inspect the UVT meter and check against a reference bench-top unit weekly to document accuracy.

k. Recalibrate the on-line UVT analyzer by a procedure recommended by the manufacturer if the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2 percent or more.

l. Operate the UV disinfection system with a built-in automatic reliability feature that must be triggered when the system is below the target UV dose. If the measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available row of UV lamps or UV lamp bank.

m. Not allow equivalent or substitutions of equipment to occur without an adequate demonstration of equivalent disinfection performance to the satisfaction and approval of DDW.

n. Ensure that flow through the UV disinfection system not exceed 1.4 mgd as a daily average and 4.0 mgd as a daily maximum, unless otherwise approved by DDW.

3. Storage Ponds. The Permittee shall construct ponds used for the storage of recycled water in a manner that protects groundwater. Prior to construction or use of any new wastewater storage ponds, the Permittee shall submit to the Regional Water Board Executive Officer for review and approval, a technical report that includes design proposals and a technical evaluation that demonstrates that the pond design complies with the Water Code and title 27 of the California Code of Regulations. Pond design and operation plans must include features and best management practices (BMPs) to protect groundwater and prevent exceedances of groundwater quality objectives.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

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

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less

than 7.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.

2. The discharge shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.

3. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.

4. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

5. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

6. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

7. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.

8. The discharge shall not cause bottom deposits 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 shall not cause a statistically significant 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 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 use of wastewater or 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, recycling 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 components, breach of pond containment, recycled water main break or equivalent release, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such non-compliance. Spill notification and reporting shall be conducted in accordance with Section V.E of Attachment D and X.E of the Monitoring and Reporting Program.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. Standard Revisions. If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.

b. Reasonable Potential. This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.

c. Whole Effluent Toxicity. As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a 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, with the exception of copper, for which a site-specific WER of 6.39 has been used, as further described in section IV.C.3.c of the Fact Sheet. In addition, default

dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable for the reasonable potential analysis for copper. This Order may be reopened to modify effluent limitations for applicable CTR constituents, if the Permittee performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits documentation that WER or translator studies were performed in accordance with U.S. EPA or other approved guidance.

f. Nutrients. This Order contains effluent limitations for ammonia and effluent monitoring for nutrients (ammonia, nitrate, and phosphorus). If new water quality objectives for nutrients are established, if monitoring data indicate the need for new or revised effluent limitations for any of these parameters, or if new or revised methods for compliance with effluent limitations for any of these parameters are developed, this Order may be reopened and modified to include new or modified effluent limitations or other requirements, as necessary.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Ammonia Study. The Permittee shall conduct a study to determine the presence of freshwater mussels in the receiving water to support implementation of the water quality criteria for ammonia in the April 2013 *Aquatic Life Ambient Water Quality for Ammonia – Freshwater 2013* (EPA-822-R-13-001). The Permittee may conduct literature searches of historical mussel surveys and/or conduct a site-specific mussel survey to evaluate the presence/absence of mussels in the receiving water. The study shall be conducted in accordance with the August 2013 *Technical Support Document for Conducting and Reviewing Freshwater Mussel Occurrence Surveys for the Development of Site-Specific Water quality Criteria for Ammonia* (EPA-800-R-13-003). The Permittee shall submit a work plan for conducting the study by **February 1, 2019**. The study shall be initiated within 3 years of the permit effective date and a final report summarizing the results of the study shall be submitted by the Regional Water Board in conjunction with the Report of Waste Discharge by **November 1, 2020**.

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); and

(b) A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL), using definitions described in Attachment A and reporting protocols described in MRP section X.B.5.

ii. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be submitted as part of the Annual Facility Report due **March 1st** to the Regional Water Board and shall include:

(1) All PMP monitoring results for the previous year;

(2) A list of potential sources of the reportable pollutant(s);

(3) A summary of all actions undertaken pursuant to the control strategy; and

(4) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. This Order (Attachment D, Standard Provision I.D) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.

b. The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Permittee shall operate and maintain the Facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following.

i. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.

ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

iii. Description of laboratory and quality assurance procedures.

iv. Process and equipment inspection and maintenance schedules.

v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.

vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

c. Standard Operating Procedures (SOPs) for Chlorine Usage. The Permittee shall maintain SOPs for the use of chlorine at the Facility, including maintenance cleaning and clean-in-place practices of the filter membranes, to control and abate the discharge of chlorine to the receiving water. The Permittee shall update the SOPs as needed and report any changes to the SOPs or changes in chlorine usage in the Annual Facility Report (due **March 1st** to the Regional Water Board). The Permittee shall operate the Facility in accordance with the most recently updated SOPs for the use of chlorine at the Facility. The Permittee shall report any chlorine spills at the Facility in accordance with section VI.A.2.b of this Order.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems

i. Statewide General WDRs for Sanitary Sewer Systems

The Permittee has coverage under, and is separately subject to, the requirements of State Water Board Order No. 2006-003-DWQ, Statewide General WDRs for Sanitary Sewer Systems, as amended by Order No. WQ 2013-0058-EXEC. As such, the Permittee provides notification and reporting of SSOs in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any revisions thereto for operation of its wastewater collection system.

b. Source Control and Pretreatment Provisions

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

(a) Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.

(b) If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or Facility.

(c) Industrial Waste Survey (IWS)

(1) The Permittee shall conduct an IWS of all the industrial users (IUs) in the service area of the Facility to determine whether any IUs are subject

to pretreatment standards specified in 40 C.F.R. part 403. The Permittee shall also perform a priority pollutant scan[4] of the influent to the Facility. At a minimum, the IWS must identify the following for each industrial user and zero-discharging categorical industrial user: whether it qualifies as a significant user; the average and peak flow rates; the SIC code; any pretreatment being implemented by each industrial user; and whether or not the Permittee has issued a permit to any of the identified industrial users. The IWS and priority pollutant monitoring is required during the 12-month period that begins on **January 1, 2018**.

(2) The results of the IWS and priority pollutant monitoring shall be submitted to the Regional Water Board in a written report no later than **March 1, 2019**. The written report shall include a certification report indicating whether the Facility receives pollutants from any IU that would require the Permittee to establish a pretreatment program in accordance with 40 C.F.R. part 403.

(d) Perform public outreach to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the wastewater treatment plant, at least once per year.

(e) Perform on-going inspections and monitoring, as necessary, to ensure adequate source control.

ii. In the event that the Permittee identifies industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the wastewater treatment plant, or the Regional Water Board or its Executive Officer determines that circumstances warrant pretreatment requirements in order to prevent interference [40 C.F.R. §403.3(j)] with the wastewater treatment Facility or Pass Through [40 C.F.R. §403.3(n)], then:

(a) The Permittee shall notify the Regional Water Board **within 30 days** after there are discharges that trigger the pretreatment requirements;

(b) The Permittee shall submit a revised ROWD and the pretreatment program for the Regional Water Board's review and approval as soon as possible, but **not more than one year after the Permittee's notification** to the Regional Water Board of the need for pretreatment requirements being triggered;

(c) The Permittee shall enforce the federal categorical pretreatment standards on all categorical industrial users (CIUs);

(d) The Permittee shall notify each CIU of its discharge effluent limits. The limits must be as stringent as the pretreatment standards contained in the applicable federal category (40 C.F.R. Part 400-699). The Permittee may

[4] The priority pollutant scan shall include California Toxics Rule (CTR) and title 22 pollutants. CTR pollutants are those pollutants identified in the California Toxics Rule at 40 C.F.R. section 131.38, and title 22 pollutants are those pollutants for which DDW has established MCLs at title 22, division 4, chapter 15, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals) of the CCR. Duplicate analyses are not required for pollutants that are identified as CTR and title 22 pollutants.

develop more stringent, technology-based local limits if it can show cause; and

(e) The Permittee shall notify the Regional Water Board if any CIU violates its discharge effluent limits.

iii. The Regional Water Board retains the right to take legal action against an industrial user and/or the Permittee where a user fails to meet the approved applicable federal, state, or local pretreatment standards.

iv. The Regional Water Board may amend this Order, at any time, to require the Permittee to develop and implement an industrial pretreatment program pursuant to the requirements of 40 C.F.R. Part 403 if the Regional Water Board finds that the Facility receives pollutants from an IU that is subject to pretreatment standards, or if other circumstances so warrant.

c. Sludge Disposal and Handling Requirements

i. Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

ii. All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and state regulations.

iii. The use and disposal of biosolids shall 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. The Permittee shall ensure that any biosolids it has land applied is incorporated within six hours in order to meet Vector Attraction Reduction requirements in 40 C.F.R. 503.33.

v. 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.

vi. 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.

vii. 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.

viii. 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.

ix. The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the state.

d. Biosolids Management

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

i. For the land application of biosolids as soil amendment within the North Coast region, the Permittee shall obtain or maintain coverage under the State Water Board Water Quality Order No. 2004-0012-DWQ General Waste Discharge Requirements for the Discharge of Biosolids to Land or Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities, or

ii. Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.

iii. New sludge treatment and storage facilities must comply with the requirements of the Water Code and title 27 of the CCR for the protection of water quality.

e. Operator Certification

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

f. Adequate Capacity

If the Facility will reach capacity within 4 years, the Permittee shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Permittee shall demonstrate that adequate steps are being taken to address the capacity problem. The Permittee shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, **within 120 days after providing notification to the Regional Water Board**, or within 120 days after receipt of Regional Water Board notification that the Facility will reach capacity within 4 years.

The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR title 23, section 2232].

6. Other Special Provisions

a. Storm Water

For the control of storm water discharge from the Facility, if required, the Permittee shall seek separate authorization to discharge under the requirements of the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

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

7. Compliance Schedules – Not Applicable

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

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 analyses.

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 X.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 X.B, above.

E. Maximum Daily Effluent Limitation (MDEL)

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

F. Instantaneous Minimum Effluent Limitation

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

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the

required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

G. Instantaneous Maximum Effluent Limitation

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

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

H. Bacteriological Limitations (Total Coliform)

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

I. Acute Toxicity Limitations

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

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

K. Average Dry Weather Flow

Compliance with the average dry weather flow prohibition in section III.H of this Order will be determined once each calendar year by evaluating all flow data collected in a calendar year. The flow through the facility, measured daily and averaged monthly, must be 1.4 mgd or less for the month with the lowest average monthly flow.

L. Peak Daily Wet Weather Flow

The peak daily wet weather flow is the maximum flow rate that occurs over a 24-hour period. Compliance with the peak daily wet weather flow prohibition in section III.H of this Order will be determined daily by measuring the daily average flow at Monitoring Point INF-001. If the measured daily average flow exceeds 4.0 mgd, the discharge is not in compliance with Prohibition III.H of this Order.

ATTACHMENT A – DEFINITIONS

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

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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

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

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

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.

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

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

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

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

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

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

Inland Surface Waters
All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

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

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

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

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

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

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

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

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 ML (and its associated analytical method) used for reporting and compliance determination. 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.

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

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

Standard Deviation (σ)
A measure of variability that is calculated as follows:

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

where:

x is the observed value;

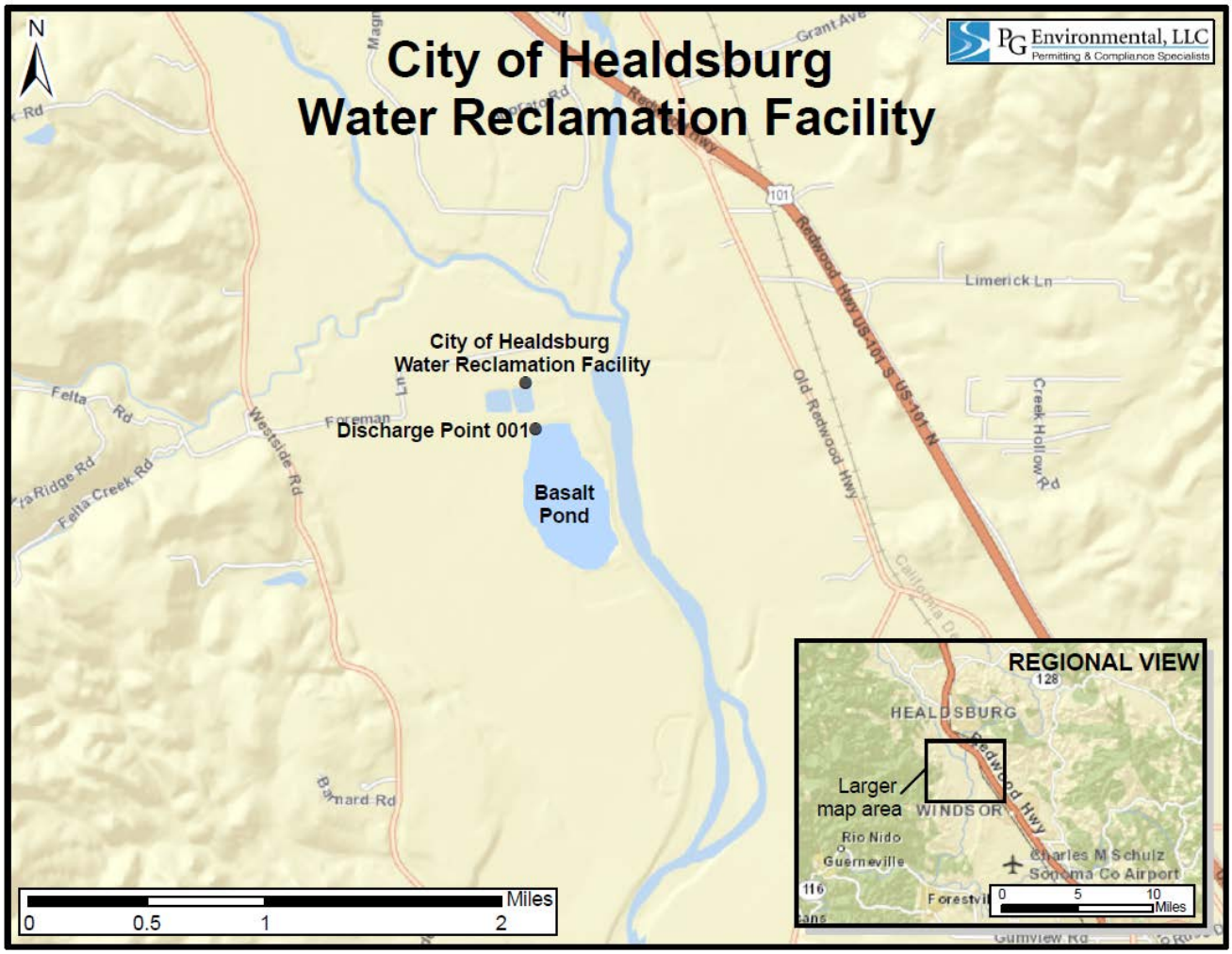
μ is the arithmetic mean of the observed values; and

n is the number of samples.

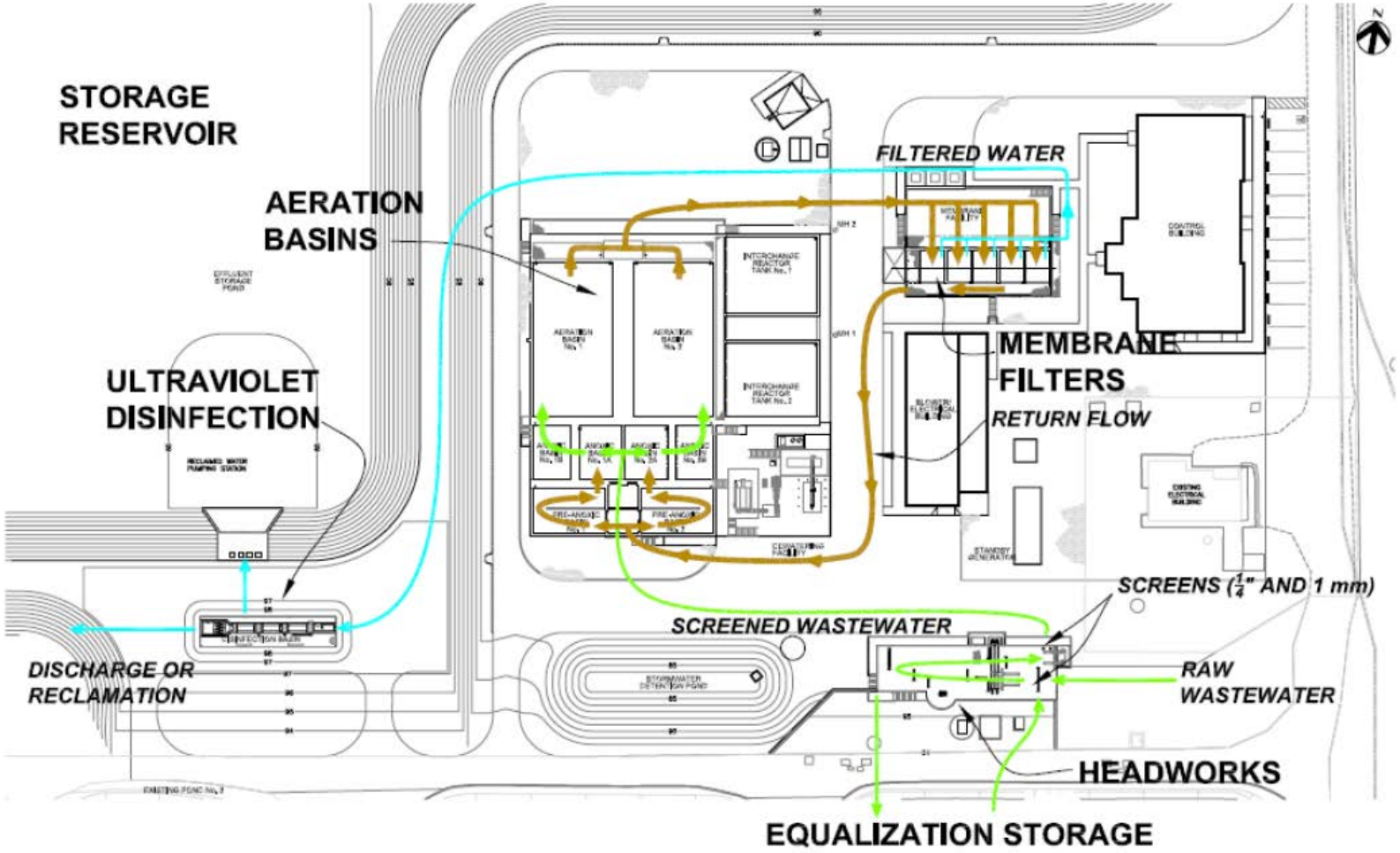
Toxicity Reduction Evaluation (TRE)
A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps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

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

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

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 (40 C.F.R. § 122.41(i); Wat. Code, § 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 (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); 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. (40 C.F.R. § 122.41(i)(4).)

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 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. 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 either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

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 of sludge use or disposal practices. (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. 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).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order (40 C.F.R. § 122.42(b)(2)).

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3))

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Contents

Tables

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. Data Quality Assurance Provision. Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW) in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.

D. Instrumental 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). Compliance and reasonable potential monitoring analyses shall be conducted using detection limits that are lower than the applicable effluent limitations and/or water quality criteria. If no Minimum Level (ML) value is below these levels, the lowest ML shall be selected as the Reporting Level (RL). Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) lists the test methods the Permittee may use for reasonable potential monitoring to analyze priority pollutants.

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	Influent at the headworks of the wastewater treatment facility (WWTF) prior to treatment.
--	INT-001A	Location for monitoring the surface loading rate through the advanced wastewater treatment (AWT) filters.
--	INT-001B	Treated effluent immediately following the AWT process for monitoring AWT turbidity.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INT-002	Location for monitoring ultraviolet light (UV) radiation dose and UV transmittance of the UV disinfection system.
001	EFF-001[1]	Treated effluent from the WWTF after disinfection but prior to discharge to Basalt Pond.
002	REC-001[1]	Treated effluent from the WWTF after disinfection but prior to discharge to the 25 million gallon recycled water storage pond.
--	RSW-001	Ambient receiving water monitoring location. Samples shall be representative of conditions in Basalt Pond following introduction and mixing of effluent from the Facility. Samples shall be collected from a representative location on the western side of Basalt Pond, approximately 25 to 50 feet from the discharge outfall and the shore, or at another location approved by the Regional Water Board Executive Officer. If the Permittee wants to monitor the receiving water at an alternate location, a written proposal justifying the change must be submitted to the Regional Water Board Executive Officer for review and approval.
--	BIO-001	A representative sample of the sludge or biosolids generated when removed for disposal.

Table Notes:
1. Monitoring Locations EFF-001 and REC-001 are the same location, the sampling point at the effluent end of the UV disinfection system. Different discharge point names and monitoring location names have been assigned due to differences in monitoring requirements at Discharge Points 001 (discharge to Basalt Pond) and 002 (discharge to 25 million gallon recycled water storage pond).

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Influent Flow[2]	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	24-hr Composite	Weekly	Standard Methods
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly	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 month, the Permittee shall report average daily and average monthly flows.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Permittee shall monitor effluent to be discharged to Basalt Pond prior to contact with the receiving water at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Effluent Flow[2,3]	mgd	Meter	Continuous	--
Dilution Rate	% of stream flow	Calculation	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	24-hr Composite	Weekly[4]	Standard Methods
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly[4]	Standard Methods
pH	s.u.	Grab	Weekly[4,5]	Standard Methods
Temperature	°C	Grab	Weekly[5]	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly[4]	Standard Methods
Hardness, Total (as $CaCO_3$)[6]	mg/L	Grab	3X/5 years	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	Monthly[7]	Standard Methods
Ammonia Nitrogen, Unionized	mg/L	Calculation	Monthly	Standard Methods
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants[8]	µg/L	24-hour composite[9]	3X/5 years	Standard Methods[10,11]
Acute Toxicity[12]	% Survival, Pass or Fail, and % Effect	24-hour composite	Quarterly	See Section V below
Chronic Toxicity[12]	Pass or Fail, and % Effect	24-hour composite	Annually	See Section V below

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]

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 month, the Permittee shall report the daily average and monthly average flows.
3. Effluent flow is measured at a point that is downstream of the membrane filters and upstream of the UV disinfection system.
4. 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.
5. pH and temperature monitoring must coincide with monthly monitoring for ammonia.
6. Effluent and receiving water hardness samples shall be collected concurrently with effluent CTR Priority Pollutant samples.
7. Accelerated Monitoring (monthly monitoring frequency). If a test result exceeds an effluent limitation the Permittee shall take two more samples, one within 14 days and one within 21 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.
8. 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.
9. CTR pollutant samples shall be collected using 24-hour composite sampling, except for pollutants that are volatile.
10. 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.
11. In order to verify bis (2-ethylhexyl) is truly present in the effluent discharge, the Permittee shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
12. Whole effluent acute and chronic toxicity shall be monitored in accordance with the requirements of section V of this Monitoring and Reporting Program.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

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

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-43, above.

2. **Discharge In-stream Waste Concentration (IWC) for Acute Toxicity.** The IWC for this discharge is 100 percent effluent.[1]

3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

4. **Freshwater Test Species and Test Methods.** The Permittee shall conduct the following acute toxicity tests in accordance with species and test methods in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*

[1] The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-001.

(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_o) for the TST approach is: Mean discharge IWC response ≤ 0.80 × 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: ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 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-43, above.

2. **Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC for this discharge is 100 percent effluent.[2]

3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the

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

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 24-hour composite 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 non-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_o) for the TST approach is: Mean discharge IWC response ≤ 0.75 × 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: ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 100.

   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 ≥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. The SMR shall include a full laboratory report for the month that chronic toxicity monitoring was performed (WET report). 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) 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);

(c) Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;

(d) Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;

(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:

"Percent Effect" (or Effect, in %) = ((Control mean response – IWC mean response) ÷ Control mean response)) x 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 (±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.

C. Toxicity Reduction Evaluation (TRE) Process

1. TRE Work Plan. The Permittee submitted a TRE Work Plan to the Regional Water Board in January 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.8, above, does not comply with the three sample median minimum limitation (90 percent survival) or in section V.B.8, above, results in "Fail", the Permittee shall immediately initiate a TRE using, according to the type of treatment facility, EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and within 30 days submit of receipt of the accelerated monitoring result to the Regional Water Board Executive Officer a Detailed TRE Work Plan, which shall follow the generic TRE Work Plan revised as appropriate for the toxicity event described in section V.A.8 or V.B.8 of this MRP. The Detailed TRE Work Plan shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:

a. Further actions by the Permittee to investigate, identify, and correct causes of toxicity.

b. Actions the Permittee will take to mitigate effects of the discharge and prevent the recurrence of toxicity.

c. A schedule for these actions, progress reports, and the final report.

3. TIE Implementation. The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test methods and, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96- 054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

4. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

5. The Permittee shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.

6. The Regional Water Board recognizes that toxicity may be episodic and identification of the causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges of waste to land.

VII. RECYCLING MONITORING REQUIREMENTS

A. Monitoring Location REC-001

1. The Permittee shall monitor treated, disinfected wastewater that will be recycled prior to discharge to the 25 million gallon recycled water storage pond at Monitoring Location REC-001 as follows:

Table E-4. Recycled Water Monitoring – Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Effluent Flow[2]	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Weekly	Standard Methods
pH	s.u.	Grab	Weekly	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Daily	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 month, the Permittee shall report the daily average and monthly average flows.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001

1. The Permittee shall monitor ambient conditions in Basalt Pond at Monitoring Location RSW-001 during periods of discharge to Basalt Pond as follows:

Table E-5. Receiving Water Monitoring – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow[2]	mgd	Meter	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	Grab	Monthly	Standard Methods
pH	s.u.	Grab	Monthly[3]	Standard Methods
Hardness, Total (as $CaCO_3$)[4]	mg/L	Grab	3X/5 years	Standard Methods
Temperature	°C	Grab	Monthly[3]	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants[5]	µg/L	Grab	Once per permit term	Standard Methods[6]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]

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. The flow rate shall be determined using the sum of the flows at United States Geological Survey (USGS) Gauge No. 11-4640-00 in the Russian River near Healdsburg and USGS Gauge No. 11-4653.50 in Dry Creek near its mouth.
3. pH and temperature monitoring must coincide with monthly effluent monitoring for ammonia.
4. Hardness samples shall be collected concurrently with effluent CTR Priority Pollutants samples.
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 the first effluent monitoring for CTR priority pollutants required by section IV.A of this MRP.
6. Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result.

B. Groundwater Monitoring – Not Required

This Order does not require groundwater monitoring at this time.

IX. OTHER MONITORING REQUIREMENTS

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

Filtration process monitoring shall demonstrate compliance with section IV.D.1 (Filtration Process Requirements) of the Order and applies to all treated wastewater flows. The Permittee is required to implement the following filtration process monitoring:

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

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

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

c. Reporting. The maximum daily filter surface loading rate shall be reported on the monthly SMR.

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

a. Monitoring. The turbidity of the filtered effluent shall be continuously measured and recorded at Monitoring Location INT-001B. Should the turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours. The recorded data shall be maintained by the Permittee for at least 3 years. The daily maximum and 95th percentile turbidity results shall be reported on the monthly SMRs.

b. Compliance. Compliance with the effluent turbidity limitation specified in the title 22, as referenced in section IV.D.1.b of the Order, shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period.

c. Reporting. If the filtered effluent turbidity exceeds 0.2 NTU for more than 5 percent of the time in a 24-hour period or 0.5 NTU at any time, the incident shall be reported in the monthly SMR and to the Regional Water Board and DDW by telephone within 24 hours in accordance with Provision VI.A.2.b of the Order, only if the effluent was sent to the 25 million gallon storage pond or discharged to Basalt Pond. A written report describing the incident and the actions undertaken in response shall be included in the monthly SMR. Mitigation of the event shall consist of diverting all inadequately treated wastewater to temporary storage or an upstream process or automatically activated chemical addition to comply with title 22 requirements (sections 60304 and 60307).

B. Disinfection Process Monitoring for UV Disinfection System (Monitoring Location INT-002)

1. Monitoring Location INT-002

a. Monitoring. The UV transmittance of the effluent from the UV disinfection system shall be monitored continuously and recorded at Monitoring Location INT-002. The operational UV dose shall be calculated from UV transmittance and flow.

b. Compliance. The UV transmittance shall not fall below 65 percent of maximum at any time, unless otherwise approved by DDW. The operational UV dose shall not fall below 80 millijoules per square centimeter (mJ/cm^2) at any time, unless otherwise approved by DDW. Flow through the UV disinfection system shall not exceed 4.0 mgd, unless otherwise approved by DDW.

c. Reporting. The Permittee shall report daily average and lowest daily transmittance and operational UV dose on its monthly SMRs. The Permittee shall report daily average and maximum flow through the UV disinfection system. If the UV transmittance falls below 65 percent or UV dose falls below 80 mJ/cm^2, the event shall be reported to the Regional Water Board by telephone within 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

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

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

D. Sludge Monitoring (Monitoring Location BIO-001)

1. Sludge sampling shall be conducted according to the requirements specified by the location and type of disposal activities undertaken.

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

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (https://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 monthly SMRs including the results of all required monitoring using U.S. EPA approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the 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-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	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)
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January through March April through June July through September October through December	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year (with annual report)
3X/5 years	Permit effective date	All	March 1 following the year that monitoring is completed (with annual report) with last data to be submitted at least 180 days prior to permit expiration
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

Table Notes:
1. Quarterly monitoring periods are as follows: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.

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

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

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

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

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± 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 (https://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 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 https://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. Electronic submittal of DMRs will be in addition to electronic submittal of SMRs. 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). Information about electronic submittal of DMRs is available at the Discharge Monitoring Report web site at https://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-7. Reporting Requirements for Special Provisions Reports

Order Section	Special Provision Requirement	Reporting Requirements
Special Provision VI.C.2.a	Ammonia Study Work Plan	**February 1, 2019**
Special Provision VI.C.2.a	Ammonia Study Final Report	**September 1, 2020**
Special Provision VI.C.3.a.i	Pollutant Minimization Program	If required by the Executive Officer
Special Provision VI.C.3.a.ii(e)	Pollutant Minimization Program, Annual Facility Report	**March 1**, annually, following development of Pollutant Minimization Program
Special Provision VI.C.5.b.i	Source Control and Pretreatment Provisions, Annual Report	**March 1,** annually
Special Provision VI.C.5.b.i.(c)	Source Control and Pretreatment Provisions, Industrial Waste Survey and Priority Pollutant Monitoring Results	**March 1, 2019**
Special Provision VI.C.5.b.ii(a)	Source Control and Pretreatment Provisions, Notification of Discharges that Trigger Pretreatment Requirements	**Within 30 days** of discharges that trigger pretreatment requirements
Special Provision VI.C.5.b.ii(b)	Source Control and Pretreatment Provisions, Revised Report of Waste Discharge and Pretreatment Program	**Within 1 year** of discharges that trigger pretreatment requirements
Special Provision VI.C.5.f	Adequate Capacity, Technical Report	**Within 120 days** of notification that the Facility will reach capacity within 4 years
MRP Effluent Monitoring Requirement V.C.2	Detailed TRE Work Plan	**Within 30 days** of an accelerated monitoring test that results in "Fail"

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 X.B.6.c., above. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:

   a. Both tabular and/or graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 C.F.R. part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.

   b. A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.

c. The names and general responsibilities of all persons employed at the Facility;

d. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations; and

e. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

f. Source Control Activity Reporting. The Permittee shall submit, as part of its Annual Report to the Regional Water Board, a description of the Permittee's source control activities, as required by Special Provision VI.C.5.b.i, during the past year. This annual report is due on March 1st of each year, and shall contain:

i. A copy of the source control standards, including a table presenting local limits.

ii. A description of the waste hauler permit system; if applicable.

iii. A summary of the compliance and enforcement activities taken by the Permittee during the past year, which ensures industrial user compliance. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Permittee, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.

iv. An updated list of industrial users (by North American Industrial Classification/Standard Industrial Classification categories) which were issued permits and/or enforcement orders, and a status of compliance for each user.

v. The name and address of each user that received a discharge limit.

vi. A summary of any industrial waste survey results.

vii. A summary of public outreach activities to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the Facility.

g. Sludge Handling and Disposal Activity Reporting. The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous 12 months. At a minimum, the report shall contain:

i. Annual sludge production, in dry tons and percent solids;

ii. Sludge monitoring results;

iii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram;

iv. Methods of final disposal of sludge:

(a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.

(b) For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where

biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.

(c) For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

v. Results of internal or external third-party audits of the Biosolids Management System, including reported program deficiencies and recommendations, required corrective actions, and a schedule to complete corrective actions.

h. Storm Water Reporting. The Permittee shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee's BMPs to control the run-on of storm water to the treatment facility site, as well as activities to maintain and upgrade these BMPs.

i. Chlorine Usage. The Permittee is required to update the SOPs as needed and report any changes to the SOPs or change in chlorine usage. If there have been no changes to the SOPs or chlorine usage, the Permittee shall report that no changes have been made in the annual report.

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[3] 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;

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

f. Cleanup actions taken or repairs made at the time of the notification; and

g. Responding agencies.

2. Sanitary Sewer Overflows. Notification and reporting of sanitary sewer overflows is conducted in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems), which is not incorporated herein by reference, and any revisions thereto.

3. Recycled Water Spills. Notification and reporting of spills and unauthorized discharges of recycled water discharged in or on any waters of the state, as defined in Water Code section 13050, shall be conducted in accordance with the following:

a. Tertiary Recycled Water[4]

i. For unauthorized discharges of 50,000 gallons or more of tertiary recycled water, the Permittee shall immediately notify the Regional Water Board as soon as (a) the Permittee has knowledge of the discharge or probable discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures.

ii. For unauthorized discharges of more than 1,000 gallons, but less than 50,000 gallons of tertiary recycled water, the Permittee shall notify the Regional Water Board as soon as possible, but no longer than 3 days after becoming aware of the discharge.

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

ATTACHMENT F – FACT SHEET

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Tables

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

WDID	1B82046OSON
Permittee	City of Healdsburg
Name of Facility	Water Treatment, Recycling and Disposal Facility
Facility Address	340 Foreman Lane Healdsburg, CA 95448 Sonoma County
Facility Contact, Title and Phone	Terry Crowley, Utility Director, (707) 431-3346
Authorized Person to Sign and Submit Reports	Terry Crowley, Utility Director, (707) 431-3346 or other duly authorized person
Mailing Address	401 Grove Street, Healdsburg, CA 95448
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	NA
Recycling Requirements	Producer
Facility Permitted Flow	1.4 million gallons per day (mgd) (average dry weather flow)
Facility Design Flow	1.4 mgd (average dry weather treatment capacity) 4.0 mgd (peak wet weather treatment capacity)
Watershed	Russian River Hydrologic Unit, Geyserville Hydrologic Subarea
Receiving Water	Basalt Pond, part of the Russian River
Receiving Water Type	Inland surface water

A. The City of Healdsburg (hereinafter Permittee) is the owner and operator of the City of Healdsburg Wastewater Treatment, Recycling, and Disposal Facility (hereinafter Facility), a POTW.

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

The Permittee is authorized to discharge subject to waste discharge requirements in this Order at the discharge locations described in Table 2 on the cover page of this Order. The Code of Federal Regulations at 40 C.F.R. section 122.46 limits the duration of NPDES permits to be effective for a fixed term not to exceed 5 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 NPDES regulations on continuation of expired permits are complied with.

B. The Facility discharges tertiary treated wastewater to Basalt Pond, a water of the United States. The Permittee was previously regulated by Order No. R1-2010-0034 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0025135 adopted on October 28, 2010, and expired on November 30, 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 February 5, 2015. The application was deemed complete on May 4, 2015.

II. FACILITY DESCRIPTION

The Permittee owns and operates a municipal wastewater treatment facility (WWTF) and associated wastewater collection, recycling, and disposal facilities that serve a population of 12,200 residential, commercial, industrial, and municipal users. The Permittee does not accept the discharge of septage or bulk loads.

A. Description of Wastewater and Biosolids Treatment and Controls

The Facility is located approximately 1 mile south of Healdsburg, California just west of the Russian River and serves the City of Healdsburg. Treated wastewater is discharged from Discharge Point 001 to Basalt Pond. Basalt Pond is physically connected to the Russian River within the Geyserville Hydrologic Subarea of the Russian River Hydrologic Unit.

Collection System

The Permittee's wastewater collection system includes approximately 52 miles of sewer mains, 979 manholes, twelve sewer lift stations, and several miles of pressurized force main. The oldest portions of the system are approximately 100 years old. The Permittee is actively working to replace older collection system lines and only about 1.5 miles of 100-year old pipeline remains. Approximately 34 percent of the collection system is between 50 and 100 years old and 40 percent is between 25 and 50 years old. The remaining 25 percent is under 25 years old. Mains range in size from 4 to 33 inches. Collection system pipe materials include asbestos cement pipe, vitrified clay, cast iron, and polyvinyl chloride (PVC). There are nine sewer lift stations located throughout the City of Healdsburg that convey sewage from isolated low-lying areas into the gravity main system. All sewage discharged to the collection system is ultimately collected and conveyed through a 33-inch gravity main to the Magnolia Lift Station, which is the largest lift station.

The Magnolia sewer lift station, handles all of the City of Healdsburg's sewage, and includes four dry pit 50-hp vertical turbine pumps with a variable frequency drive level control system. These pumps draw the sewage from the wet well and pass it through two parallel 3,700 foot long, 14-inch diameter force mains to the treatment plant. In most circumstances, one pump operates in a lead position and pumps the entire sewage flow to the treatment plant. The other two pumps

are configured in a standby mode for system redundancy. During periods of high flow, multiple pumps will run automatically to handle the increased flow rate. A comminutor/grinder at the lift station reduces large solids in size to less than a ¼-inch before being pumped to the treatment plant. Under all but wet weather conditions, the capacity of only one of the two 14-inch force mains is necessary.

Wastewater Treatment

The Facility is designed to treat an average dry weather flow of 1.4 mgd and a maximum peak wet weather flow of 4.0 mgd. The treatment system consists of influent screening and grit removal; biological removal of biochemical oxygen demand (BOD) and nitrogen in aerobic, anoxic, and pre-anoxic basins; microfiltration through a membrane bioreactor (MBR); ultraviolet (UV) light disinfection; and return activated sludge pumping from the MBR back to the aeration basins. Waste activated sludge pumping removes excessive biomass from the system, followed by a proprietary sludge digestion process, dewatering via centrifuge, and disposal to a sanitary landfill.

The MBR combines the secondary biological treatment and immersed membrane filtration processes. The immersed membrane filtration process separates suspended solids from the wastewater using a very fine filter (i.e., ultrafilter). The MBR system at the Facility consists of five membrane tanks which contain immersed membrane filters with a total filter area of at least 250,000 square feet. The MBR system is designed to treat a peak daily flow of 4.0 mgd in four tanks with a fifth membrane tank, pump, and compressor available for standby capacity. Instantaneous peak inflows may exceed 4.0 mgd, and the headworks structure is sized to accommodate peak inflow spikes up to 9.6 mgd.

Disinfection is achieved in an open channel UV disinfection system with sufficient low pressure/high output lamps to disinfect a peak daily flow of 4.0 mgd. The UV disinfection system is located downstream of the MBR tanks. The MBR filtrate pumps discharge directly to the UV basin. Filtered and UV disinfected wastewater flows by gravity to the 25 million gallon recycled water storage pond or Basalt Pond.

The Facility includes a 5 million gallon aerated influent equalization basin which provides equalization storage capacity for extended wet weather flows. Three ponds are available as emergency storage ponds, providing an additional 15 million gallons of storage capacity and 24 hours of emergency storage capacity during peak flows. The Permittee has the ability to divert inadequately treated wastewater from downstream of the UV disinfection system to these ponds and return it to the headworks and tertiary treatment processes using portable pumping equipment.

Recycled Water

The Permittee produces disinfected tertiary recycled water. The Facility has a 25 million gallon recycled water storage pond with a synthetic liner to provide storage for the disinfected tertiary treated recycled water. Recycled water is delivered by an effluent pump station from the recycled water storage pond to the recycled water system or is gravity fed to the Basalt Pond, depending upon seasonal requirements.

The Permittee has 11,000 linear feet of pipeline to deliver recycled water for agricultural, industrial, and construction uses. Approximately 300 acres of vineyards are directly connected to the pipeline. The Permittee operates two filling stations for the trucked recycled water program. Trucked recycled water is used for construction uses (primarily soil compaction and dust

control) and landscape and vineyard irrigation, consistent with agronomic demand. Irrigation occurs primarily during spring, summer, and fall and may occur during dry periods in the winter. The filling stations are located at 340 Foreman Lane and 280 Kinley Lane. Syar Industries, Inc., operates its own recycled water hydrant at 13666 Healdsburg Avenue. The hydrant is used to fill Syar water trucks for dust control at the aggregate processing facility. Additionally, Syar Industries Inc., is installing a pipeline on its property to utilize recycled water for washing the aggregate materials used in asphalt and concrete production.

This Order includes requirements for the production of recycled water at the Facility. The use of recycled water from the Facility is covered under State Water Resources Control Board Order No. WQ 2014-0090-DWQ, General Waste Discharge Requirements for Recycled Water Use (Recycled Water General Order).

Biosolids

The Permittee uses a proprietary solids removal and digestion process that combines aerobic and anaerobic processes. Solids are periodically removed from the biological process and transferred to two digester tanks, referred to as interchange reactors. Transfer to the interchange reactors occurs in a daily decant/fill process, where decanted clear liquid from the interchange reactors is returned to the biological process, and the volume decanted is replaced with solids from the biological process. All solids transferred from the biological process to the interchange tanks are first passed through a 250 micron rotary drum screen to remove inert non-biodegradable material, which is compacted and conveyed to a separate dumpster. In the final solids removal step, digested solids are pumped from the interchange reactor tanks, dosed with polymer for thickening, and then dewatered in a centrifuge and conveyed to a dumpster. All solids are then transported and are either disposed of in the Recology Hay Road Landfill in Marin County or incorporated into land application sites operated and managed by Synagro.

B. Discharge Points and Receiving Waters

1. The Facility discharges to Basalt Pond at Discharge Point 001 (38° 34' 48" N latitude and 122° 51' 48" W longitude), which is connected to Russian River in the Geyserville Hydrologic Subarea within the Russian River Hydrologic Unit.

Basalt Pond is one of several existing gravel pits that were excavated adjacent to the Russian River in alluvial deposits of sand and gravel. These deposits are part of an important groundwater aquifer that supplies domestic and agricultural well water. Basalt Pond has a surface area of 52 acres, and a maximum depth of 55 feet. Basalt Pond was excavated between the late 1960s and mid-1980s by the Basalt Rock Company, as part of their gravel mining operation. Basalt Pond is currently owned by Syar Industries Inc. Basalt Pond was excavated in the historic floodplain of the Russian River, and a levee, composed primarily of soil and alluvial material, was constructed to separate Basalt Pond from surface flows in the Russian River. The levee is not an engineered barrier designed for impermeability that would prevent discharges of effluent from reaching the Russian River.

The discharge of wastewater to Basalt Pond, part of the Russian River, is a discharge to waters of the United States, and as such requires an NPDES permit. In an August 6, 2007, decision, the United States Ninth Circuit Court of Appeals affirmed the decision of the United States District Court for the Northern District of California that concluded that Basalt Pond is a water of the United States subject to jurisdiction under the Clean Water Act (CWA) and that the pollutants traveling to the Russian River via hydrologically connected groundwater required the Permittee to obtain an NPDES permit. The Ninth Circuit Court held that

discharges to Basalt Pond are subject to the CWA because the Basalt Pond (1) contains wetlands that are adjacent to the Russian River, a navigable water of the United States, and (2) possesses a significant nexus to the Russian River because waters from the Basalt Pond seep into the Russian River and significantly affect the physical, biological, and chemical integrity of the Russian River. (Northern Calif. River Watch v. Healdsburg, 497 F.3d 993 (2007)). Additional details of the District Court decision can be found in Revised Order No. R1-2005-0084 (January 17, 2008). See additional discussion in Table F-3, Footnote 1.

2. The Facility also discharges treated wastewater to the 25 million gallon recycled water storage pond at Discharge Point 002. Recycled water from the storage pond is delivered by an effluent pump station to the recycled water distribution system. Recycled water uses are covered under the Recycled Water General Order as further described in section II.A, above.

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

Effluent limitations contained in Order No. R1-2010-0034 for discharges from Discharge Point 001 (Monitoring Locations EFF-001) and representative monitoring data from the term of Order No. R1-2010-0034 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (December 2010 – March 2015)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	5	5	--
	lbs/day[1]	117	175	--	100	388	--
	lbs/day[2]	334	500	--			--
	% Removal	85	--	--	98.4[3]	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	1.4	1.4	--
	lbs/day[1]	117	175	--	11	388	--
	lbs/day[2]	334	500	--			--
	% Removal	85	--	--	99.5[3]	--	--
pH	s.u.	--	--	6.5 – 8.5	--	--	6.57 – 7.66
Copper, Total Recoverable	µg/L	[4]	--	[4]	12	--	13
Total Coliform Organisms	MPN/100 mL	2.2[5]	23[6]	240	--	--	17[7]
Acute Toxicity	% Survival	70[8]/90[9]	--	--	65[10]	--	--

Parameter	Units	Effluent Limitation			Monitoring Data (December 2010 – March 2015)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge

Table Notes:

1. Based on permitted average monthly flow of 1.4 mgd.
2. Based on wet weather peak flow rate of 4.0 mgd.
3. Minimum observed percent removal.
4. Final effluent limitations for copper were hardness dependent. See Attachment E-1 of Order No. R1-2010-0034 for the full table of hardness-dependent copper effluent limitations, which are to be determined based on the hardness of the receiving water at the time the discharge is sampled.
5. The median of all samples collected in a 7-day period.
6. The median of all samples collected in a 30-day period.
7. Maximum observed result.
8. Minimum for any one bioassay.
9. Median for any three or more consecutive bioassays.
10. Minimum observed percent survival.

D. Compliance Summary

1. The Permittee was not assessed any administrative civil liability during the term of Order No. R1-2010-0034.

2. Seasonal Discharge Prohibition. Prior to 2004, the discharge to Basalt Pond was regulated by WDRs. Breaches in Basalt Pond in 1995 and 1997 resulted in unpermitted discharges to the Russian River and prompted the Regional Water Board to adopt Cease and Desist Order (CDO) Nos. 95-65 and 97-27 requiring the Permittee to develop solutions to prevent future unpermitted discharges. Following a citizen lawsuit in which it was determined that Basalt Pond was a water of the United States, the Regional Water Board adopted Order No. R1-2004-0064 (NPDES No. CA0025135). Because the Facility had not been previously regulated by an NPDES permit, the Permittee was in non-compliance with several requirements of the NPDES permit, including the prohibition of discharges to the Russian River from May 15 through September 30 (seasonal discharge prohibition). Thus, CDO No. R1-2004-0065 was adopted on October 6, 2004 establishing a schedule to achieve compliance with the prohibition by October 6, 2009. The Regional Water Board adopted CDO No. R1-2006-0002 on January 25, 2006, rescinding CDO Nos. 97-27 and R1-2004-0065. CDO No. R1-2006-0002 continued to require final compliance with seasonal discharge prohibition by October 6, 2009.

In order to comply with the requirements of the NPDES permit and CDOs, the Permittee completed an upgrade to the Facility to provide advanced wastewater treatment in May 2008. Although the upgrade resulted in compliance with most requirements, the Permittee had still not achieved compliance with the Basin Plan's seasonal discharge prohibition by the time Order No R1-2010-0034 was adopted. Therefore, the Permittee proposed to construct a recycled water system and requested an extension of 5 years to complete its project and achieve final compliance. Thus, the Regional Water Board adopted CDO No. R1-2010-0035 on June 10, 2010, rescinding CDO R1-2006-0002 and extending the final compliance date for the seasonal discharge prohibition to September 30, 2014.

During the term of Order No. R1-2010-0034, the Permittee constructed major improvements to its recycled water system, including installation of 11,000 feet of recycled water pipeline for vineyard irrigation of up to 600 acres, construction of the Dry Creek Pipe Bridge, and construction of two filling stations for the trucked recycled water program. These improvements have reduced discharges to Basalt Pond, but are not expected to prevent all discharges during the seasonal discharge prohibition period. The Permittee sent a letter on April 24, 2014, to the Regional Water Board requesting a 5 year extension to comply with the seasonal discharge prohibition addressed in CDO No. R1-2010-0035. Additional time was requested to construct the Foreman Lane recycled water transmission pipeline by September 2017, expand recycled water storage by February 2018, and construct the Westside Road recycled water transmission pipeline by September 2019. The Regional Water Board granted an extension to comply with the seasonal discharge prohibition from September 30, 2014, to September 30, 2019.

E. Planned Changes

The Permittee is continuing to expand its recycled water infrastructure in order to reduce and eventually cease discharges to Basalt Pond. The Permittee plans to construct the Foreman Lane recycled water transmission pipeline by September 2017, expand recycled water storage by February 2018, and construct the Westside Road recycled water transmission pipeline by September 2019.

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 is 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 California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

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

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

1. **Water Quality Control Plan.** The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Basalt Pond are summarized in Table F-3, below:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Basalt Pond, part of the Russian River[1] within the Geyserville Hydrologic Subarea of the Russian River Hydrologic Unit Note: The beneficial uses listed here are for the Russian River due to the hydrologic connection between Basalt Pond and the Russian River	Existing: 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); and Spawning, reproduction, and/or early development (SPWN). Potential: Industrial process supply (PRO); Hydropower generation (POW); Shellfish harvesting (SHELL); and Aquaculture (AQUA).
001 and 002	Groundwater	Existing: Municipal and domestic supply (MUN); Agricultural supply (AGR); and Industrial service supply (IND). Potential Industrial process supply (PRO).

Table Notes:

1. Basalt Pond is identified as being part of, rather than a tributary of, the Russian River. The Regional Water Board and the Permittee reached this conclusion after discussions regarding how to determine compliance with the Basin Plan requirement that discharges to the Russian River during the discharge period of October 1 through May 14 do not exceed 1 percent of the river's flow. Fact Sheet section II.B clearly describes the evidence that supports the conclusion that Basalt Pond is part of the Russian River, including the fact that there is a surface connection when the Russian River flows into Basalt Pond during extremely high flow conditions. Similarly, there is evidence of subterranean stream (underflow) flows between the river and Basalt Pond. The Basin Plan clearly states that subterranean streams are not groundwater, and have all of the beneficial uses of the surface waters (Basin Plan page 2-18.00, footnote 3). It is therefore, well established that Basalt Pond is part of the Russian River, and as such, the beneficial uses of the Russian River apply to Basalt Pond (40 C.F.R. 131.10(b) requiring that in designating uses of water body and identifying appropriate criteria for those uses, consideration must be taken to ensure downstream uses are protected.)

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 CWA 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 2 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 Geyserville Hydrologic Subarea within the Russian River Hydrologic Unit as impaired by sedimentation/siltation, and temperature. Pursuant to CWA section 303(d), the Regional Water Board will develop a TMDL or alternate program of implementation to address these impairments, 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. Analysis of effluent monitoring data from the advanced wastewater treatment system indicates

levels of BOD_5, TSS, and turbidity in the effluent are less than the effluent limitations and specifications included in this Order. Thus, the discharge does not typically contain sediment (e.g., settleable solids, suspended solids, and turbidity) at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River.

The Permittee performed a Receiving Water Study with observations made between October 2012 and May 2013. Basalt Pond is one of several existing gravel pits that were excavated adjacent to the Russian River in alluvial deposits of sand and gravel, and a levee made of soil and alluvial material, separates the Basalt Pond from surface flows in the Russian River. For the Receiving Water Study, the Permittee performed sampling of temperature at approximately 5 foot intervals along the full depth profile at five locations in Basalt Pond. Measurements were collected weekly in October and from mid-April to mid-May, and monthly during November through March. The Study found that temperatures in the effluent are consistently a few degrees warmer than in Basalt Pond but data indicate that the influence on temperatures in Basalt Pond is minimal.

E. Other Plans, Policies and Regulations

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

2. All areas within the Facility, which encompasses approximately 2.5 acres, drain to the storm drain percolation pond, located just west of the headworks. If the percolation pond is unable to accommodate the runoff in a severe storm event, the storm drain pump station, which is controlled by a level switch, automatically pumps the drainage to a storage pond where it either evaporates or is pumped back to the treatment plant headworks. 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) does not require facilities to obtain coverage if storm water is captured and treated and/or disposed of within the facility's NPDES permitted process wastewater or if storm water is disposed of evaporation ponds, percolation ponds, or combined sewer systems. Therefore, coverage under the Industrial Storm Water General Permit is not required for this Facility.

3. By the effective date of this Order, the Permittee will be enrolled under State Water Resources Control Board Order No. WQ 2014-0090-DWQ, General Waste Discharge Requirements for Recycled Water Use (Recycled Water General Order) for the use of recycled water. The Recycled Water General Order includes requirements and provisions that apply to the use of recycled water and includes monitoring requirements for priority pollutants, total coliform organisms, and turbidity, as well as use area monitoring requirements that include recycled water flow, acreage applied, application rate and observations for soil saturation/ponding, nuisance conditions (odors, vectors), runoff, and notification signs. This NPDES permit additionally includes filtration process requirements and ultraviolet disinfection use requirements because these requirements apply to both

recycled water and surface water discharges, as well as monitoring requirements for nitrogen (ammonia, nitrate, nitrite, and organic nitrogen) and salts (total dissolved solids, sodium, chloride, boron, and sodium).

4. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Order requires the Permittee to obtain coverage under Order No. 2004-0012-DWQ prior to any removal of biosolids from the Facility that will be land disposed on property owned or controlled by the Permittee.

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

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source 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 and not within the reasonable contemplation of the Regional Water Board is prohibited.

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

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

the constituent discharged: (1) must have been disclosed by the Permittee; and (2) can be reasonably contemplated by the Regional Water Board.

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

   This prohibition has been retained from Order No. R1-2010-0034 and is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code.

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

   This prohibition has been retained from Order No. R1-2010-0034 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. R1-2010-0034 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. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 C.F.R. section 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

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

   This prohibition is retained from Order No. R1-2010-0034 with a minor modification. A reference to groundwater has been removed because groundwater is captured in the broader term, "waters of the state". This prohibition applies to spills related to SSOs and is based on state standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the state's antidegradation policy as specified in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

   This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E of this Order, which prohibits SSO discharges that create

nuisance or pollution to waters of the state and land for a more complete protection of human health. The rationale for this prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

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

   This prohibition is retained from Order No. R1-2010-0034, with minor modifications. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater.

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

   This prohibition has been retained from Order No. R1-2010-0034. This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

8. **Prohibition III.H.** The average dry weather flow of waste through the Facility shall not exceed 1.4 mgd, measured daily and averaged over a calendar month. The peak daily wet weather flows through the Facility shall not exceed 4.0 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections VII.K and VII.L of this Order.

   This prohibition is retained from Order No. R1-2010-0034 and is based on the average dry weather and peak wet weather discharge treatment capacity of the Facility. Exceedance of this capacity on a daily basis may result in effluent violations and/or the need to by-pass untreated effluent blended with treated effluent, which is prohibited.

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

   This prohibition retained from Order No. R1-2010-0034 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).

10. **Prohibition III.J.** During the period from October 1 through May 14, discharges of treated wastewater to Basalt Pond, part of the Russian River, shall not exceed one percent of the flow of the Russian River, as measured by the sum of flows at United States Geological Survey (USGS) Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

    a. The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow

measurement of the Russian River. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,

b. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River 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 based on the first day of the calendar month to the date when the discharge ceased for the season.

This prohibition has been retained from Order No. R1-2020-0034 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. Order No. R1-2005-0084 contained a prohibition that limited discharges of wastewater to one percent of the flow of Basalt Pond and a compliance schedule for the Permittee to demonstrate compliance with this waste discharge rate limitation. In addition, Cease and Desist Order No. R1-2006-0002, adopted by the Regional Water Board on January 25, 2006, included a compliance schedule for the Permittee to submit a plan and schedule to comply with the waste discharge rate limitation. The Permittee submitted a letter dated March 13, 2007, to the Regional Water Board proposing that compliance with this prohibition be measured as the sum of flows at USGS Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth. These stations measure total flows just above the confluence of Dry Creek and the Russian River and there are no significant diversions or other activities between these points and the discharge to Basalt Pond that would significantly affect the measured flows. The Regional Water Board concurs with the Permittee's proposed method of determining compliance with this discharge prohibition. The Basin Plan one percent discharge limitation is based on the flow of the receiving water and Basalt Pond does not have a flow. Due to the physical connection between Basalt Pond and the Russian River, it is appropriate to use the flow of the Russian River for assessing compliance with the one percent discharge limitation.

Basin Plan Prohibition No. 4 does not specify how compliance with the one percent flow requirement should be determined. This prohibition, set forth in Provision III.J of this Order, specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season, provided the Permittee makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of the Russian River, as represented by the sum of flows at USGS Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth. This modification provides day-to-day operational flexibility for the Permittee while retaining the intent of the prohibition.

The Permittee's March 13, 2007 letter indicated that the Dry Creek gauge is not rated for flows greater than 200 cubic feet per second (cfs) because it is in backwater from the Russian River at these flows. The Permittee proposed using a flow of 200 cfs in the compliance calculation because the Permittee would be able to achieve compliance with the discharge rate prohibition at levels above 200 cfs. Therefore, this Order allows the Permittee to use a flow of 200 cfs in Dry Creek in the calculation of the sum of flows in the Russian

River when flows in Dry Creek exceed 200 cfs to determine compliance with this prohibition.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

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

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH, as follows:

a. BOD_5 and TSS

i. The 30-day average shall not exceed 30 mg/L.

ii. The 7-day average shall not exceed 45 mg/L.

iii. The 30-day average percent removal shall not be less than 85%.

b. pH

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

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

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

2. Applicable Technology-Based Effluent Limitations

The effluent limitations in this Order for BOD_5, TSS, and pH not only meet the technology-based requirements for secondary treatment set forth in section 133.102, but they also are required to meet the water quality-based requirements set forth in the Basin Plan.

In addition to the minimum federal technology-based requirements, the Basin Plan requires that discharges of municipal waste *"shall be of advanced treated wastewater in accordance*

with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100 mL" for discharges to the Russian River and its tributaries during October 1 through May 14. This requirement leaves discretion to the Regional Water Board to define advanced wastewater treatment by the implementation of effluent limitations in individual permits.

a. BOD_5 and TSS. For the purpose of regulating municipal waste discharges from the Facility to the effluent storage pond, advanced wastewater treatment is defined as achieving a monthly average concentration for BOD_5 and suspended solids of 10 mg/l, and a weekly average concentration of 15 mg/l, which are technically achievable based on the capability of a tertiary treatment system. In addition, 40 C.F.R. 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. These effluent limitations are retained from Order No. R1-2010-0034.

b. pH. The secondary treatment regulations at 40 C.F.R. part 133 require that pH be maintained between 6.0 and 9.0 standard units. Note that a more stringent effluent limitation range of 6.5 – 8.5 for pH is required to meet the water quality objective for hydrogen ion concentration (pH) in the Russian River contained in Basin Plan, Table 3-1.

c. Mass-Based Effluent Limitations. Federal regulations at 40 C.F.R. section 122.45(f) require that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. Among the conditions exempting the application of mass-based limitations is section 40 C.F.R. section 122.45(f)(1)(i), which states "*for pH, temperature, and radiation, or other pollutants which cannot appropriately be expressed by mass*" And 40 C.F.R. section 122.45(f)(1)(ii), which states "*when applicable standards and limitations are expressed in terms of other units of measure*."

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

i. BOD_5 and TSS, because these two parameters are expressed in terms of concentration and percent removal; and

ii. pH, because this parameters cannot appropriately be expressed by mass.

d. Coliform Bacteria. Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limitations because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore this Order retains the effluent limitations for total coliform bacteria from Order No. R1-2010-0034. These effluent limitations reflect standards for tertiary treated recycled water in the Basin Plan (Section 4, Implementation Plans) and as adopted by DDW in title 22 of the CCR. Recycled water from this Facility meets the most protective title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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, Basalt Pond, connected 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. RPAs for this Facility were 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. R1-2010-0034. This limitation is based on the water quality objective for all surface waters established in Chapter 3, Table 3-1 of the Basin Plan. Federal technology-based requirements prescribed in 40 C.F.R. part 133 are not sufficient to meet these Basin Plan water quality standards. Consistent with Order. No. R1-2010-0034, this Order applies the effluent limitations for pH at Discharge Point 001.

ii. Chlorine Residual. The Basin Plan establishes a narrative water quality objective for toxicity which states "[a]*ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" The Regional Water Board considers any chlorinated discharge as having the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity.

The Permittee replaced the former chlorine disinfection system with a UV disinfection system, which came on-line in May 2008. Although the Permittee has discontinued the use of chlorine for disinfection, the Permittee continues to use sodium hypochlorite for maintenance cleaning of the membrane tanks and clean-in-place procedures for the filter membranes. The Permittee submitted a description of the maintenance cleaning and clean-in-place cycles, as well as Standard Operating Procedures (SOPs) for the clean-in-place procedure on July 9, 2009.

Because the Permittee does not use chlorine for disinfection and based on the implementation of SOPs at the Facility to prevent the discharge of chlorine during maintenance cleaning of the filtration system, the Regional Water Board concludes that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for chlorine. Therefore, effluent limitations are not included in this Order. As described in section VI.B.4.b of this Fact Sheet, this Order requires the Permittee to update and maintain SOPs for the use of chlorine, notify the Regional Water Board of any changes in chlorine usage or SOPs, and notify the Regional Water Board if a chlorine spill occurs.

iii. Nitrogen Compounds. Untreated domestic wastewater contains ammonia nitrogen. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream and inadequate or incomplete denitrification may result in the discharge of nitrate to the receiving stream. The Facility is designed to use nitrification to remove ammonia from the waste stream and denitrification to remove nitrate from the waste stream, culminating in an overall reduction in total nitrogen.

(a) Nitrate. Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by DDW for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion. The Permittee sampled its discharge to Basalt Pond monthly during December 2010 and March 2015. Monitoring results ranged between 0.8 mg/L and 9.3 mg/L based on 62 samples. Because nitrate levels in effluent have been measured at concentrations lower than 10 mg/L N, the Regional Water Board concludes that discharges from the Facility do 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.*" This Order includes a special study requirement in Special Provision VI.C.2.a requiring the Permittee to conduct a study to determine the presence of mussels in the receiving water. Until the study is completed, the Regional Water Board will implement the 2013 Freshwater Criteria with the assumed presence of salmonids and assumed absence of mussels to interpret the Basin Plan's narrative toxicity objective.

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 9.38 and temperature of 24.22°C at Monitoring Location RSW-001, the assumed presence of salmonids, and the assumed absence of mussels) to calculate U.S. EPA's 2013 Freshwater Criteria, which result in acute and chronic criteria of 0.53 mg/L and 0.28 mg/L, respectively.

The maximum observed effluent ammonia concentration from the Facility was 0.56 mg/L, based on 63 samples collected between December 2010 and March 2015. The maximum observed receiving water ammonia concentration was 0.81 mg/L, based on 58 samples collected between December 2010 and March 2015.

Because ammonia levels in the effluent and receiving water have been measured at concentrations greater than U.S. 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 the Basin Plan's applicable narrative water quality criterion for toxicity. Therefore, this Order includes effluent limitations for ammonia for the protection of aquatic life. This Order establishes an average monthly effluent limitations (AMEL) of 0.19 mg/L and maximum daily effluent limitation (MDEL) of 0.53 mg/L for total ammonia, expressed as N. Calculations of these effluent limitations are included in section IV.C.4 of this Fact Sheet.

iv. 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 retains monitoring requirements for phosphorus and nitrogen containing compounds in discharges from the Facility to allow a determination of reasonable potential at such time as the State and Regional Water Boards select an appropriate method for interpretation of the Basin Plan's narrative objective.

b. Priority Pollutants

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

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. During the term of Order No. R1-2010-0034, priority pollutant sampling was conducted on December 10, 2014 and January 13, 2015 (effluent only) and October 10, 2013 (effluent and receiving water). All of this data was used for the RPA.

Hardness: The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness; the lower the hardness, the lower the water quality criteria. The SIP requires water quality criteria be properly adjusted for hardness, using the hardness of the receiving water. The hardness-dependent metal criteria include cadmium, copper, chromium (III), lead, nickel, silver, and zinc. The receiving water hardness in Basalt Pond ranged from 122 mg/L to 228 mg/L based on 61 samples collected between December 2010 and March 2015. For the RPA, the minimum observed receiving water hardness of 122 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

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 all 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 No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL[1]	B or Minimum DL	RPA Results[2]
1	Antimony	µg/L	6	0.32	<6.0	No
2	Arsenic	µg/L	10	1.1	2.1	No
4	Cadmium	µg/L	2.9	0.033	<0.30	No
5a	Chromium (III)	µg/L	244	0.27	<4.0	No
6	Copper	µg/L	70[3]	15	--	No
7	Lead	µg/L	4.1	1.0	--	No
9	Nickel	µg/L	62	2.8	4.1	No
10	Selenium	µg/L	5	0.21	<1.0	No
12	Thallium	µg/L	1.7	9.0	6.7	No[4]
13	Zinc	µg/L	142	66	--	No
14	Cyanide	µg/L	5.2	2.4	4.1	No
26	Chloroform	µg/L	No Criteria	3.0	<0.5	No

CTR No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL[1]	B or Minimum DL	RPA Results[2]
68	Bis (2-Ethylhexyl) Phthalate	µg/L	1.8	21	<0.5	No[5]
Not Applicable	Aluminum	µg/L	200	74	110	No
Not Applicable	Ammonia	mg/L	0.28[6]	0.56	0.81	Yes (Trigger 1)
Not Applicable	Nitrate (as N)	mg/L	10	9.3	3.5	No

Table Notes:

1. The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).
2. RPA Results:
   = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected.
   = No, if MEC and B or < WQO/WQC or all effluent data are undetected.
   = Undetermined (UD).
3. Copper WQO calculated with a water effect ratio (WER) of 6.39 and the most stringent WQO from the CTR using the lowest receiving water hardness of 122 mg/L (6.39 x 11 µg/L = 70 µg/L).
4. Thallium was detected in two samples analyzed with an insensitive method (EPA Method 200.7). All samples analyzed with more sensitive methods were less than the most stringent WQO. See additional discussion in the narrative portion of this section (section IV.C.3.c).
5. See discussion in the narrative portion of this section (section IV.C.3.c).
6. 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 24.22°C and a pH of 9.38.

Additional details regarding priority pollutant constituents for which reasonable potential was not found based on a revised RPA (e.g., copper) or found and dismissed (e.g., thallium and bis (2-ethylhexyl) phthalate) 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 is in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for copper in freshwater are 0.96 for both the acute and chronic criteria. The default WER for calculating criteria for copper is 1.0. The Permittee conducted a WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The Permittee submitted the results of the WER study in a technical memorandum on April 4, 2017. Regional Water Board staff reviewed the WER study technical memorandum and determined that the WER test results were developed in accordance with the methodology in EPA's guidance document *Streamlined Water Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005). The Permittee's study concluded that a site specific WER of 6.39 for total recoverable copper applies to the discharge. Using the worst-case measured hardness from the receiving water (122 mg/L), the U.S. EPA-recommended dissolved-total translator of 0.96, and the site-specific WER, the applicable chronic criterion (maximum 4-day average concentration) is adjusted to 70 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is adjusted to 109 µg/L.

The Permittee sampled the effluent for copper 88 times between December 2010 and March 2017. The data demonstrated results that were not detected in the effluent (MDL 0.4 µg/L) through 15 µg/L. The MEC for copper was 15 µg/L on April 13, 2016. Therefore, copper in the effluent does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives. Based on the results of the RPA, effluent limitations for copper are not necessary.

Thallium. The CTR establishes only a water quality objective for the protection of human health for thallium of 1.7 µg/L. The Permittee sampled the effluent for thallium six times during the term of Order No. R1-2010-0034 - October 10, 2013 (sampled twice), December 10, 2014, and January 13, 2015. The Permittee collected and analyzed two samples using EPA Methods 200.7 and 200.9 on October 10, 2013, which were analyzed on October 22, 2013, and re-analyzed on November 8, 2013. Both of the EPA Method 200.9 (ND) results use an RL of 1 µg/L; however, the EPA Method 200.7 estimated results use an RL of 200 µg/L. Thallium was not detected in the subsequent samples collected on December 10, 2014 or January 13, 2015. A determination of no reasonable potential has been made because thallium was not detected in the October 10, 2013 sample using the most sensitive analytical method or in subsequent samples.

Bis (2-Ethylhexyl) Phthalate. The CTR establishes only a water quality objective for the protection of human health for bis (2-ethylhexyl) phthalate of 1.8 µg/L. The Permittee sampled the effluent for bis (2-ethylhexyl) phthalate four times during the term Order R1-2010-0034 – October 10, 2013, October 22, 2013, December 10, 2014, and January 13, 2015. Bis (2-ethylhexyl) phthalate was detected in the effluent at a concentration of 21 µg/L in the December 10, 2014 and January 13, 2015 samples. In both instances, the Permittee conducted a re-analysis of the samples, which were non-detects; however, both re-analyses were conducted outside the required holding times. The Permittee indicated in the January 2015 SMR cover letter that they suspected the detections were the result of sample contamination.

The Permittee used EPA Method 625 to analyze the December 2014 and January 2015 samples. The Sample Collection, Preservation, and Handling specifications in section 9.1 of EPA Method 625 states, "*Automatic sampling equipment must be as free as possible of Tygon tubing and other potential sources of contamination*." The Permittee collected the December 2014 and January 2015 samples using a non-brand name equivalent tubing. To verify that the tubing was a source of the contamination, the Permittee conducted additional sampling in February and May 2015. In February 2015, the Permittee collected samples through the tubing and directly from the effluent channel. bis (2-ethylhexyl) phthalate was detected at a concentration of 41 µg/L in the sample collected with the tubing, but was not detected in the sample collected from the effluent channel. In May 2015, the Permittee collected samples through the tubing and from new Cleargreen™ phthalate-free tubing. bis (2-ethylhexyl) phthalate was detected at a concentration of 20 µg/L in the sample collected with the old tubing, but was not detected in the sample collected with the Cleargreen™ phthalate-free tubing.

Section 1.2 of the SIP states, *"The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy*." In accordance with the specifications in EPA Method 625 and based on the sample results from February and May 2015, the Regional Water Board concludes that the results from samples collected using the old tubing are inappropriate for use in the RPA. Since bis (2-ethylhexyl) phthalate

was not detected in the effluent in the February 2015 sample collected from the effluent channel and the May 2015 sample collected with the phthalate-free tubing, a determination of no reasonable potential has been made.

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), 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 (as for the Facility), 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 of the SIP, the ECA multipliers for calculating LTAs for ammonia at the 99th percentile occurrence probability are 0.152 (acute multiplier), 0.281 (chronic 4-day multiplier), and 0.575 (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	0.53	0.71	0.28	0.152	0.281	0.575	0.081	0.16	0.20

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 1.4 for ammonia, and the sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic 4-day criterion, and 30 (n = 30) for the chronic 30-day criterion. The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier for ammonia is 6.56, and the AMEL multiplier is 2.32. Final WQBELs for ammonia are determined as follows.

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

Pollutant	Unit	LTA	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
Ammonia (as N)	mg/L	0.081	6.56	2.32	0.53	0.19

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective the AMEL is set equal to the ECA. No human health water quality criteria/objectives were exceeded, therefore there is no need to calculate any human health WQBELs.

5. Whole Effluent Toxicity (WET)

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

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

a. Acute Aquatic Toxicity

Consistent with Order No. R1-2010-0034, 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 quarterly 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 conducted annual chronic toxicity testing using *P. promelas*, *C. dubia*, and *S. capricornutum*. The following table summarizes the chronic toxicity testing results from October 2013 through August 2014.

Table F-7. Summary of Chronic Toxicity Results

Date	*Pimephales promelas*		*Ceriodaphnia dubia*		*Selenastrum capricornutum*
	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
February 9, 2011	--	--	1	1	--
March 13, 2012	--	--	1	1	--
October 22, 2013	--	--	1	1	--
February 11, 2014	1	1	1	1	1
February 25, 2014	1	1	1	1.3	1
March 31, 2014	--	--	1	4	--
April 7, 2014	--	--	1	1	--
April 14, 2014	--	--	1	1	--
April 21, 2014	--	--	1	1	--
June 9, 2014	--	--	1	>8	--
July 21, 2014	--	--	1	1.3	--
July 28, 2014	--	--	1	1	--
August 4, 2014	--	--	1	1	--
August 11, 2014	--	--	1	8	--

The validity of these chronic toxicity test results, however, is uncertain. In a September 2014 study performed by Pacific EcoRisk (as requested by the Permittee), Pacific EcoRisk identified several issues with regard to test quality in all of the test results that exhibited chronic toxicity, as explained below:

i. **February 25, 2014 results**: Dissolved oxygen concentrations in the effluent treatments were below the level recommended in the test manual (4 mg/L).

ii. **March 31, 2014 results**: The review determined that the laboratory may have been experiencing organism culture quality issues, which is consistent with dead neonates being observed in the control treatments.

iii. **June 9, 2014 results**: The within-treatment coefficient of variation was less than 40% for several treatments and small for the control, thus pathogens should have been considered as an explanation for toxicity. An evaluation should have been performed to determine if pathogen related impairment could have been the cause.

iv. **July 21, 2014 results**: Dissolved oxygen concentrations in the effluent treatments were below the level recommended in the test manual (4 mg/L) and could have been the cause of reduction in reproduction.

v. **August 11, 2014 results**: An incorrect concentration response curve was identified and the test termination data was improperly calculated.

Therefore, reasonable potential to exceed the Basin Plan's narrative toxicity objective for chronic toxicity cannot be determined and effluent limitations have not been established in this Order.

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 narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Permittee is required to conduct annual chronic WET testing at Discharge Point 001, as specified in the MRP (Attachment E, section V). Furthermore, the MRP (Attachment E, section V.C) requires the Permittee to

investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a TRE in accordance with an approved TRE work plan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

c. Test of Significant Toxicity (TST)

Order No. R1-2010-0034 established a numeric chronic toxicity trigger of 1.0 TUc = 100/NOEC, using a five-concentration hypothesis test. In 2010, U.S. EPA endorsed the peer-reviewed *Test of Significant Toxicity (TST) two-concentration hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA's toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) mean response of regulatory management concern—than the NOEC hypothesis-testing approach. The TST hypothesis testing approach more reliably identifies toxicity – in relation to the acute (0.20 or more) mean responses of regulatory management concern – than the No Observed Effect Concentration (NOEC) approach used previously to establish effluent limitations for acute toxicity.

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

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

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

It is important to note that U.S. EPA's rescission of its approval of the ATP is not based on the substantive TST statistical analysis or the scientific validity of a two-concentration test design. The withdrawal letter also states that currently there is a

proposed rulemaking to change the language in the ATP regulations at 40 C.F.R. part 136.

The benefits of requiring the TST in new or amended permits include improving the statistical power of the toxicity test, and simplifying the analysis as compared to the traditional hypothesis statistical approaches or point estimates. The calculations are straightforward and provide a clear pass/fail result. With the withdrawal of the two-concentration test design approval, an NPDES permit can still require the TST for statistical analyses. Toxicity tests shall be run using a multi-concentration tests design in accordance with 40 C.F.R. section 136.3, and the TST shall be utilized with the biological responses from the permitted in-stream waste concentration (IWC) and the control (effluent concentration of zero). However, even with only two of the five concentration biological responses being used, cost savings in the form of time and effort are still realized for the statistical analysis and data interpretation carried out by the Permittee, lab, and permit manager. This Order requires application of 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) ≤ 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) ≤ 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. R1-2010-0034, with the exception of mass-based effluent limitations for BOD_5 and TSS, and effluent limits for copper.

Order No. R1-2010-0034 established final mass-based effluent limitations for BOD_5 and TSS. Historically, the Regional Water Board routinely incorporated mass-based limits (in addition to concentration-based limits) for BOD_5 and TSS in NPDES permits to encourage correction of infiltration and inflow (I&I). Applied in this way, mass-based limitations effectively restrict a POTW's wet-weather influent flows to less than or equal to the treatment facility's design capacity in situations where POTW's experience excessive I&I as a result of climate conditions and/or aging infrastructure. The application of mass-based effluent limitations for BOD_5 and TSS is not necessary to limit wet-weather inflow into the Permittee's Facility because I&I is not a significant problem and the Permittee is not in danger of exceeding treatment capacity for reasonably anticipated flows. 40 C.F.R. 133.103(d) states, "…*The determination of whether the less concentrated wastewater is the result of excessive I&I will use the definition of excessive I&I in 40 C.F.R. 35.2005(b)(16) plus the additional criterion that inflow is nonexcessive if the total flow to the POTW (i.e., wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day.*" Using daily flow data from June 1, 2010 through December 31, 2015, the flow per capita (assuming a population of 100) exceeded 275 gallons per day five times out of over 2,000 daily flow measurements. Therefore, I&I is not a significant problem for the Facility.

Mass limitations for BOD_5 and TSS for discharges of treated wastewater have been removed because Regional Water Board staff misinterpreted the exception of 40 C.F.R. 122.45(f)(2), which states that mass limitations are not required "*when applicable standards and limitations are expressed in terms of other units of measure*." Secondary treatment standards for BOD_5 and TSS in 40 C.F.R. 133.102, on which the effluent limitations in previous permits were based, are expressed in concentration and percent removal (i.e., other units of measure). The relaxation of effluent limitations for BOD_5 and TSS in this Order is permissible under CWA section 402(o)(2)(B), because Regional Water Board staff has determined that mass-based limitations for BOD_5 and TSS were applied in the previous permits as a result of a mistaken interpretation of law when issuing those previous permits.

In addition, Regional Water Board staff previously held that anti-backsliding regulations prevented the removal of mass-based limitations for BOD_5 and TSS because they were appropriate and necessary to protect water quality and prevent water quality degradation

in receiving waters. While it is conceivable that the absence of mass-based limitations for these pollutants may result in an increased pollutant loading to surface waters, recent self-monitoring reports indicate that compliance with concentration-based effluent limitations for BOD_5 and TSS effectively maintain the Permittee's mass emission rates for BOD_5 and TSS well below permitted mass-based limitations. In addition, even if there is a resulting increase in pollutant loading, there is no evidence that the increase will result in degradation of water quality. Therefore, relaxation of effluent limitations for BOD_5 and TSS in this Order is also permissible under CWA section 402(o)(2)(B), based on new information available to the Regional Water Board.

This Order previously contained effluent limitations for copper based on the CTR default criteria of one (1.0) for the protection of aquatic life. As described in section IV.C.3.c of this Fact Sheet, the Permittee conducted a WER study that resulted in the development of a WER multiplier for total recoverable copper of 6.39. Accordingly, Regional Water Board staff conducted a reasonable potential analysis (RPA), using the WER multiplier of 6.39. The WER was used to update the applicable CTR aquatic life criteria for copper. Based on effluent monitoring conducted between December 2010 and March 2017, the concentration of copper in the effluent did not exceed the CTR aquatic life criteria, and the data demonstrate that the discharge no longer exhibits reasonable potential to cause or contribute to an exceedance of the water quality objectives. The WER study results and updated effluent data for copper constitutes new information, which permits the removal of effluent limitations for copper consistent with CWA section 402(o)(2)(B). Therefore, this Order does not retain effluent limitations for copper.

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. R1-2010-0034.

The removal of the effluent limits for copper at Discharge Point 001 is predicated on a finding that there is no reasonable potential for toxicity to aquatic organisms from copper in the effluent. Accordingly, this action will result in no less protection of beneficial uses than the previous action to include effluent limitations that were based on the default WER of 1 and will maintain water quality.

The significant increase in costs for additional treatment that would be required to remove low levels of copper at this POTW are not in the best interest of the public given that beneficial uses are already shown to be protected based upon the site specific water quality objective for copper applicable to Discharge Point 001 and developed in accordance with SIP requirements. Any resources available for water quality improvements should be used for other pressing water quality issues as opposed to treating effluent beyond what is required for protecting beneficial uses. The Permittee's resources are best directed toward its efforts to cease discharges to Basalt Pond during the Basin Plan seasonal discharge period (May 15 – September 30) which is a requirement of Cease and Desist Order No. R1-2016-0016.

This action to modify waste discharge requirements applies to discharges from an existing facility. Discharges from the Facility are required to maintain protection of the beneficial uses of the receiving water and comply with applicable provisions of the Basin Plan.

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_5 and TSS. 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 ammonia, pH, and total coliform bacteria 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 – Not Applicable

This Order does not authorize discharges of waste to land.

G. Recycling Specifications and Requirements

This Order authorizes the Permittee to discharge treated municipal wastewater to the 25 million gallon storage pond that complies with the Water Recycling Specifications and Requirements contained in section IV.C of the Order. The Permittee has obtained coverage under the Recycled Water General Order to distribute recycled water to authorized use sites (described in section II.A of this Fact Sheet); therefore, this Order does not include specifications or requirements for uses of recycled water. All of the water recycling specifications are based on the technical capabilities of the wastewater treatment system and levels required by the Basin Plan and title 22.

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_5 and TSS 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 use of untreated or partially treated wastewater for recycling.

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 Basalt Pond, part of the Russian River Hydrologic Unit, in the Geyserville Hydrologic Subarea, 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 tastes and odors, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

3. Determining the Need for Requirements for Water Recycling

a. The Water Recycling Specifications are established in this Order to conform to requirements contained in the California Code of Regulations, title 22, division 4, chapter 3 for the production of disinfected tertiary 2.2 recycled water. The Permittee is required to comply with applicable state and local requirements regarding the production and use of recycled water, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and DDW regulations at title 22, sections 60301 –

60357 of the California Code of Regulations (Water Recycling Criteria). The requirement to comply with title 22 requirements is retained from Order No. R1-2010-0034. The Permittee has obtained coverage under the Recycled Water General Order. As such this Order no longer includes use area requirements, rather only contains requirements for discharges to the recycled water storage pond.

b. BOD_5 and TSS. Consistent with Order No. R1-2010-0034, this Order establishes discharge limitations for BOD_5 and TSS based on technology-based effluent limitations that consist of a monthly average of 10 mg/L and a weekly average of 15 mg/L. These levels are technically achievable based on the capability of the advanced wastewater treatment system. These limits are included in the Order to ensure that discharges to the water recycling system receive proper treatment.

c. Coliform Bacteria. Consistent with Order No. R1-2010-0034, this Order includes recycling specifications for coliform bacteria that reflect standards for tertiary treated recycled water adopted by the DDW in title 22 of the CCR and are included to ensure that recycle water quality is protective of human health. Recycled water from this Facility meets the highest title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.

d. pH. Consistent with Order No. R1-2010-0034, this Order includes instantaneous minimum and maximum effluent limitations for pH of 6.0 and 9.0, respectively, based on the technology-based effluent limitations required by U.S. EPA pursuant to 40 C.F.R. part 133. These pH limitations are included in the Order to ensure that pH levels are appropriate for protection of groundwater when discharging to the recycled water system.

4. Satisfaction of Antidegradation Policy

The permitted discharge is consistent with the antidegradation provisions of State Water Board Resolution No. 68-16. This Order does not provide for an increase in the volume and mass of pollutants discharged. The discharge will not have significant impacts on the beneficial uses of groundwater because the Order does not authorize the discharge of treated wastewater to groundwater.

H. Other Requirements

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

1. **Filtration Process Requirements**. The turbidity requirements in section IV.D.1.b of the Order are in accordance with the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following filtration and before discharge to the UV disinfection system.

2. **Disinfection Process Requirements for the UV Disinfection System.** The Order contains monitoring requirements for the UV disinfection system in section IV.D.2. These requirements are needed to determine compliance with requirements for recycled

wastewater systems, established at CCR title 22, division 4, chapter 3 and to ensure that the disinfection process achieves effective pathogen reduction.

UV system operation requirements are necessary to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses, bacteria) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, and wastewater flow through the UV system. Minimum dosage requirements are based on recommendations by DDW and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research (AWWARF) "*Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse*" first published in December 2000 revised as a Third Edition dated August 2012. Furthermore, a Memorandum dated November 1, 2004, issued by DDW to Regional Water Board Executive Officers recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring permittees to establish fixed cleaning frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWRI/AWWARF UV Disinfection Guidelines). Minimum UV dosage requirements specified in section IV.D.2 of the Order ensures that adequate disinfection of wastewater will be achieved.

3. **Storage Ponds**. Storage pond requirements are included in section IV.D.3 of the Order to ensure that future storage ponds are constructed in a manner that protects groundwater and complies with requirements of title 27 of the CCR.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan.

The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional* [Water] *Board will apply to regional waters in order to protect the beneficial uses*." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters.
2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.
3. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.

4. The Basin Plan requires that waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in CCR, title 22, division 4, chapter 15, article 4.1, section 64435, and article 5.5, section 64444.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D to the Order. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. The rational for the special conditions contained in the Order is provided in section VI.B, below.

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

2. Regional Water Board Standard Provisions

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

a. Order Provision VI.A.2.a identifies the state's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 C.F.R. sections 122.41(j)(5) and (k)(2)).

b. Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

B. Special Provisions

1. Reopener Provisions

a. Standard Revisions (Special Provision VI.C.1.a). Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:

i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the

Regional Water Board will revise and modify this Order in accordance with such revised standards.

ii. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

b. Reasonable Potential (Special Provision VI.C.1.b). This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

c. Whole Effluent Toxicity (Special Provision VI.C.1.c). This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

d. 303(d)-Listed Pollutants (Special Provision VI.C.1.d). This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.

e. Water 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. On April 4, 2017, the Permittee provided new information and justification for applying a WER for copper, as described in section IV.C.3.c of the Fact Sheet.

f. Nutrients (Special Provision VI.C.1.f). This Order contains effluent limitations for ammonia and effluent monitoring for nutrients (ammonia, nitrate, nitrite, organic nitrogen, 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

a. Ammonia Study (Special Provision VI.C.2.a). The 2013 Freshwater Criteria for ammonia vary based on pH and temperature, and reflect the latest scientific knowledge on the toxicity of ammonia to freshwater aquatic life, including new data on sensitive freshwater mussels and gill-breathing snails. Under most conditions, the 2013 Freshwater Criteria are more stringent than the 1999 Freshwater Criteria when mussels are present in the receiving water. 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*." The 2013 Freshwater Criteria document contains recalculation procedures for situations where mussels are not present in the receiving water. This Order requires the Permittee to conduct a study to determine the presence of mussels in the receiving water. The Regional Water Board shall use the

results of this study to inform the determination of ammonia effluent limitations, if necessary, during the next permit renewal.

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.

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.

b. Standard Operating Procedures (SOPs) for Chlorine Usage (Special Provision VI.C.4.c). Although the Permittee has discontinued the use of chlorine for disinfection, the Permittee periodically uses chlorine for maintenance cleaning of the filter tanks and clean-in-place procedures for the filter membranes. The Permittee submitted SOPs on July 9, 2009, that describe the Permittee's method to ensure that chlorine is not discharged to Basalt Pond in concentrations that have a reasonable potential to cause or contribute to an exceedance of water quality objectives. This provision requires the Permittee to maintain SOPs for the use of chlorine at the Facility to control and abate the discharge of chlorine to the receiving water. The Permittee is required to update the SOPs as needed and report any changes to the SOPs or change in chlorine usage in the Annual Report (due March 1 to the Regional Water Board). The Permittee shall report any chlorine spills at the Facility in accordance with section VI.A.2.b of the Order.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems (Special Provision VI.C.5.a)

i. Statewide General WDRs for Sanitary Sewer Systems. On May 2, 2006, the State Water Board adopted General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order). The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all SSOs, among other requirements and prohibitions. The Permittee has enrolled under the General Order as required.

On February 20, 2008, the State Water Board adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities in case of sewage spills. On August 6, 2013, the State Water Board adopted Order No. WQ 2013-0058-EXEC Amending Monitoring and

Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. WQ 2013-0058-EXEC addressing compliance and enforceability of the Monitoring and Reporting Program and superseding the amendments in Order No. WQ-2008-0002-EXEC. Notification and reporting of SSOs is conducted in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC, and any revisions thereto for operation of its wastewater collection system.

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

40 C.F.R. section 403.8(a) requires POTWs with a total design flow greater than 5 mgd and receiving pollutants which pass through or interfere with the operation of the POTW to establish a POTW Pretreatment Program. The Regional Water Board may also require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference or pass through. The Permittee did not report any known industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the Facility in Part F of EPA Application Form 2A and the permitted flow of the Facility is less than 5 mgd; therefore, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, in order to prevent interference with the POTW or pass through of pollutants to the receiving water, the Order requires the Permittee to conduct an industrial waste survey to identify all non-domestic facilities in the service area that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility and to monitor the influent for priority pollutants. If the results of the industrial waste survey or influent monitoring indicate that a pretreatment program is necessary, pursuant to 40 C.F.R. section 403.8(3), the Regional Water Board may reopen this permit to require the Permittee to develop a pretreatment program.

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

A key component of an effective source control program is the identification and location of possible industrial users within the POTW's wastewater collection system.

This information is typically obtained by the POTW through industrial waste surveys. The following types of resources can be consulted in compiling a master list of industrial users:

i. Water and sewer billing records

ii. Applications for sewer service

iii. Local telephone directories

iv. Chamber of Commerce and local business directories

v. Business license records

vi. POTW and wastewater collection personnel and field observations

vii. Business associations

viii. The internet

ix. Industrial and non-residential sewer use permit records

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

c. Sludge Disposal and Handling Requirements (Special Provision VI.C.5.c). The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 C.F.R. parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR. All solids are transported and are either disposed of in the Recology Hay Road Landfill in Marin County or incorporated into land application sites operated and managed by Synagro. The Permittee's Facility does not have a process for meeting Vector Attraction Reduction, thus this requirement from 40 C.F.R. part 503.33 must be met by incorporating land applied biosolids within six hours. In addition, Healdsburg does not have a "Process to Significantly Reduce Pathogens" as required by 40 C.F.R. part 503, Appendix B, thus the Permittee must demonstrate Class B pathogen reduction by monitoring fecal coliform levels.

d. Biosolids Management (Special Provision VI.C.5.d). This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. The Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.

e. Operator Certification (Special Provision VI.C.5.e). This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, section 3680 of the CCR.

f. Adequate Capacity (Special Provision VI.C.5.f). The goal of this provision is to ensure appropriate and timely planning by the Permittee to ensure adequate capacity for the protection of public health and water quality.

6. Other Special Provisions

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

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_5 and TSS are retained from Order No. R1-2010-0034 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.

2. Influent monitoring requirements for flow at Monitoring Locations INF-001 are retained from Order No. R1-2010-0034.

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, dilution rate, BOD_5, TSS, pH, total coliform bacteria, copper, dissolved oxygen, temperature, hardness, ammonia (total), ammonia (unionized), nitrate, and phosphorus have been retained from Order No. R1-2010-0034.

b. Effluent monitoring data indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for copper,

lead, zinc, or aluminum. Therefore, this Order discontinues effluent monitoring requirements for copper, lead, zinc, and aluminum from Order No. R1-2010-0034.

c. Order No. R1-2010-0034 required monitoring for nitrite and organic nitrogen, and included a footnote indicating that monitoring could be discontinued if nitrite levels were less than 10 mg/L and exhibited little variability during the first year of monitoring. The Permittee sampled for nitrite monthly from December 2010 through October 2013, and all 21 results were not detected in the effluent (MDLs ranged from 0.006 mg/L to 2 mg/L). The Regional Water Board concludes that discharges from the Facility do not have a reasonable potential to cause or contribute to exceedances of applicable water quality objectives for nitrite. Therefore, monitoring requirements for nitrite and organic nitrogen have not been retained from Order No. R1-2010-0034.

d. Effluent monitoring requirements for title 22 pollutants at Monitoring Location EFF-001 have been removed from the MRP. Monitoring for title 22 pollutants during the previous permit term showed that there is no reasonable potential for title 22 pollutants to exceed applicable water quality objectives.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) monitoring requirements are included in this Order to 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. This Order retains annual monitoring requirements for chronic toxicity, but reduces the monitoring frequency from monthly to quarterly for acute toxicity based on sample results demonstrating consistent compliance with the effluent limitations (one exceedance of the minimum percent survival limitation of 70% based on 27 samples).

In addition to routine toxicity monitoring, this Order requires the Permittee to maintain and update their TRE Workplan, 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. Recycled Water Monitoring Requirements

This Order requires that the Permittee comply with applicable state and local requirements regarding the production of recycled water. Recycled water monitoring requirements at Monitoring Location REC-001 for flow, BOD, TSS, total coliform bacteria, and pH have been retained from Order No. R1-2010-0034. Recycled water monitoring requirements at Monitoring Location REC-002 for flow, ammonia, nitrate, nitrite, organic nitrogen, total dissolved solids, chloride, boron, sodium, and title 22 pollutants have not been retained from Order No. R1-2010-0034 as monitoring requirements due to the fact that monitoring for these pollutants will be included in the monitoring and reporting program issued as part of the Permittee's enrollment under the Recycled Water General Order.

E. Receiving Water Monitoring

1. Surface Water

a. The Permittee discharges treated disinfected effluent to Basalt Pond, an effluent dominated water body. The Regional Water Board recognizes the unique circumstances associated with having a discharge into a pond and the difficulties associated with establishing receiving water monitoring in a pond environment. Compliance with most receiving water limitations can be assessed based on evaluation of effluent monitoring data. However, it is difficult to assess compliance with regard to temperature, pH and dissolved oxygen due to the ponded conditions.

In Order No. R1-2010-0034, the Regional Water Board recognized that the effluent must meet all effluent limitations and applicable receiving water limitations and established a "downstream" receiving water monitoring station at Monitoring Location RSW-001 located within 25 to 50 feet of the point of discharge. Order No. R1-2010-0034 did not consider the effluent monitoring station to be equivalent to an upstream monitoring location.

Order No. R1-2010-0034 did not establish compliance monitoring requirements for temperature, pH, dissolved oxygen, and ammonia. Instead, Order No. R1-2010-0034 required the Permittee to conduct a Reference Receiving Water Study to determine whether conditions in Basalt Pond with respect to these parameters are due to effluent discharges or natural conditions and to assess whether or not the effluent discharge to Basalt Pond causes any exceedances of receiving water limitations.

The Permittee submitted a *Special Studies Report Reference Receiving Water Study Ammonia Monitoring Study* (Reference Receiving Water Study) in August 2013. In the Reference Receiving Water Study, the Permittee conducted monitoring for temperature, dissolved oxygen, pH, specific conductance, and total dissolved oxygen at various depths at each of three sample locations within Basalt Pond (Monitoring Locations RSW-001, RSW-002, and RSW-003) and three locations within the Phase V Pond (Monitoring Locations PV-001, PV-002, and PV-003), a nearby pond located just to the west of Basalt Pond. The Phase V Pond was considered to be an "upstream" location based on the direction of groundwater flow. The Permittee used the monitoring data to compare conditions in Basalt Pond with conditions in the Phase V Pond in order to assess compliance with receiving water limitations for dissolved oxygen, pH, and temperature. Based on the monitoring results, the Permittee concluded the following:

i. **Temperature.** Effluent temperatures are consistently a few degrees warmer than those in Basalt Pond; however the data indicate the influence of the effluent on temperatures in Basalt Pond are minimal.

ii. **pH.** The pH of the effluent is consistently near neutral. The pH in Basalt Pond is commonly higher than in both the effluent and Phase V Pond, but is relatively consistent throughout different locations within the pond. The pH in the Phase V Pond was more variable with low pH values (~3) measured on several dates. It is unlikely that effluent discharges are a significant influence affecting pH levels in the pond.

iii. **Dissolved Oxygen.** Dissolved oxygen concentrations measured in the effluent at the current monitoring locations are relatively low, but re-aeration occurs during turbulence in the path to pond discharge. Dissolved oxygen concentrations are generally higher in the Phase V Pond and a trend in increasing dissolved oxygen with distance from the discharge was occasionally evident. Dissolved oxygen concentrations do not correlate with nutrient loading in the effluent. Possible explanations for the dissolved oxygen levels include the potential for an increase in surface turbulence in the middle of the pond, or increased algal respiration occurring at shallow depths during the season. In addition, dissolved oxygen concentrations are typically lower in pond environments than in a riverine environment.

This Order requires that the effluent meet all applicable effluent limitations for Discharge Point 001 at the end-of-pipe at Monitoring Location EFF-001 and continues to require ambient receiving water monitoring at Monitoring Location RSW-001, located within 25 to 50 feet of the point of discharge.

b. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations.

c. Monitoring requirements at Monitoring Location RSW-001 for flow, BOD, turbidity, nitrate, phosphorus, and title 22 pollutants have been retained from Order No. R1-2010-0034.

d. This Order establishes monthly receiving water monitoring for pH and temperature. pH and temperature data are necessary for determining ammonia criteria.

e. In light of the removal of copper effluent limitations, the hardness monitoring frequency has been reduced to annual. This annual hardness monitoring will ensure that sufficient hardness data is available to run the metals RPA for the next permit renewal.

2. Groundwater – Not Applicable

This Order does not require groundwater monitoring at this time.

F. Other Monitoring Requirements

1. Filtration Process Requirements (Monitoring Locations INT-001A and INT-001B). Monitoring of the surface loading rate at Monitoring Location INT-001A is necessary to demonstrate compliance with technology requirements set forth in DDW's Alternative Treatment Technology Report for Recycled Water (September 2014 or subsequent. Monitoring of effluent turbidity of the tertiary filters at Monitoring Location INT-001B is required to demonstrate compliance with section 60301.320 of title 22 CCR filtration requirements for disinfected tertiary recycled water.

2. Disinfection Process Monitoring for UV Disinfection System (Monitoring Location INT-002). UV disinfection system monitoring requirements at Monitoring Location INT-002 are included to assess compliance of the UV disinfection system with title 22 and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWARF) Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse (3rd or subsequent editions).

3. **Visual Monitoring (Monitoring Locations EFF-001 and RSW-001).** Visual monitoring requirements are retained from the previous Order and are necessary to ensure compliance with receiving water limitations in section V. of the Order.

4. **Sludge Monitoring (Monitoring Location BIO-001).** New sludge monitoring requirements at Monitoring Location BIO-001 serve as a basis for the Permittee to develop the sludge Handling and Disposal report that is required as part of the Annual Report pursuant to section X.D.2.g of the MRP.

5. **Notification and Reporting for Recycled Water Spills.** Section X.E of the MRP includes reporting requirements for spills of tertiary treated water in excess of 50,000 gallons. This requirement implements Water Code section 13529.2.

6. **Flow Monitoring.** Section I.D of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices.

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 City of Healdsburg Wastewater Treatment, Recycling, and Disposal Facility. 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/public_notices/public_hearings/npdes_permits_and_wdrs/ and through publication in the Press Democrat on March 4, 2016.

For the December 2017 permit modification, notification was provided through a public notice posted on the Regional Water Board's Internet site and through publication in the Press Democrat on **September 11, 2017.**

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Bard office by 5:00 p.m. on **April 4, 2016**.

For the December 2017 permit modification, to be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Bard office by 5:00 p.m. on **October 11, 2017**.

C. Public Hearing

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

Date:	**June 16, 2016**
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

For the December 2017 permit modification, the Regional Water Board will hold a public hearing on the draft WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	**December 13, 2017**
Time:	8:30 a.m. or as announced in the Regional Water Board's agenda
Location:	Regional Water Board Hearing Room 5550 Skylane Boulevard, Suite A Santa Rosa, CA 95403

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

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

D. Waste Discharge Requirements Petitions

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

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

For instruction on how to file a petition for review see https://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address identified in section VIII.C, above, at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Cathleen Goodwin at Cathleen.Goodwin@waterboards.ca.gov or (707) 576-2687.

Attachment F-1 – City of Healdsburg Water Recycling RPA Summary

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Antimony	µg/L	--	0.32	<	6.0	6.0	--	--	14	--	6	No
Arsenic	µg/L	--	1.1	--	2.1	10	340	150	--	--	10	No
Beryllium	µg/L	<	0.02	<	0.02	4.0	--	--	--	--	4.0	No
Cadmium	µg/L	--	0.033	<	0.30	2.9	5.65	2.9	--	--	5.0	No
Chromium (III)	µg/L	--	0.27	<	4.0	244	2,044	243.6	--	--	--	No
Chromium (VI)	µg/L	<	5.0	--	--	11	16	11	--	--	50	No
Copper	µg/L	--	15	--	--	70	17	11	1,300	--	--	No
Lead	µg/L	--	1.0	--	--	4.1	105.2	4.1	--	--	--	No
Mercury	µg/L	<	0.06	<	0.06	0.050	--	--	0.050	--	2.0	No
Nickel	µg/L	--	2.8	--	4.1	62	555.1	61.7	610	--	100	No
Selenium	µg/L	--	0.21	<	1.0	5.0	--	5.0	--	--	50	No
Silver	µg/L	<	0.02	<	0.02	5.7	5.7	--	--	--	--	No
Thallium	µg/L	--	9	--	6.7	1.7	--	--	1.7	--	2.0	No
Zinc	µg/L	--	66	--	--	142	141.8	141.8	--	--	--	No
Cyanide	µg/L	--	2.4	--	4.1	5.2	22	5.2	700	--	150	No
Asbestos	MFL	<	0.1	<	0.1	7.0	--	--	7	--	7.0	No
2,3,7,8 TCDD	µg/L	<	$6.5x10^{-7}$	<	$9.3x10^{-7}$	$1.3x10^{-8}$	--	--	$1.3x10^{-8}$	--	$3.0x10^{-5}$	No
Acrolein	µg/L	<	0.62	--	--	320	--	--	320	--	--	No
Acrylonitrile	µg/L	<	0.3	<	0.2	0.06	--	--	0.059	--	--	No
Benzene	µg/L	<	0.2	<	0.2	1.0	--	--	1.2	--	1.0	No
Bromoform	µg/L	<	0.2	<	0.5	4.3	--	--	4.3	--	--	No
Carbon Tetrachloride	µg/L	<	0.03	<	0.03	0.25	--	--	0.25	--	0.5	No
Chlorobenzene	µg/L	<	0.2	<	0.2	70	--	--	680	--	70	No
Chlorodibromomethane	µg/L	<	0.5	<	0.5	0.40	--	--	0.401	--	--	No
Chloroethane	µg/L	<	0.4	<	0.1	No Criteria	--	--	--	--	--	No
2-Chloroethylvinyl ether	µg/L	<	0.6	--	--	No Criteria	--	--	--	--	--	No
Chloroform	µg/L	--	3.0	<	0.5	No Criteria	--	--	--	--	--	No
Dichlorobromomethane	µg/L	<	0.20	<	0.50	0.56	--	--	0.56	--	--	No
1,1-Dichloroethane	µg/L	<	0.10	<	0.10	5.0	--	--	--	--	5.0	No
1,2-Dichloroethane	µg/L	<	0.20	<	0.20	0.38	--	--	0.38	--	0.5	No

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
1,1-Dichloroethylene	µg/L	<	0.10	<	0.10	0.057	--	--	0.057	--	6.0	No
1,2-Dichloropropane	µg/L	<	0.20	<	0.20	0.52	--	--	0.52	--	5.0	No
1,3-Dichloropropylene	µg/L	<	0.20	<	0.20	0.50	--	--	10	--	0.5	No
Ethylbenzene	µg/L	<	0.10	<	0.10	300	--	--	3,100	--	300	No
Methyl Bromide	µg/L	<	0.40	<	0.20	48	--	--	48	--	--	No
Methyl Chloride	µg/L	<	0.40	<	0.20	No Criteria	--	--	--	--	--	No
Methylene Chloride	µg/L	<	0.40	<	0.40	4.7	--	--	4.7	--	5.0	No
1,1,2,2-Tetrachloroethane	µg/L	<	0.20	<	0.02	0.17	--	--	0.17	--	1.0	No
Tetrachloroethylene	µg/L	<	0.020	<	0.20	0.80	--	--	0.8	--	5.0	No
Toluene	µg/L	<	0.10	<	0.10	150	--	--	6,800	--	150	No
1,2-Trans-Dichloroethylene	µg/L	<	0.20	<	0.20	10	--	--	700	--	10	No
1,1,1-Trichloroethane	µg/L	<	0.20	<	0.20	200	--	--	--	--	200	No
1,1,2-Trichloroethane	µg/L	<	0.20	<	0.20	0.60	--	--	0.60	--	5.0	No
Trichloroethylene	µg/L	<	0.20	<	0.20	2.7	--	--	2.7	--	5.0	No
Vinyl Chloride	µg/L	<	0.10	<	0.10	0.50	--	--	2.0	--	0.5	No
2-Chlorophenol	µg/L	<	0.66	--	--	120	--	--	120	--	--	No
2,4-Dichlorophenol	µg/L	<	0.66	--	--	93	--	--	93	--	--	No
2,4-Dimethylphenol	µg/L	<	1.2	--	--	540	--	--	540	--	--	No
2-Methyl- 4,6-Dinitrophenol	µg/L	<	0.75	--	--	13	--	--	13.4	--	--	No
2,4-Dinitrophenol	µg/L	<	1.3	--	--	70	--	--	70	--	--	No
2-Nitrophenol	µg/L	<	0.90	--	--	No Criteria	--	--	--	--	--	No
4-Nitrophenol	µg/L	<	0.99	<	0.70	No Criteria	--	--	--	--	--	No
3-Methyl 4-Chlorophenol	µg/L	<	0.58	--	--	No Criteria	--	--	--	--	--	No
Pentachlorophenol	µg/L	<	0.2	<	0.2	0.28	3.0	2.0	0.28	--	1.0	No
Phenol	µg/L	<	0.46	--	--	21,000	--	--	21,000	--	--	No
2,4,6-Trichlorophenol	µg/L	<	0.74	--	--	2.1	--	--	2.1	--	--	No
Acenaphthene	µg/L	<	0.03	--	--	1,200	--	--	1,200	--	--	No
Acenaphthylene	µg/L	<	0.48	--	--	No Criteria	--	--	--	--	--	No

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Anthracene	µg/L	<	0.03	--	--	9,600	--	--	9,600	--	--	No
Benzidine	µg/L	<	3.4	--	--	0.00012	--	--	0.00012	--	--	No
Benzo(a)Anthracene	µg/L	<	0.04	--	--	0.0044	--	--	0.0044	--	--	No
Benzo(a)Pyrene	µg/L	<	0.04	<	1.0	0.0044	--	--	0.0044	--	0.2	No
Benzo(b)Fluoranthene	µg/L	<	0.04	--	--	0.0044	--	--	0.0044	--	--	No
Benzo(ghi)Perylene	µg/L	<	0.04	--	--	No Criteria	--	--	--	--	--	No
Benzo(k)Fluoranthene	µg/L	<	0.04	--	--	0.0044	--	--	0.0044	--	--	No
Bis(2-Chloroethoxy)Methane	µg/L	<	0.81	--	--	No Criteria	--	--	--	--	--	No
Bis(2-Chloroethyl)Ether	µg/L	<	0.14	--	--	0.031	--	--	0.031	--	--	No
Bis(2-Chloroisopropyl)Ether	µg/L	<	0.41	--	--	1,400	--	--	1,400	--	--	No
Bis(2-Ethylhexyl)Phthalate	µg/L	--	21	<	0.5	1.8	--	--	1.8	--	4.0	No[1]
4-Bromophenyl Phenyl Ether	µg/L	<	0.43	--	--	No Criteria	--	--	--	--	--	No
Butylbenzyl Phthalate	µg/L	<	0.64	--	--	3,000	--	--	3,000	--	--	No
2-Chloronaphthalene	µg/L	<	0.57	--	--	1,700	--	--	1,700	--	--	No
4-Chlorophenyl Phenyl Ether	µg/L	<	0.93	--	--	No Criteria	--	--	--	--	--	No
Chrysene	µg/L	<	0.04	--	--	0.0044	--	--	0.0044	--	--	No
Dibenzo(a,h)Anthracene	µg/L	<	0.08	--	--	0.0044	--	--	0.0044	--	--	No
1,2-Dichlorobenzene	µg/L	<	0.2	<	0.2	600	--	--	2,700	--	600	No
1,3-Dichlorobenzene	µg/L	<	0.3	<	0.2	400	--	--	400	--	--	No
1,4-Dichlorobenzene	µg/L	<	0.1	<	0.1	5.0	--	--	400	--	5.0	No
3,3 Dichlorobenzidine	µg/L	<	2.0	--	--	0.04	--	--	0.04	--	--	No
Diethyl Phthalate	µg/L	<	0.86	--	--	23,000	--	--	23,000	--	--	No
Dimethyl Phthalate	µg/L	<	0.68	--	--	313,000	--	--	313,000	--	--	No
Di-n-Butyl Phthalate	µg/L	<	0.91	--	--	2,7000	--	--	2,700	--	--	No
2,4-Dinitrotoluene	µg/L	<	0.68	--	--	0.11	--	--	0.11	--	--	No
2,6-Dinitrotoluene	µg/L	<	0.54	--	--	No Criteria	--	--	--	--	--	No
Di-n-Octyl Phthalate	µg/L	<	0.65	--	--	No Criteria	--	--	--	--	--	No

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
1,2-Diphenylhydrazine	µg/L	<	0.33	--	--	0.04	--	--	0.04	--	--	No
Fluoranthene	µg/L	<	0.76	--	--	300	--	--	300	--	--	No
Fluorene	µg/L	<	0.03	--	--	1,300	--	--	1,300	--	--	No
Hexachlorobenzene	µg/L	<	0.05	<	0.05	0.00075	--	--	0.00075	--	1.0	No
Hexachlorobutadiene	µg/L	<	0.84	<	0.30	0.44	--	--	0.44	--	--	No
Hexachlorocyclopentadiene	µg/L	<	0.20	<	0.20	50	--	--	240	--	50	No
Hexachloroethane	µg/L	<	0.58	--	--	1.9	--	--	1.9	--	--	No
Indeno(1,2,3-cd)Pyrene	µg/L	<	0.05	--	--	0.0044	--	--	0.0044	--	--	No
Isophorone	µg/L	<	0.81	--	--	8.4	--	--	8.4	--	--	No
Naphthalene	µg/L	<	0.66	<	0.20	No Criteria	--	--	--	--	--	No
Nitrobenzene	µg/L	<	0.74	--	--	17	--	--	17	--	--	No
N-Nitrosodimethylamine	µg/L	<	1.1	--	--	0.00069	--	--	0.00069	--	--	No
N-Nitrosodi-n-Propylamine	µg/L	<	0.85	--	--	0.005	--	--	0.005	--	--	No
N-Nitrosodiphenylamine	µg/L	<	0.90	--	--	5.0	--	--	5.0	--	--	No
Phenanthrene	µg/L	<	0.03	--	--	No Criteria	--	--	--	--	--	No
Pyrene	µg/L	<	0.03	--	--	960	--	--	960	--	--	No
1,2,4-Trichlorobenzene	µg/L	<	0.20	<	0.20	5.0	--	--	--	--	5.0	No
Aldrin	µg/L	<	0.002	<	0.05	0.00013	3.0	--	0.00013	--	--	No
alpha-BHC	µg/L	<	0.004	<	0.05	0.0039	--	--	0.0039	--	--	No
beta-BHC	µg/L	<	0.002	<	0.10	0.014	--	--	0.014	--	--	No
gamma-BHC	µg/L	<	0.004	<	0.05	0.019	0.95	--	0.019	--	0.2	No
delta-BHC	µg/L	<	0.002	<	0.15	No Criteria	--	--	--	--	--	No
Chlordane	µg/L	<	0.04	<	0.15	0.00057	2.4	0.0043	0.00057	--	0.1	No
4,4'-DDT	µg/L	<	0.003	<	0.10	0.00059	1.1	0.001	0.00059	--	--	No
4,4'-DDE	µg/L	<	0.004	<	0.10	0.00059	--	--	0.00059	--	--	No
4,4'-DDD	µg/L	<	0.02	<	0.10	0.00083	--	--	0.00083	--	--	No
Dieldrin	µg/L	<	0.005	<	0.05	0.00014	0.24	0.056	0.00014	--	--	No
alpha-Endosulfan	µg/L	<	0.004	<	0.10	0.056	0.22	0.056	110	--	--	No
beta-Endolsulfan	µg/L	<	0.002	<	0.10	0.056	0.22	0.056	110	--	--	No
Endosulfan Sulfate	µg/L	<	0.02	<	0.10	110	--	--	110	--	--	No

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Endrin	µg/L	<	0.002	<	0.15	0.036	0.086	0.036	0.76	--	2.0	No
Endrin Aldehyde	µg/L	<	0.002	<	0.10	0.76	--	--	0.76	--	--	No
Heptachlor	µg/L	<	0.003	<	0.050	0.00021	0.52	0.0038	0.00021	--	0.01	No
Heptachlor Epoxide	µg/L	<	0.009	<	0.050	0.0001	0.52	0.0038	0.0001	--	0.01	No
PCBs sum	µg/L	<	0.04	<	0.15	0.00017	--	0.014	0.00017	--	0.5	No
Toxaphene	µg/L	<	0.020	<	2.0	0.0002	0.73	0.0002	0.00073	--	3.0	No
Aluminum, Total Recoverable	µg/L	--	74	--	110	200	--	--	--	--	200	No
Ammonia Nitrogen, Total (as N)	mg/L	--	0.56	--	0.81	0.28	0.53	0.28	--	--	--	Yes
Nitrate, Total (as N)	µg/L	--	9.3	--	3.5	10	--	--	--	--	10	No
Nitrate Plus Nitrite (as N)	µg/L	--	2.9	--	0.046	10	--	--	--	--	10	No
Nitrite, Total (as N)	µg/L	<	0.006	--	0.04	1.0	--	--	--	--	1.0	No

Table Notes:

1. See discussion in section IV.C.3.c of this Fact Sheet for a discussion of the RPA results for bis (2-ethylhexyl) phthalate and thallium.