ORDER R1-2014-0002
NPDES NO. CA0024058
WDID No. 1B82045OSON

WASTE DISCHARGE REQUIREMENTS AND MASTER RECYCLING PERMIT FOR THE RUSSIAN RIVER COUNTY SANITATION DISTRICT AND THE SONOMA COUNTY WATER AGENCY RUSSIAN RIVER WASTEWATER TREATMENT FACILITY

Sonoma County

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

Table 1. Permittee Information

Permittee	Russian River County Sanitation District and Sonoma County Water Agency
Name of Facility	Russian River Wastewater Treatment Facility (Facility)
Facility Address	18400 Neeley Road
	Guerneville, CA 95446
	Sonoma County
Type of Facility	Publicly-Owned Treatment Works
Facility Design Flow	0.71 million gallons per day (mgd) (average dry weather treatment capacity) 3.5 mgd (peak wet weather treatment capacity)

Table 2. Discharge Locations

Discharge/ Distribution Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Disinfected tertiary treated effluent	38.4854^0 N	122.9982^0 W	Effluent storage pond
5F-19 002	Disinfected tertiary treated effluent	38.482087^0 N	123.000052^0 W	Russian River Outfall
003	Disinfected tertiary treated effluent	38.4837^0 N 38.4868^0 N	122.998^0 W 122.9968^0 W	Land Disposal/Irrigation Upper and Lower Burch Property
004	Disinfected tertiary treated effluent	38.4783^0 N	122.9946^0 W	Reclamation/Irrigation Northwood Golf Course

Table 3. Administrative Information

This Order was adopted on:	**March 13, 2014**
This Order shall become effective on:	**May 1, 2014**
This Order shall expire on:	**April 30, 2019**
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, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**October 30, 2018**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as follows:	**Minor discharge**

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDRs) Order No. R1-2009-0003 and Monitoring and Reporting Program (MRP) No. R1-2009-0003, are rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the California Water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 March 13, 2014.

Original Signed By

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Matthias St. John, Executive Officer

Contents

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Attachments

I. FACILITY INFORMATION

Information describing the Russian River County Sanitation District Wastewater Treatment 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 (hereinafter Regional Water Board), finds:

A. Legal Authorities. This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as a Master Recycling Permit pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with section 13500).

B. Background 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 for permit renewal, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G are also incorporated into this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections III.E, III.F, IV.B, IV.C, IV.D, V.B, VI.C.1.g, VI.C.1.h, VI.C.2.b, VI.C.5.a, VI.C.5.d and VI.C.5.e of this Order, and sections VI, VII, VIII.B, IX.A-D, X.D.3, and X.E of the MRP are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

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

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

III. DISCHARGE PROHIBITIONS

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

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

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

D. The discharge or reclamation 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 section IV.C.2 (Recycling Specifications) and 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 that creates a 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 Russian River County Sanitation District ordinance, under agreement for 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 permit issued by the State Water Board or another Regional Water Board Order is prohibited.

H. The mean daily dry weather flow of waste into the Permittee's Facility in excess of 0.51 mgd over a period of 30 consecutive days is prohibited, unless the Permittee demonstrates that it has storage and reclamation capacity to handle a higher ADWF, not to exceed 0.71 mgd. Compliance shall be determined as defined in section VII.K of this Order.

I. The peak daily wet weather influent flow to the Facility in excess of 3.5 mgd is prohibited.

J. The discharge of treated wastewater from the Facility to the Russian River or its tributaries is prohibited during the period May 15 through September 30 of each year.

K. During the period from October 1 through May 14, discharges of treated wastewater to the Russian River shall not exceed one percent of the flow of the Russian River, as measured by USGS Gage No. 11-4670.00 at Hacienda Bridge. For purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

1. The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Russian River. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am to 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.

L. 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

1. Final Effluent Limitations – Discharge Point 001 (Discharge to Effluent Storage Pond)

a. The Permittee shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:

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

Parameter	Units	Effluent Limitations				
		Average Monthly[1]	Average Weekly[1]	Maximum Daily[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	---	---	---
	lbs/day (dry-weather)	60[2]	90[2]	---	---	---
	lbs/day (wet-weather)	100[3]	150[3]	---	---	---
Total Suspended Solids (TSS)	mg/L	10	15	---	---	---
	lbs/day (dry-weather)	60[2]	90[2]	---	---	---
	lbs/day (wet-weather)	100[3]	150[3]	---	---	---
pH	standard units	---	---	---	6.0	9.0

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
2. Mass-based effluent limitations are based on the Facility dry-weather design flow of 0.71 mgd.
3. During wet weather periods, when the influent flow rate exceeds the dry-weather design flow of 0.71 mgd, the mass-based effluent limitation is based on the maximum sustained peak flow rate of 1.2 mgd.

b. Disinfection: Disinfected effluent discharged at Discharge Point 001, as measured at Monitoring Location EFF-001, shall not contain concentrations of total coliform bacteria in excess of the following concentrations**:**

i. The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed[1]; and

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.

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

c. 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. Final Effluent Limitations – Discharge Point 002 (Discharge to Russian River)

a. pH. The pH shall be not less than 6.5 or greater than 8.5 when discharging to the Russian River.

b. Effluent Limitation for Acute Toxicity. There shall be no acute toxicity in the effluent, as measured at Monitoring Location EFF-002, when discharging to receiving waters. The Permittee will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with the following:

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

i. Minimum for any one bioassay: 70 percent survival; and

ii. Median for any three consecutive bioassays: at least 90 percent survival.

Compliance with these effluent limitations shall be determined in accordance with section VII.I regarding compliance with acute toxicity limitations.

c. The Permittee shall maintain compliance with the following final effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location EFF-002, as described in the MRP, Attachment E.

Table 5. Final Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations	
		Average Monthly[1]	Maximum Daily[1]
Ammonia (as N)	mg/L	0.47[2]	1.2
Nitrate (as N)	mg/L	10	17.2
Bis (2-Ethylhexyl) Phthalate	µg/L	1.8	3.6

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
2. Not to exceed 2.5 times the average monthly effluent limitation (AMEL) (i.e., 1.2 mg/L) as a 4-day average within 30 days, more than once in three years on average.

d. There shall be no chronic toxicity in the discharge at Discharge Point 002.

3. Interim Effluent Limitations

a. Beginning on the effective date of this Order and ending on December 1, 2014, the Permittee shall maintain compliance with the following interim effluent limitations for nitrate at Discharge Points 002, 003 and 004 with compliance measured at the appropriate monitoring location based on the effluent disposal method (Monitoring Locations EFF-002, LND-001, and/or REC-001) as described in the MRP, Attachment E. The interim effluent limitation shall apply in lieu of the corresponding final effluent limitations/discharge specifications in sections IV.A.2.c., IV.B.1, and IV.C.2 of this Order through November 30, 2014.

Table 6a. Interim Effluent Limitation – Discharge Points 002, 003, and 004

Parameter	Units	Effluent Limitations	
		Average Monthly[1]	Maximum Daily[1]
Nitrate (as N)	mg/L	---	39

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

b. Beginning on the effective date of this Order and ending on October 1, 2016, the Permittee shall maintain compliance with the following interim effluent limitation for ammonia at Discharge Point 002 with compliance measured at Monitoring Location Eff-002, as described in the MRP, Attachment E. The interim effluent limitation shall apply in lieu of the corresponding final effluent limitations in section IV.A.2.c of this Order through September 30, 2016.

Table 6b. Interim Effluent Limitation – Discharge Points 002

Parameter	Units	Effluent Limitations	
		Average Monthly[1]	Maximum Daily[1]
Ammonia (as N)	mg/L	---	3.8
Table Notes: 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.			

B. Land Discharge Specifications – Discharge Point 003

1. The Permittee shall maintain compliance with the following limitations at Discharge Point 003, with compliance measured at Monitoring Location LND-001 as described in the MRP, Attachment E.

Table 7. Land Discharge Specifications

Parameter	Units	Discharge Specifications	
		Average Monthly[1]	Maximum Daily[1]
Nitrate (as N)	mg/L	10	20
Total Dissolved Solids	mg/L	500	---
Sodium	mg/L	60	---
Aluminum	mg/L	1.0	---
pH	standard units	6.0 – 9.0	
Table Notes: 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.			

2. Disinfected tertiary treated effluent not meeting turbidity specifications in section IV.D.1.b of this Order may be discharged at Discharge Point 003 provided that it meets all other relevant permit requirements.

C. Recycling Specifications – Distribution Point 004 (Northwood Golf Course and Other Authorized Recycled Water Use Sites)

1. Recycling Requirements

a. The Permittee shall comply with applicable state and local requirements regarding the production and use of reclaimed wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and California Department of Public Health (CDPH) regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria).

b. The Permittee shall comply with the Water Recycling Requirements and Provisions contained in Attachment G of this Order.

c. An updated title 22 recycled water engineering report for the recycled water system shall be submitted to CDPH for review and approval no later than May 1, 2014.

2. Recycling Specifications

a. The Permittee shall maintain compliance with the following limitations at Distribution Point 004, with compliance measured at Monitoring Location REC-001 as described in the attached MRP.

Table 8. Recycling Discharge Specifications

Parameter	Units	Discharge Specifications				
		Average Monthly[1]	Average Weekly[1]	Maximum Daily[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
BOD_5	mg/L	10	15	---	---	---
TSS	mg/L	10	15	---	---	---
Nitrate (as N)	mg/L	10	---	20	---	---
pH	standard units	---	--	---	6.0	9.0

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

b. Disinfection. Disinfected effluent distributed at Distribution Point 004, as measured at EFF-001, shall not contain concentrations of total coliform bacteria in excess of the following concentrations:

i. The median concentration shall not exceed a MPN of 2.2 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed[2;] and

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.

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

3. Storage Ponds. Ponds used for storage of recycled water shall be constructed in a manner that protects groundwater. The Permittee shall submit design proposals for new storage ponds to the Regional Water Board for review prior to construction and demonstrate that the pond design incorporates features to protect groundwater from exceeding groundwater quality objectives.

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.

b. Turbidity. The effluent from the filtration system 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:

(1) An average of 2 Nephelometric Turbidity Units (NTU) during any 24-hour period;
(2) 5 NTU more than 5 percent of the time during any 24-hour period; and
(3) 10 NTU at any time.

2. Disinfection Process Requirements

The Permittee shall operate the ultraviolet (UV) disinfection system in accordance with the following operating protocol and technical and administrative requirements set out by

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

CDPH in order to ensure compliance with disinfection effluent limitations specified in section IV.A.1.b of this Order:

a. Disinfection of tertiary treated wastewater shall be accomplished 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. The Permittee shall provide continuous, reliable monitoring of flow, UV transmittance, UV intensity, UV dose, UV power, and turbidity at Monitoring Location INT-002. The Permittee must demonstrate compliance with the UV dose requirement.

c. The Permittee shall operate the UV disinfection system to provide a minimum UV dose of 100 millijoules per square centimeter (mJ/cm^2) at all times at Monitoring Location INT-002, unless otherwise approved by CDPH.

d. The UV transmittance (at least 254 nanometers) in the wastewater shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH.

e. The quartz sleeves and cleaning system components shall be visually inspected per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and to check the efficacy of the cleaning system.

f. The quartz sleeves shall be wiped/cleaned 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. The UV disinfection system shall be operated in accordance with an approved operations and maintenance plan, which specifies clearly the operational limits and responses required for critical alarms. A copy of the approved operations plan should be maintained at the treatment plant and be readily available to operations personnel and regulatory agencies. A quick reference plant operations data sheet should be posted at the treatment plant and 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. Lamps shall be replaced every 9,400 hours of operation, or sooner, if there are indications that the lamps are failing to provide adequate disinfection. Lamp age and

lamp replacement records must be maintained for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, Section IV).

i. Flow meters and UV transmittance (UVT) monitors must be properly calibrated to ensure proper disinfection.

j. The UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.

k. If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2 percent or more, the on-line UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.

l. The UV disinfection system must be operated 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. Equivalent or substitutions of equipment shall not occur without an adequate demonstration of equivalent disinfection performance to the satisfaction and approval of CDPH.

n. Flow through the UV disinfection system shall not exceed 3.7 mgd, unless otherwise approved by CDPH.

V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required to be addressed as part of this Order. However, a receiving water condition not in conformance with the limitation is 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 a violation has occurred.

A. Surface Water Limitations

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 specific conductance concentration of the receiving waters to increase above 285 micromhos more than 50 percent of the time, or above 375 micromhos more than 10 percent of the time.

4. The discharge shall not cause the total dissolved solids concentration of the receiving waters to increase above 170 mg/L more than 50 percent of the time, or above 200 mg/L more than 10 percent of the time.

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

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

7. 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.

8. 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.

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

10. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

11. 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.

12. 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.

13. The discharge shall not cause a measurable temperature change in the receiving water at any time.

14. 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, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels that are harmful to human health.

15. The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

16. 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.

17. 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.

18. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent MCLs

established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

19. 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, best practicable treatment and control) 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 treated wastewater shall not cause alterations of groundwater that result in chemical concentrations in groundwater in excess of limits specified in title 22, division 4, chapter 15, article 4, sections 64431 (Tables 2 and 3) and 64444, and the Basin Plan.

3. The collection, treatment, storage and disposal of the treated wastewater shall not cause levels of radionuclides in groundwater 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 recycled water shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

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

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

a. 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, interim or final effluent limitation, land discharge specification, recycled water specification, other specification, or 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

noncompliance. Spill notification and reporting shall be conducted in accordance with section V.E. of Attachment D and X.E. of the MRP.

B. Monitoring and Reporting Program (MRP) Requirements

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

2. Receiving Water Limit Compliance Assurance and Monitoring Plan. By October 1, 2014, the Permittee shall review and revise as appropriate and resubmit for approval by the Regional Water Board Executive Officer, its Receiving Water Limit Compliance Assurance and Monitoring Plan. The Plan shall include a schedule for implementing a plan to establish a new downstream receiving water monitoring location.

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 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. The Regional Water Board plans to develop and adopt total maximum daily loads (TMDLs) for sediment, temperature, and pathogens that will specify wasteload allocations (WLAs) for point sources and load allocations (LA) for non-point sources, as appropriate. Following the adoption of these TMDLs by the Regional Water Board, this Order will be reopened and modified to include final WQBELs based on applicable WLAs.

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 2.41 has been used, as further described in section IV.C.3.b 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 when developing effluent limitations for copper. If the Permittee performs studies on additional parameters other than copper to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or translator studies were performed in accordance with U.S. EPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.

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

g. Salt and Nutrient Management Plans (SNMPs). The Recycled Water Policy adopted by the State Water Board on February 3, 2009, and effective May 14, 2009, recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional SNMPs rather than through imposing requirements solely on individual recycled water projects. This Order may be reopened to incorporate provisions consistent with any SNMP(s) adopted by the Regional Water Board.

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

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

i. Whole Effluent Toxicity. For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Permittee to conduct acute and chronic whole effluent toxicity (WET) testing, as specified in MRP section V. Furthermore, this Provision requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the numeric toxicity monitoring trigger during accelerated monitoring established in this Provision, the Permittee is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Permittee to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

ii. TRE Work Plan. The Permittee reviewed its May 5, 2004, TRE work plan prior to submittal of the June 20, 2013, Report of Waste Discharge and found it to be adequate. This work plan shall be reviewed by the Permittee at least once every 5 years and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The Permittee shall notify the Regional Water Board of this review and submit any revision of the TRE work plan with each Report of Waste Discharge.

iii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring as required in the section V.B.9 of the MRP. The Permittee shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.

iv. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger to initiate a TRE is 1.6 TUc (where TUc = 100/NOEC) as a single sample result and 1.0 TUc as a monthly median. The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to begin accelerated monitoring and initiate a TRE, as further described in Compliance Determination section VII.J of this Order.

b. Recycled Water BMP/Operations and Management Plan. By October 1, 2014, the Permittee shall submit a written plan that identifies BMPs and operational practices that will be implemented to achieve efficient irrigation at its recycled water use site(s) to ensure that hydraulic and nutrient agronomic rates are not exceeded. The Plan shall include, where appropriate, the BMPs identified in Water Recycling Requirement B.12 of Attachment G. After preliminary review for completeness and adequacy for water quality protection, the Plan shall be subject to a 30-day public comment period to be noticed on the Regional Water Board's website. Upon approval of the Plan by the Regional Water Board Executive Officer, the Permittee shall implement the Plan.

c. Assimilative Capacity Analysis. By October 1, 2014, the Permittee shall perform an assimilative capacity evaluation, through a salt/nutrient mass balance or similar analysis, to determine what percent of the available assimilative capacity of nitrogen and salt in groundwater is utilized by the existing land disposal and reclamation use sites and document the analysis and the results in a written report to the Regional Water Board Executive Officer. After preliminary review for completeness and adequacy for water quality protection, the Analysis shall be subject to a 30-day public comment period to be noticed on the Regional Water Board's website.

d. Treatment and Disposal Capacity Analysis. By March 1, 2015, the Permittee shall provide an evaluation of its treatment and disposal capacity (wet-weather and dry-weather) and submit a written report to the Regional Water Board Executive Officer identifying the current limitations of the treatment and disposal systems, the specific measures needed to correct any identified limitations, and a schedule for addressing the limitations.

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 reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), 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) A sample result is reported as DNQ and the effluent limitation is less than the RL; or

(b) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

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:

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

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

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

(iv) 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 Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. 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 treatment Facility so as to achieve the required level of treatment at all times.

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

iii. Description of laboratory and quality assurance procedures.

iv. Process and equipment inspection and maintenance schedules.

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

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

5. Special Provisions for Municipal Facilities

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 such, the Permittee provides notification and reporting of SSOs in accordance with the requirements of Order No. 2006-003-DWQ, WQ 2008-0002-EXEC, and WQ 2013-0058-EXEC and any revisions thereto for the 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 Facility 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 and Influent Priority Pollutant Monitoring

(i) The Permittee shall conduct an industrial waste survey (IWS) of all the industrial users (IUs) in the service area of the Facility at least one time per permit term to determine whether any IUs are subject to pretreatment standards specified in 40 C.F.R. Part 403. 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 flow rate; 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.

(ii) The IWS shall be completed by October 1, 2015.

(iii) The results of the IWS shall be submitted to the Regional Water Board in a written report no later than December 1, 2015. 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 Report of Waste Discharge and the pretreatment program for the Regional Water Board's review and approval as soon as possible, but not more than one year after the Permittee's notification to the Regional Water Board of the need for pretreatment requirements being triggered;

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

(d) The Permittee shall notify each CIU of its discharge effluent limits. The limits must be as stringent as the pretreatment standards contained in the applicable federal category (40 C.F.R. Part 400-699). The Permittee may develop more stringent, technology-based local limits if it can show cause; and

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

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

iv. The Regional Water Board may amend this Order, at any time, to require the Permittee to develop and implement an industrial pretreatment program pursuant to the requirements of 40 C.F.R. Part 403 if the Regional Water Board finds that the Facility receives pollutants from an 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. 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. 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.

v. The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that may adversely affect human health or the environment.

vi. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

vii. Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from a design storm with a 100-year recurrence interval and 24-hour duration.

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

d. Biosolids Management

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

i. For the land application of biosolids as soil amendment within the North Coast Region, the Permittee shall 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, 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 CDPH where water recycling is involved.

6. Other Special Provisions

a. Storm Water. 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.

b. Flood Control and Flow Reduction Mitigation. The Permittee must routinely implement measures and actions in order to minimize the potential for sanitary sewer overflows and bypass events from the Facility. The Permittee's "Collection System Operations and Maintenance Plan" dated September 2001 identifies measures and actions that the Permittee has committed to implementing. These measures must include, but are not limited to, reduction of peak flow pumping capacity of the lift stations to 3.5 mgd to avoid overwhelming the treatment plant, installing shut-off valves in flood-prone areas that must be closed prior to potential flood events, bolting down manhole covers, and conducting inspections of private cleanouts prior to and after major storm events. In addition, the Permittee has committed to implementing a water conservation program and conducting public outreach. The Permittee shall describe the effectiveness of these flood control and flow reduction mitigation measures in its annual report to the Regional Water Board.

7. Compliance Schedule

The Permittee shall comply with the following compliance schedule to achieve compliance with final effluent limitations for nitrate and ammonia and final discharge specifications for nitrate. The Permittee shall notify the Regional Water Board, in writing, of its compliance with the compliance requirement on or before each compliance date.

Table 9. Compliance Schedule for Final Effluent Limitations for Ammonia and Nitrate and Final Discharge Specifications for Nitrate

Task Number	Task Description	Compliance Date
1	The Permittee shall begin operation of the Biological Nutrient Removal (BNR) treatment process.	October 1, 2014
2	The Permittee shall comply with final effluent limitations and discharge specifications for nitrate.	December 1, 2014
3	The Permittee shall conduct performance monitoring and assessment of the upgraded treatment plant with regard to compliance with ammonia effluent limitations from October 1, 2014, through May 14, 2015. The Permittee shall submit a report on the results of the upgraded treatment plant performance testing and provide an assessment of compliance with ammonia effluent limitations. If performance monitoring and assessment demonstrate that the Facility does not comply with final ammonia effluent limitations, the report shall identify additionl actions and a schedule for achieving compliance with final effluent limitations for ammonia.	July 1, 2015
4	If necessary, the Permittee shall implement the additional actions described in the performance assessment report to achieve compliance with final ammonia effluent limitations from August 1, 2015, through March 1, 2016. The Permittee shall submit a final report describing the results of the additional	May 1, 2016

Task Number	Task Description	Compliance Date
	actions completed and identifying the Permittee's plan to achieve compliance with final ammonia effluent limitations.	
5	The Permittee shall comply with final effluent limitations for ammonia.	October 1, 2016

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations and monitoring triggers contained in sections IV and VI.C.2.a of this Order will be determined as specified below.

A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP 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 the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data

When determining compliance with an average monthly effluent limitation 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 values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

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. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

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. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

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. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

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 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 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, DNQ determinations next, followed by quantified values. The order of the individual ND and DNQ determinations is not important. The median value is determined based on the number of data points in the set. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.

2. Compliance with the 7-day median will be determined as a rolling median during periods when sampling occurs more frequently than weekly. During periods when sampling is weekly, this requirement shall apply to each weekly sample.

I. Acute Toxicity Limitations

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

J. Chronic Toxicity Triggers

1. When a single chronic toxicity test result is available in a monthly monitoring period, the need for accelerated monitoring will be determined by comparing the single result to the monthly median chronic toxicity trigger of 1.0 TUc.

2. If two or more chronic toxicity test results are available in a monthly monitoring period, the need for accelerated monitoring will be determined by calculating the median of the test results and comparing the calculated median to the monthly median chronic toxicity trigger of 1.0 TUc, and the individual sample results will be compared to the single sample chronic toxicity trigger of 1.6 TUc. If the first monthly chronic toxicity result is greater than 1.6 TUc, a minimum of three chronic toxicity test results would be needed to determine the need for accelerated monitoring based on the monthly median chronic toxicity trigger of 1.0 TUc.

K. Mean Daily Dry Weather Flow

Compliance with the mean daily dry weather flow prohibition in section III.H of this Order will be determined by evaluating all flow data collected in a calendar year. Each 30 day period of flow must be 0.51 mgd or less. A higher ADWF up to 0.71 mgd may be allowed upon concurrence by the Regional Water Board Executive Officer. The Permittee must demonstrate to the Regional Water Board Executive Officer's satisfaction that there is sufficient storage and recycled water capacity to handle the full average dry weather design capacity.

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 less than the RL, but greater than or equal to the laboratory's MDL.

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 the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

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

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

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

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

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

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

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

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

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

Method Detection Limit (MDL): the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, 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): 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, and recycling, 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 Clean Water Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

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:

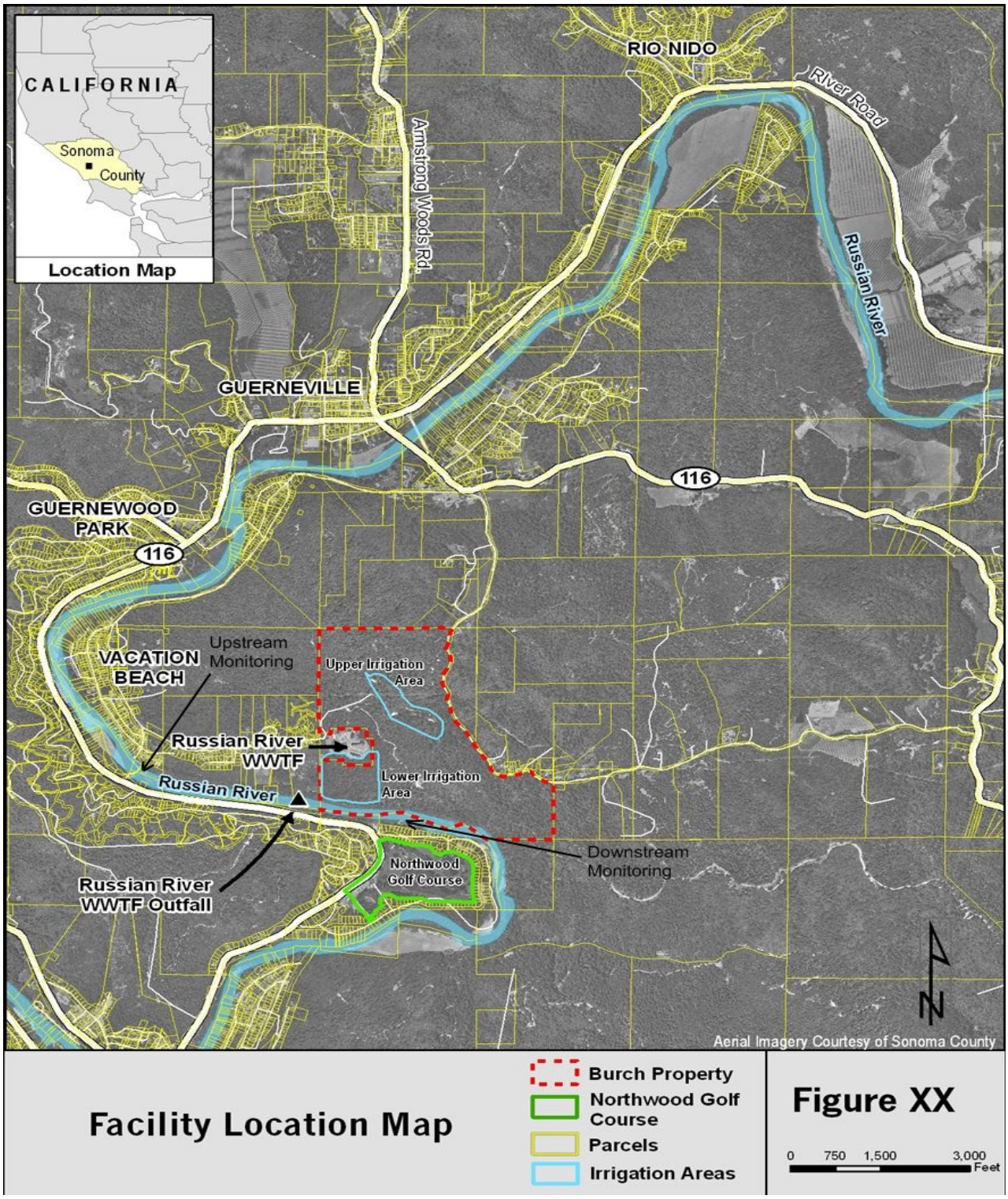
x is the observed value;

μ is the arithmetic mean of the observed values; and

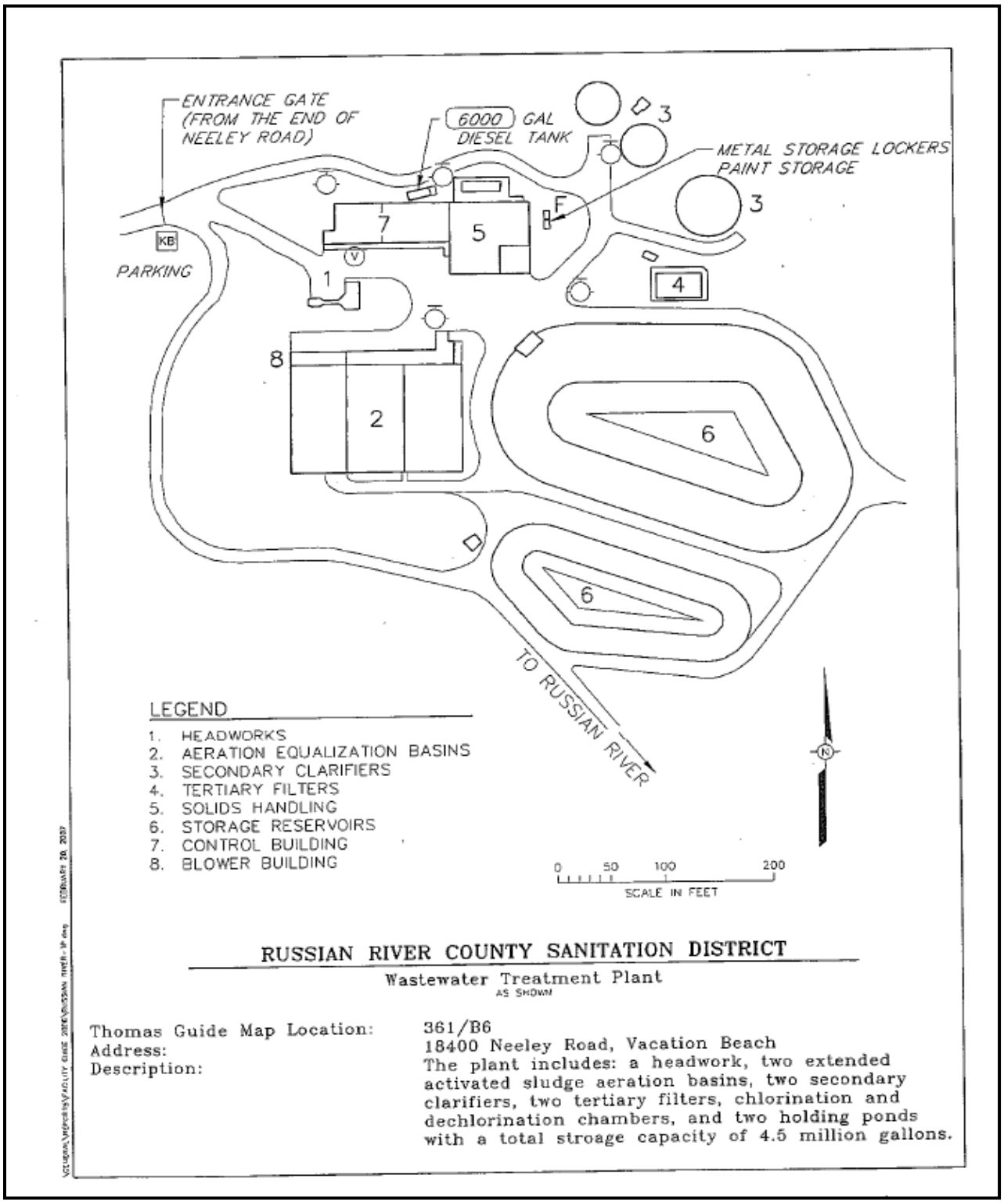
n is the number of samples.

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.)

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 results must be conducted according to test procedures under 40 C.F.R. part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R. part 136 unless otherwise specified in 40 C.F.R. part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the 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

A. 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 the 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 NO. R1-2014-0002 (REVISED OCTOBER 20, 2015)

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. Water Code sections 13267 and 13383 also authorize 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 one 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 California Department of Public Health (CDPH), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. Instrumentation and Calibration Provision. All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly installed, calibrated, operated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. All flow measurement and UV transmittance 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 commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no ML value is below the effluent limitations, the lowest ML shall be selected as the RL.

F. Effluent and receiving water monitoring should occur within a brief enough period to be able to evaluate the effect of the effluent on receiving water quality.

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/ Distribution Point Name	Monitoring Location Name	Monitoring Location Description
---	INF-001	Untreated influent wastewater collected at the plant headworks at a representative point preceding primary treatment. Latitude: 38.48535° N Longitude: 122.999° W
---	INT-001A	Location for monitoring surface loading rate through AWT filters.
---	INT-001B	Treated wastewater immediately following the AWT process for monitoring AWT turbidity and effluent flow.

Discharge/ Distribution Point Name	Monitoring Location Name	Monitoring Location Description
---	INT-002	Location for monitoring ultraviolet (UV) radiation dose and UV transmittance of the UV disinfection system
001	EFF-001	Treated wastewater after disinfection, but prior to storage (for monitoring technology-based effluent limitations). Latitude: 38.4854° N Longitude: 122.9982° W
002	EFF-002[1]	Location following storage where representative sample of treated, disinfected effluent may be collected prior to discharge to Russian River (for monitoring WQBELs). Latitude: 38.482087° N Longitude: 123.000052° W
003	LND-001[1]	Location where representative samples of treated wastewater, to be used for irrigation on the Burch property, can be collected, following all treatment and storage and immediately before its application for irrigation.
004	REC-001[1]	Location where representative samples of treated wastewater, to be used for recycled water irrigation at the Northwood Golf Course or other approved recycled water use sites, can be collected, following all treatment and on-site storage and immediately before its application for irrigation.
---	RSW-001	Upstream receiving water monitoring location. Samples shall be representative of background conditions in the Russian River. Latitude: 38.4834° N Longitude: 123.0106° W
---	RSW-002	Downstream receiving water monitoring location. Samples shall be representative of conditions in the Russian River following introduction and mixing of effluent from the wastewater treatment Facility. Historic monitoring location replaced by RSW-004 as of October 2015. Latitude: 38.4812° N Longitude: 122.9955° W
---	RSW-003	Upstream receiving water monitoring location, immediately upstream of discharge outfall.
---	RSW-004	Downstream receiving water monitoring location, approximately 90 feet downstream of the discharge outfall.
---	GW-001	Down-gradient monitoring well, located in the lower Burch irrigation area and approximately 225 feet down-gradient of monitoring well GW-002.
---	GW-002	Down-gradient monitoring well, located at the up-gradient edge of the lower Burch irrigation area.
---	GW-003	Up-gradient groundwater monitoring well. This well is located at the entrance to the Facility and is approximately 500 feet up-gradient of the lower Burch irrigation area.
---	BIO-001	A representative sample of the sludge or biosolids generated when removed for disposal.

Discharge/ Distribution Point Name	Monitoring Location Name	Monitoring Location Description
Table Notes: 1. Monitoring Locations EFF-002, LND-001, and REC-001 may be the same location, the sampling tap following the on-site effluent storage pond. Unique sampling location names were given to differentiate the three different disposal methods which each have different monitoring requirements. Abbreviations: INF- Influent; INT- Internal; EFF- Effluent; RSW-Receiving Surface Water; REC- Reclamation; GW-Groundwater; BIO-Biosolids		

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

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent Flow[1]	mgd	Continuous	Daily	---
BOD_5	mg/L	24-hour composite	Weekly	Standard Methods[2]
TSS	mg/L	24-hour composite	Weekly	Standard Methods[2]

Table Notes:
1. Each month, the Permittee shall report average daily and average monthly flows.
2. 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.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001, Discharge to Effluent Storage

1. The Permittee shall monitor treated wastewater at Monitoring Location EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Permittee must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring – Monitoring Location EFF-001 – Discharge to Effluent Storage

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Effluent Flow[1, 2]	mgd	Continuous	Daily	Meter
BOD_5	mg/L	24-hour composite	Weekly	Standard Methods[3]
	lbs/day	Calculate		
	Monthly % Removal	Calculate		
TSS	mg/L	24-hour composite	Weekly	Standard Methods[2]
	lbs/day	Calculate		

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
	Monthly % Removal	Calculate		
pH	pH units	Grab	Daily	Standard Methods[2]
Total Coliform Organisms[4]	MPN/100 mL	Grab	Daily	Standard Methods[2]
Radioactivity[5]	pCi/L	Grab	1X/permit term	40 C.F.R. 136

Table Notes:
1. Treated effluent flow may be monitored at Monitoirng Location INT-001B.
2. Each month, the Permittee shall report peak daily, average daily, and average monthly flows.
3. 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.
4. Report daily test results and 7-day medians.
5. Radionuclides measured shall include Combined Radium-226 and Radium 228, Gross Alpha. Gross Beta, Tritium, Strontium-90, and Uranium.

B. Monitoring Location EFF-002, Discharge to Russian River

1. The Permittee shall monitor treated wastewater to be discharged to the Russian River prior to contact with the receiving water at Monitoring Location EFF-002 as follows:

Table E-4. Effluent Monitoring – Monitoring Location EFF-002 – Discharge to Russian River

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Effluent Flow[1]	mgd	Continuous	Daily	Meter
Dilution Rate	% of stream flow	Calculation	Daily	---
pH	pH units	Grab	Daily	Standard Methods[2]
Dissolved Oxygen	mg/L	Grab	Daily	Standard Methods[2]
Temperature	°C	Grab	Daily	Standard Methods[2]
Specific Conductance[3]	µhmos/cm	Grab	Monthly	Standard Methods[2]
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods[2]
Aluminum	mg/L	Grab	Monthly	Standard Methods[2]
Ammonia Nitrogen, Total (as N)[4]	mg/L	Grab	Monthly	Standard Methods[2]
Unionized Ammonia (as N)	mg/L	---	Monthly	Calculation
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods[2]
Organic Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods[2]
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods[2]
Hardness	mg/L	Grab	Once per Discharge Season[5]	Standard Methods[2]
Copper	µg/L	Grab	Once per	EPA Method 200.8

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
			Discharge Season	
Bis (2-Ethylhexyl) Phthalate	µg/L	Grab	2X/discharge season	EPA Method 625
Acute Toxicity Bioassay – two species	Percent survival	Grab	Once per Discharge Season	*See Section V.A*
Chronic Toxicity Bioassay	TUc	Grab	Once per Discharge Season	*See Section V.B*
Chronic Toxicity (Narrative)	Passed/ Triggered[6]			
CTR Priority Pollutants[7, 8]	µg/L[9]	Grab	1X per Permit Term	40 C.F.R. 136
Title 22 Pollutants[10]	µg/L[9]	Grab	1X per Permit Term	Standard Methods[2]

Table Notes:

1. The Permittee shall report average daily, maximum daily, and average monthly flows.
2. 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.
3. Measured in micromhos/cm at 25^0 C.
4. Monitoring for ammonia shall be concurrent with acute whole effluent toxicity monitoring (section V.A.1 of the MRP). Temperature and pH shall be recorded at the same time that the ammonia sample is collected.
5. Effluent hardness shall be monitored concurrently with the once per discharge season copper sample and the once per permit term priority pollutant sample.
6. The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test "passed" or "triggered" in relation to the chronic toxicity trigger of 1.6 TUc (where TUc=100/NOEC) for each single sample or 1.0 TUc as a monthly median. For narrative chronic toxicity reporting, "Passed" shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.6 TUc or a monthly median of ≤1.0 TUc). "Triggered" shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.6 TUc for a single sample or 1.0 TUc as a monthly median.
7. Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 C.F.R. 131.38 (b) (1). Samples shall be collected on the same day as receiving water samples are collected for analysis of the priority pollutants. Analyses for the priority pollutants shall be conducted in accordance to methods established at 40 C.F.R. 136, or if no method is specified for a pollutant at 40 C.F.R. 136, in accordance to methods approved by the State Water Resources Control Board or the Regional Water Board. Holding times for unpreserved cyanide shall not exceed one hour.
8. Analytical methods shall achieve the minimum levels (ML) specified in Appendix 4 of the SIP. If no ML value is below the effluent limitation, the lowest ML shall be selected as the reporting level (RL). In accordance with section 2.4.1 of the SIP, the Permittee shall report the Reporting Level (RL) and the Method Detection Limit (MDL) with each sample result.
9. Or other appropriate units.
10. Title 22 Drinking Water Constituents are those pollutants for which the California Department of Public Health has established Maximum Contaminant Levels (MCLs) at title 22, division 4, chapter 15, article 4, section 64431 (Inorganic Chemicals) and article 5.5, section 64444 (Organic Chemicals) of the CCR. Duplicate analyses are not required for pollutants that are identified both as CTR and title 22 pollutants. Monitoring required in future permit terms may be reduced to only those pollutants detected in the title 22 sampling conducted during this term.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Permittee shall conduct acute whole effluent toxicity testing (WET) to determine compliance with the effluent limitation for acute toxicity established by section IV.A.2.b of the Order.

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 002, as summarized in Table E-4, above.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be grab samples collected at Monitoring Location EFF-002.

3. **Test Species.** Test species for acute WET testing shall be with an invertebrate, the water flea (*Ceriodaphnia dubia*) and a vertebrate, the rainbow trout (*Oncorhynchus mykiss*).

4. **Test Methods.** The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

   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.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-002.

6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all test acceptability criteria, 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 VI.C.2.a. of the Order. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all test acceptability criteria, 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.

8. **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.

9. **Reporting.** The acute toxicity test results shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with 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). The submitted report shall clearly identify test results and the Permittee's status with regard to compliance with effluent limitations and other permit requirements.

10. **Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

B. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing to demonstrate compliance with the Basin Plan's water quality objective for toxicity and in accordance with chronic toxicity monitoring provisions established in section VI.C.2 of the Order. The Permittee shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Permittee shall conduct chronic WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 002, as summarized in Table E-4, above.
2. **Sample Type.** Effluent samples for chronic toxicity testing shall be grab samples collected at EFF-002. For toxicity tests requiring renewals, grab samples collected on consecutive days are required. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with U.S. EPA test methods.
3. **Test Species.** Test species for chronic WET testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth Test Method 1000.0), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction Test Method 1002.01), and a plant, the green algae, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (growth Test Method 1003.0). At least one time every 5 years, the Permittee shall conduct two suites of chronic WET testing using the three species identified above. After this screening period, monitoring shall be conducted annually using the most sensitive species.
4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in U.S. EPA's *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).

   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 chronic toxicity report submitted to the Regional Water Board. The control of pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the receiving water 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.
5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. Effluent dilution and control water may be receiving water or standard synthetic laboratory water as described in the U.S. EPA test methods manual. Where toxicity or biostimulatory issues are not a concern in the receiving water, receiving water is preferred for control and dilution water. If the dilution water used is different from the culture water, a second control using culture water shall be used.
6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly

reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 14 days following notification of test failure.

8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding the chronic toxicity monitoring trigger during regular or accelerated monitoring.

9. **Accelerated Monitoring Requirements.** If the result of any chronic toxicity test exceeds the chronic toxicity monitoring trigger of 1.6 TUc as a single sample result or 1.0 TUc as a monthly median, as specified in section VI.C.2.a.iv of the Order, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples and dilution series (specified in number 5 above) – with one test for each test species showing toxicity results exceeding the toxicity trigger. Accelerated monitoring tests shall be conducted approximately every week over a four week period.

   Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:

   a. If the results of any accelerated toxicity testing exceed 1.0 TUc as a monthly median, the Permittee shall cease accelerated monitoring, and within 30 days of the date of completion of the accelerated monitoring, initiate the TRE Work plan developed in accordance with section VI.C.2.a.ii of the Order to investigate the cause(s) and identify actions to reduce or eliminate the chronic toxicity. Within 30 days of completing the TRE Work plan implementation, the Permitttee shall submit a report to the Regional Water Board that shall include, at a minimum:

      i. Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

      ii. Specific actions the Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;

      iii. Recommendations for further actions to mitigate continued toxicity, if needed; and

      iv. A schedule for implementation of recommended actions.

   b. If the results of four consecutive accelerated monitoring tests do not exceed the chronic toxicity trigger of 1.0 TUc, as a monthly median, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Permittee initiate a TRE.

   c. If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Permittee shall make necessary corrections to the Facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring

trigger. Upon confirmation that the chronic toxicity has been removed, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring.

C. Chronic Toxicity Reporting

1. **Routine Reporting.** Chronic toxicity monitoring results shall be submitted with the monthly self-monitoring report for the month that chronic toxicity monitoring was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:

   a. WET test reports shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals and this MRP. The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:

      i. receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics;

      ii. the source and make-up of the lab control/diluent water used for the test;

      iii. any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;

      iv. identification of any reference toxicant testing performed;

      v. tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TUc and IC25;

      vi. identification of any anomalies or nuances in the test procedures or results; and

      vii. summary and conclusions section.

      viii. WET test results shall include, at a minimum, for each test:

         (a) Sample date(s);

         (b) Test initiation date;

         (c) Test species;

         (d) End point values for each dilution (e.g., number of young, growth rate, percent survival);

         (e) NOEC value(s) in percent effluent;

         (f) IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent;

         (g) TUc values (100/NOEC);

         (h) Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable);

         (i) NOEC and LOEC values for reference toxicant test(s);

         (j) IC50 or EC50 value(s) for reference toxicant test(s);

         (k) Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);

         (l) Statistical methods used to calculate endpoints;

(m) The statistical output page, which includes the calculation of percent minimum significant difference (PMSD); and

(n) Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

b. 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 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.9 of this MRP.

2. Quality Assurance Reporting. Because the permit requires sublethal hypothesis testing endpoints from methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (U.S. EPA Report No. EPA-821-R-02-013, 2002, or subsequent editions), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location LND-001

1. The Permittee shall monitor treated wastewater at Monitoring Location LND-001 as follows:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow[1]	mgd	Meter	Continuous	Meter
pH	Standard units	Grab	Daily	Standard Methods[2]
Nitrate (as N)	mg/L	Grab	Monthly	Standard Methods[2]
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Method 2540C

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Sodium	mg/L	Grab	Monthly	Standard Methods[2]
Aluminum	mg/L	Grab	Monthly	Standard Methods[2]
Visual Observations[3]	---	---	Daily	Visual

Table Notes:
1. Each month, the Permittee shall report the number of days that treated wastewater was used for irrigation on the Burch property, as well as the average and maximum daily flow rate to each property.
2. 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.
3. Visual observations shall be conducted during and immediately after any discharge to the irrigation system, and shall include a record of any odors, evidence of surface run-off, or other signs of malfunction or improper operation. The monthly monitoring report shall include the daily volume of treated wastewater distributed to the irrigation field, and any observations indicating non-compliance with the provisions of the waste discharge requirements.

VII. RECYCLING MONITORING REQUIREMENTS

A. Monitoring Location REC-001

1. The Permittee shall monitor recycled water distributed for irrigation at Monitoring Location REC-001 as follows:

Table E-6a. Recycling Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow[1]	mgd	Meter	Continuous	Meter
Nitrate Nitrogen, Total (as N)[2]	mg/L	Grab	Monthly	Standard Methods[3]
Nitrite Nitrogen, Total (as N)[2]	mg/L	Grab	Monthly	Standard Methods[3]
Ammonia Nitrogen, Total (as N)[2]	mg/L	Grab	Monthly	Standard Methods[3]
Organic Nitrogen, Total (as N)[2]	mg/L	Grab	Monthly	Standard Methods[3]
Total Dissolved Solids (TDS)	mg/L	Grab	Monthly[4]	Standard Methods[3]
Chloride	mg/L	Grab	Monthly[4]	Standard Methods[3]
Boron	mg/L	Grab	Monthly[4]	Standard Methods[3]
Sodium	mg/L	Grab	Monthly[4]	Standard Methods[3]
Visual Observations[5]	--	--	---	Visual

Table Notes:
1. Each month, the Permittee shall report the number of days that treated wastewater was used for recycled water irrigation at the Northwood Golf Course or other approved recycled water use sites, as well as the average and maximum daily flow rate.
2. Monitoring for nitrate, nitrite, ammonia and organic nitrogen is for the purpose of determining total nitrogen concentration for agronomic rate calculations.
3. 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.
4. The monitoring frequency for TDS, chloride, boron, and sodium may be reduced to annually if the previous year of monitoring data demonstrates that concentrations of these constituents are consistently lower than water quality objectives for protection of groundwater.
5. During periods of discharge to the irrigation system, visual observations shall be conducted at least monthly for agronomic applications to verify compliance with recycled water requirements in Attachment G. The inspection frequency shall be increased for use sites with a history of non-compliance with water recycling requirements established in this Order. Visual monitoring shall confirm proper operation of the recycled water system and associated BMPs. The Permittee shall include a record of any malfunctions or findings of improper operation, including, but not limited to odors, evidence of surface run-off, or ponding that exceeds 24-hours. Visual observations

may be performed by the irrigation users in accordance with the Permittee's user agreements. The monthly recycled water report shall include the daily volume of treated wastewater discharged to the irrigation system and any observations indicating non-compliance with the provisions of the waste discharge requirements.

2. The Permittee shall comply with Water Recycling Requirements and Provisions contained in Attachment G of this Order.

B. Recycled Water Production and Use

1. Recycled water quality characteristics and precipitation data shall be used to ascertain nitrogen loading rates at each recycled water use site. The following information shall be reported for each use site or use site type.

2. Reporting of the required monitoring shall be provided annually in the Annual Recycled Water Report to the Regional Water Board, and annually to recycled water users.

Table E-6b. Recycled Water Production and Use

Parameter	Units	Sample Type	Minimum Monitoring Frequency
Volume of recycled water[1]	Acre-feet	Meter	Monthly
Total area of application	Acres	Observation	Monthly
Total Nitrogen application rate[2, 3]	lbs/acre-month	Calculation	Monthly
Rainfall	Inches	Gage	Daily

Table Notes:
1. Estimation of the volume of recycled water shall not include other potable or non-potable "make-up" water used in conjunction with recycled water.
2. Nitrogen application rate shall consider nitrogen content of the recycled water, based on effluent monitoring data.
3. Nitrogen concentrations shall be calculated and reported "as N". For example, nitrate-nitrogen = 27 mg/L as NO3 shall be converted and reported as nitrate-nitrogen = 6.1 mg/L as N using a conversion factor of 14.067 (N)/62.0049 (NO3).

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring

1. Monitoring Location RSW-001. The Permittee shall monitor upstream conditions in the Russian River during the discharge season at Monitoring Location RSW-001 as follows:

Table E-7a. Receiving Water Monitoring Requirements – RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow[1]	mgd	Meter	Daily	---
pH	pH units	Grab	Weekly	Standard Methods[2]
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods[2]
Temperature	^{0}C	Grab	Weekly	Standard Methods[2]
Turbidity	NTU	Grab	Weekly	Standard Methods[2]
Specific Conductance[3]	µhmos/cm	Grab	Monthly[4]	Standard Methods[2]
Total Dissolved Solids	mg/L	Grab	Monthly[4]	Standard Methods[2]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly[4]	Standard Methods[2]
Unionized Ammonia	mg/L		Monthly[4]	Calculation
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly[4]	Standard Methods[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Organic Nitrogen, Total (as N)	mg/L	Grab	Monthly[4]	Standard Methods[2]
Total Phosphorus, Total (as P)	mg/L	Grab	Monthly[4]	Standard Methods[2]
CTR Priority Pollutants[5, 6]	µg/L[7]	Grab	Once per Permit Term	40 C.F.R. 136
Hardness ($CaCO_3$)	mg/L	Grab	Concurrent with priority pollutant sampling	Standard Methods[2]

Table Notes:
1. The flow rate shall be determined using USGS Gage No. 11-4670.00 at the Hacienda Bridge, and compared to the daily discharge rate to determine compliance with Discharge Prohibition III.K of the Order. For each month during the discharge season, peak daily and average daily flow shall be reported.
2. 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.
3. Measured in micromhos/cm at 25^0 C.
4. If monitoring results do not vary significantly after two years of monitoring, the monitoring frequency may be reduced to twice a year.
5. Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 C.F.R. 131.38(b)(1). Samples shall be collected on the same day as effluent samples for analysis of the priority pollutants. Analyses for the priority pollutants shall be conducted in accordance to methods established at 40 C.F.R. Part 136, or if no method is specified for a pollutant at 40 C.F.R. Part 136, in accordance to methods approved by the State Water Resources Control Board or the Regional Water Board.
6. Analytical methods shall achieve the minimum levels (ML) specified in Appendix 4 of the SIP. If no ML value is below the effluent limitation, the lowest ML shall be selected as the reporting level (RL). In accordance with section 2.4.1 of the SIP, the Permittee shall report the Reporting Level (RL) and the Method Detection Limit (MDL) with each sample result.
7. Or other units as appropriate.

2. Monitoring Locations RSW-003 and RSW-004

The Permittee shall monitor upstream and downstream conditions in the Russian River during the discharge season at Monitoring Locations RSW-003 and RSW-004 as follows:

Table E-7b. Receiving Water Monitoring Requirements – RSW-003 and RSW-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	pH units	Meter	4 Samples (1/year)[1]	Standard Methods[2]
Dissolved Oxygen	mg/L	Grab or Meter	4 Samples (1/year)[1]	Standard Methods[2]
Temperature	^{0}C	Meter	4 Samples (1/year)[1]	Standard Methods[2]
Turbidity	NTU	Grab or Meter	4 Samples (1/year)[1]	Standard Methods[2]
Specific Conductance[3]	µhmos/cm	Grab or Meter	4 Samples (1/year)[1]	Standard Methods[2]
Total Dissolved Solids	mg/L	Grab or Meter	4 Samples (1/year)[1]	Standard Methods[2]
Visual Observations[4]			1/year	---

Table Notes:
1. Samples collected every 15 minutes for one hour during the month of October or November during period of discharge.
2. 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.
3. Measured in micromhos/cm at 25^0 C.
4. Visual observations will be recorded during each sampling event. Observations will include presence of floating materials, odors, objectionable aquatic growths, coloration, and visible films or coatings on water surface.

B. Groundwater Monitoring Locations GW-001, GW-002, and GW-003

1. The Permittee shall monitor groundwater to assess impacts of land discharge in the lower Burch disposal area at Monitoring Locations GW-001, GW-002, and GW-003 as follows:

Table E-7c. Receiving Water Monitoring Requirements - Groundwater

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
pH	Standard units	Grab	Monthly	Standard Methods[2]
Nitrate (as N)	mg/L	Grab	Monthly	Standard Methods[2]
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods[2]
Sodium	mg/L	Grab	Monthly	Standard Methods[2]
Chloride	mg/L	Grab	Monthly	Standard Methods[2]
Aluminum	mg/L	Grab	Monthly	Standard Methods[2]
Depth to Groundwater	inches	Grab	Monthly	Measurement

Table Notes:
1. The groundwater monitoring frequency may be reduced to quarterly, upon demonstration by the Permittee that the disposal of wastewater has not caused groundwater quality objectives to be exceeded or statisitically significant degradation of groundwater quality, for a period of two years, and approval by the Regional Water Board Executive Officer.
2. 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.

IX. OTHER MONITORING REQUIREMENTS

A. Filtration Process Monitoring

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 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 self-monitoring report.

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

a. Monitoring. The turbidity of the filter 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 monitoring reports.

b. Compliance. Compliance with the effluent turbidity limitation specified in section IV.D.1.b. (Filtration Process Requirements) of this 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 filter effluent turbidity exceeds an average of 2 NTU during a 24-hour period, 5 NTU more than 5 percent of the time during a 24-hour period, or 10 NTU at any time, the incident shall be reported in the monthly self-monitoring report and the incident shall be reported to the Regional Water Board and CDPH by telephone within 24 hours in accordance with Provision VI.A.2.b of the Order only if the effluent was sent to the recycled water distribution system or discharged to the Russian River. A written report describing the incident and the actions undertaken in response shall be included in the monthly self-monitoring report. Mitigation of the event shall consist of diverting the non-compliant effluent, land application at Discharge Point 003, 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.** 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.

2. **Compliance.** The UV transmittance shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH. The operational UV dose shall not fall below 100 millijoules per square centimeter (mJ/cm^2) at any time, unless otherwise approved by CDPH. Flow through the UV disinfection system shall not exceed 3.7 mgd, unless otherwise approved by CDPH.

3. **Reporting.** The Permittee shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports. The Permittee shall report daily average and minimum flow through the UV disinfection system. If the UV transmittance falls below 55 percent or UV dose falls below 100 mJ/cm^2, the event shall be reported to the Regional Water Board and the CDPH by telephone with 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 at Monitoring Locations LND-001 and REC-001

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 monitoring reports.

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

2. 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.

3. 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, quarterly, and annual SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the 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.

4. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.

5. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-8 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 month of sampling
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 month of sampling
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 month of sampling
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	First day of second calendar month following end of quarter

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	March 1 of each year (with annual report)
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1 of each year (Annual Report)
Once per Discharge Season	Permit effective date	October 1 through May 14, during a period of discharge to surface waters	July 1 of each year
Once per Permit Term	Permit effective date	October 1 through May 14, during a period of discharge to surface waters	With application for permit renewal

6. **Reporting Protocols.** The Permittee shall report with each sample result the applicable Reporting Level (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 RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

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

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

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

   d. Permittees are 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.

7. **Compliance Determination.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

8. **Multiple Sample Data.** When determining compliance with an AMEL or MDEL 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:

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

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

9. 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. The Permittee's reports shall clearly identify the Discharge or Distribution Points that were utilized during the monitoring period. During periods when there is no discharge to one more Discharge or Distribution Points, the reports shall certify "No Discharge".

   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, including a description of any requirement not complied with and a description of the event, and the reason for the violation;

      v. Corrective actions taken or planned; and

      vi. The proposed time schedule for corrective actions.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). In the event that paper submittal of SMRs is required, the Permittee shall submit the SMR to the address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

C. Discharge Monitoring Reports (DMRs)

1. At any time during the term of this permit, the State Water Board or Regional Water Board may notify the Permittee to electronically submit DMRs. Until such notification is given specifically for the submittal of DMRs, the Permittee shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Permittee shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	**FEDEX/UPS/ OTHER PRIVATE CARRIERS**
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

Permittees operating a "minor" facility, if so designated in the fact sheet, are excepted from submitting DMRs under these requirements. However, at any time during the term of this permit, the State Water Board or Regional Water Board may notify such a Permittee to submit DMRs, at which time this exception will no longer apply.

3. All discharge monitoring results must be reported on the official U.S. EPA pre-printed DMR forms (EPA Form 3320-1) or on self-generated forms that follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. The Permittee shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.B and VI.C. of the Order. The Permittee shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – VI.C.7. The Permittee shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B above.

2. The Permittee shall report progress in satisfaction of compliance schedule dates, if any, specified in Special Provision – VI.C.7 of this Order. Progress reports shall be submitted on, or before, each compliance due date, and shall identify compliance or noncompliance with the specific date and task. If noncompliance is reported, the Permittee shall state the reasons for noncompliance and include an estimate of the date when the Permittee will be in compliance. The Permittee shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

3. Water Recycling System

a. Water Recycling Operations Reporting. The Permittee shall submit reports pertaining to the operation, performance, monitoring, and other activities related to water recycling as follows:

i. Monthly Recycled Water Report. The Permittee shall submit a monthly recycled water summary report, as required by section 13523.1(b)(4) of the Water Code and other requirements of this Order, containing the following information:

(a) Total volume of recycled water supplied to each recycled water user for each month of the reporting period;

(b) Total number of recycled water use sites;

(c) Locations of recycled water use sites, including a map and tabular summary with acreage and name of property owner;

(d) A summary of recycled water use site inspections conducted by the Permittee or recycled water users. Required reporting includes the number and dates of inspections conducted for each use site during the reporting period; all observations of recycled water over-application and/or runoff; and the number of observations of noncompliance for each use site including description of the noncompliance and its cause, the period of noncompliance, 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 recurrence of the noncompliance.

(e) A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in this Order.

(f) Documentation of notifications to users if any recycled water was delivered that did not meet the requirements specified in this Order.

(g) A record of equipment or process failures initiating an alarm that prevented recycled water from meeting the requirements of this Order, as well as any corrective and preventative actions.

ii. Annual Recycled Water Report. The annual report shall include but not be limited to the following:

(a) A compliance summary and discussion of the compliance record for the prior calendar year, including:

(1) In the event of noncompliance, the report shall also discuss the corrective actions taken and planned to bring the recycled water program into full compliance with this Order;

(2) Certification that all reasonable BMPs and management practices were implemented to ensure efficient and compliant operation of the recycled water system; and

(3) Identification of any other problems that occurred in the recycled water system during the prior year, including repeated occurrences of incidental runoff of which the Permittee is aware, and plans to rectify those problems in the coming year.

(b) A summary of major repairs scheduled or completed that affected the recycled water system appurtenances and irrigation areas;

(c) Enforcement and monitoring activities that occurred during the previous year, and identification of any problems and how the problems were addressed;

(d) If applicable, a summary of all cross-connection testing and back-flow prevention activities (inspections, maintenance) and a summary of any problems identified, or certification that no problems occurred;

(e) Documentation of compliance with California Health and Safety Code section 116815 as specified in Water Recycling Requirement B.17 of Attachment G regarding the installation and marking of new sites or newly retrofitted recycled water piping; and

(f) A description of agronomic rate compliance, pursuant to section VII.B of the MRP.

4. Annual Report. The Permittee shall submit an annual report to the Regional Water Board for each calendar year electronically 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 address in section X.B.9.c., above. The report shall be submitted by March 1 of the following year. The report shall, at a minimum, include the following:

a. Both tabular and, where appropriate, 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. section 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 telephone numbers of persons to contact regarding the wastewater treatment Facility for emergency and routine situations.

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

e. A statement certifying whether the current operation and management manual and spill contingency plan, reflect the wastewater treatment Facility as currently constructed and operated, and the dates when these documents were last reviewed and last revised for adequacy.

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 over the previous 12-month period, as required by Provision VI.C.5.b. of this Order.

i. A copy of the source control standards.

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 conducted by the Permittee to educate industrial, commercial, and residential users about preventing discharges of industrial and toxic wastes to the wastewater treatment plant.

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 twelve months. At a minimum, the report shall contain:

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

ii. Sludge monitoring results; and

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.

(d) 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 action.

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. Flood Control and Flow Reduction Mitigation Reporting. The Permittee shall submit, as part of its annual report to the Regional Water Board, a summary of all flood control and flow reduction mitigation measures that the Permittee implemented in the prior year and provide an evaluation of the effectiveness of those flood control and flow reduction mitigation measures and recommendations for improving the flood control and flow reduction mitigation program for the upcoming year.

E. Spill Notification

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

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

   a. Name and contact information of caller;
   b. Date, time and location of spill occurrence;
   c. Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;
   d. Surface water bodies impacted, if any;
   e. Cause of spill, if known at the time of the notification;
   f. Cleanup actions taken or repairs made at the time of the notification; and
   g. Responding agencies.

2. **Sanitary Sewer Overflows.** Notification and reporting of sanitary sewer overflows is conducted by the Permittee in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems) 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[2]

[1] The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to CalEMA will satisfy the 24 hour spill reporting requirement for the Regional Water Board. The contact number for spill reporting for the CalEMA is (800) 852-7550.

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

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 three days after becoming aware of the discharge.

Ordered by: _____

Matthias St. John
Executive Officer

14_0002_RRCSD_NPDES_Permit_MRP_Revision

Attachment F – Fact Sheet

Contents

Tables

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	1B82045OSON
Permittee	Russian River County Sanitation District and Sonoma County Water Agency
Name of Facility	Russian River Wastewater Treatment Facility
Facility Address	18400 Neeley Road
	Guerneville, CA 95446
	Sonoma County
Facility Contact, Title and Phone	Wendy Gjestland, Water Agency Engineer, (707) 521-1866
Authorized Person to Sign and Submit Reports	Grant Davis, General Manager or other SCWA engineering staff with proper signatory authority
Mailing Address	404 Aviation Boulevard, Santa Rosa, CA 95403
Billing Address	404 Aviation Boulevard, Santa Rosa, CA 95403
Type of Facility	Publicly-Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N
Recycling Requirements	Producer
Facility Permitted Flow	0.51 million gallons per day (mgd) (average daily dry weather flow to recycled water system)
Facility Design Flow	0.71 mgd (average dry weather treatment capacity) 3.5 mgd (peak wet weather treatment capacity)
Watershed	Russian River Hydrologic Unit
Receiving Water	Russian River
Receiving Water Type	Inland Surface Water

A. The Russian River County Sanitation District (RRCSD) is the owner and the Sonoma County Water Agency (SCWA) is the operator of the Russian River Wastewater Treatment Facility, a POTW. The SCWA operates the Facility, including the collection system under contract with the RRCSD. Together, the SCWA and the RRCSD are hereinafter referred to as the Permittee.

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.

B. The Facility discharges treated wastewater to Russian River, a water of the United States. The Permittee is currently regulated by Order No. R1-2009-0003 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024058 adopted on January 29, 2009, and expires on March 20, 2014. The terms and conditions of WDRs Order No. R1-2009-0003 have been automatically continued and remain in effect until new WDRs and a new NPDES permit are adopted and effective pursuant to this Order.

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 and submitted an application for reissuance of its WDRs and NPDES permit on June 20, 2013. The application was deemed complete on August 20, 2013. A site visit was conducted on October 25, 2012, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

The RRCSD owns wastewater collection, treatment, and disposal facilities that serve approximately 8,300 people in unincorporated areas of Rio Nido, Vacation Park, Guerneville, and Guernewood Park. The majority of the facility's wastewater flow is residential and commercial (approximately 98%), while approximately two (2) percent is made up of industrial, recreational, institutional, and governmental flow.

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

1. Collection System

The collection system includes approximately 35 miles of gravity sewer pipeline, five miles of force main, and 11 lift stations that convey wastewater to the Russian River Treatment Facility located at 18400 Neeley Road in Guerneville.

The Permittee estimates that infiltration and inflow (I&I) to the system is 0.13 mgd based on a comparison of average summer and winter flows.

2. Wastewater Treatment

The Facility has design treatment capacities of 0.71 million gallons per day (mgd) (average dry weather flow) and 3.5 mgd (maximum sustained wet-weather peak flow). Wastewater treatment is accomplished by coarse screening and aerated grit removal, three extended aeration activated sludge basins, three secondary clarifiers, and two tertiary filters, followed by ultraviolet (UV) light disinfection. The third aeration basin is currently for additional storage and basic secondary treatment during high influent flows. The Facility is being upgraded to include biological nutrient removal of nitrogen and phosphorus. The details of this upgrade are described in section II.E of this Fact Sheet.

During periods of high influent flow, flow that exceeds the Facility wet weather treatment capacity is diverted to a one (1) million gallon Emergency Holding Pond, then retreated through the treatment plant as capacity allows. The Emergency Holding Pond stores primary effluent sent there from the headworks or from Aeration Basin No. 3. Tertiary effluent not meeting permit limits for turbidity, dechlorination, or contact time values is automatically diverted to the Emergency Holding Pond. The bottom of the Emergency Holding Pond is at 39.0 feet elevation, while 0 feet of freeboard is at 50.0 feet elevation. To protect the pond from failure, an emergency overflow is at 47.25 feet elevation. The Emergency Holding Pond overflow pipe connects with the Russian River Outfall line after the control valve, but prior to the Russian

River Outfall meter. According to the Storage Curve, the Emergency Holding Pond has 0.8 MG of storage at the emergency overflow of 47.25 feet elevation (2.75 feet freeboard). A barrier has been inserted in the emergency overflow structure so that the Emergency Holding Pond does not spill into the overflow pipeline until the pond level is at 1.0 MG of storage at 49.0 feet (1 foot freeboard). As influent flow subsides, raw wastewater from the Emergency Holding Pond is directed back to the headworks for treatment.

3. Effluent Storage

Tertiary treated, disinfected wastewater is held in a 3.5 million gallon Effluent Storage Pond (also known as the "Holding Pond" by operations staff) prior to discharge to the Russian River (October 1 – May 14) or the recycled water/land disposal system. The Effluent Storage Pond also fills the redwood tank at the top of the hill that supplies recycled water for various uses including irrigation of the Northwood Golf Course and the upper and lower Burch properties, as well as utility water for plant processes and fire hydrants around the plant. During river discharge, a control valve is used to adjust the flow from the effluent storage pond through the Russian River Outfall line. The bottom of the effluent storage pond is at 39.0 feet elevation, while 0 feet of freeboard is at 57.0 feet elevation. To protect the pond from failure, an emergency overflow is at 56.0 ft elevation. The effluent storage pond overflow pipe connects with the Russian River Outfall line after the control valve but prior to the Russian River Outfall meter.

4. Recycled Water and Land Disposal

From May 15 through September 30, when discharges to the Russian River are prohibited, the treated wastewater is used for irrigation of the Northwood Golf Course. The Northwood Golf Course is located south of the treatment Facility and on the opposite side of the Russian River. An average of 0.085 mgd is applied to an area of 43 acres during the irrigation season. Treated wastewater not used by the Northwood Golf Course is spray irrigated on 17 acres of wooded property adjacent to the treatment facility (the Burch property). During the irrigation season (May 15 to September 30), approximately 0.02 mgd and 0.23 mgd, respectively, are currently applied to the "upper" and "lower" areas of the Burch property. Treated wastewater is also used for dust control on the roads leading to the irrigation areas, and fire suppression at the Facility.

5. Sludge and Biosolids Handling

Biosolids resulting from wastewater treatment are dewatered by belt press and stored in sludge bins prior to ultimate disposal at the Redwood Sanitary Landfill in Novato, CA and/or the Altamont Landfill and Resource Recovery Facility in Livermore, CA.

B. Discharge Points and Receiving Waters

The Facility's point of discharge to the Russian River is located within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area and the Russian River Hydrologic Unit at 38.482087^0 N latitude and 123.000052^0 W longitude. In accordance with the Basin Plan, discharges to the Russian River can occur only during the period of October 1 through May 14 of each year, as long as the discharge flow is greater than one percent of the receiving stream's flow, as measured at USGS Gage No. 11-4670.00 at the Hacienda Bridge.

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

1. Effluent limitations contained in the existing Order for discharges from Discharge Point 001 and representative monitoring data from the term of the previous Order are as follows:

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

Parameter	Units	Effluent Limitation			Monitoring Data (From March 20, 2009 – October 30, 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
BOD_5	mg/L	10	15	---	5	5.2	5.2
TSS	mg/L	10	15	---	5.7	7.8	7.8
BOD and TSS Percent Removal	percent	85	---	---	96-99	---	---
Total Coliform	MPN/100 mL	---	2.2[1]	23/240[2]	---	<2	1600
Settleable Solids	mL/L	---	---	<0.1	---	---	<0.1

Table Notes:

1. Expressed as a 7-day median.
2. The number of coliform bacteria must not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

1. Effluent limitations contained in the existing Order for discharges from Discharge Point 002 and representative monitoring data from the term of the previous Order are as follows:

Table F-2b. Historic Effluent Limitations and Monitoring Data – Discharge Point 002

Parameter	Units	Effluent Limitation			Monitoring Data (From March 20, 2009 – October 30, 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Dichlorobromo-methane	µg/L	0.56	---	0.94	6.86	---	6.86
Copper	µg/L	Floating Limits	---	Floating Limits	26	---	26
Ammonia (as N)	mg/L	Floating Limits	---	Floating Limits	2.3	---	2.3
Nitrate (as N)	mg/L	10	---	20	42	---	42
Chlorine Residual	mg/L	0.1	---	0.1	ND	---	ND

2. Effluent limitations contained in the existing Order for discharges from Discharge Point 003 and representative monitoring data from the term of the previous Order are as follows:

Table F-2c. Historic Effluent Limitations and Monitoring Data – Discharge Point 003

Parameter	Units	Effluent Limitation			Monitoring Data (From March 20, 2009 – October 30, 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Nitrate (as N)	mg/L	10	---	20	47	---	47
Ammonia (as N)	mg/L	1.5	---	---	0.6	---	---
Total Dissolved Solids	mg/L	500	---	---	580	---	---
Sodium	mg/L	60	---	---	68	---	---
Chloride	mg/L	250	---	---	100	---	---
Aluminum	mg/L	1.0	---	---	0.58	---	---
pH	standard units	6.0 – 9.0			---	---	---

1. Effluent limitations contained in the existing Order for discharges from Discharge Point 004 and representative monitoring data from the term of the previous Order are as follows:

Table F-2d. Historic Effluent Limitations and Monitoring Data – Discharge Point 004

Parameter	Units	Effluent Limitation			Monitoring Data (From March 20, 2009 – October 30, 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Nitrate	mg/L	10	---	20	43	---	43
pH	standard units	6.0 – 9.0			6.4 – 8.0		

D. Compliance Summary

1. Violations Summary

The Permittee violated maximum daily and median effluent limitations for total coliform at Discharge Point 001 31 times during the period of January 19, 2010, through February 6, 2010. These violations occurred during a period of sustained high rainfall which stressed the capacity of the chlorination facilities. The Permittee also violated the dichlorobromomethane (DCBM) AMEL 25 times and the MDEL 20 times during the permit term. The Permittee addressed these violations through completion of the ultraviolet (UV) light disinfection system, which replaced the chlorine disinfection system beginning in October 2012.

The Permittee also violated the final copper AMEL 25 times and the MDEL one time at Discharge Point 002 during the permit term. The Permittee investigated various means to comply with the copper effluent limitations, including a water effect ratio (WER) study which resulted in applying a WER of 2.41 in the formula used to calculate the water quality objective for copper. The application of the WER in the formula used to determine the water quality objective for copper results in a finding of no reasonable potential for copper, as further described in section IV.C.3.b of this Fact Sheet.

The Permittee also violated the final nitrate AMEL 16 times and the MDEL 48 times at Discharge Point 002 during the permit term. The Permittee is upgrading the Facility to

include biological nutrient removal (BNR) in order to comply with the final nitrate effluent limitations.

The Permittee also violated final discharge specifications for nitrate (27 times), total dissolved solids (7 times) and sodium (2 times) at Discharge Point 003 (land discharge point). The Permittee's BNR upgrade project is expected to achieve compliance with the nitrate effluent limitations and discharge specifications. The Permittee anticipated that cessation of chlorine use would address the total dissolved solids violations, however, monitoring data collected since the UV disinfection system replaced the chlorine disinfection system, does not demonstrate any reduction in exceedances of the total dissolved solids discharge specification. Exceedances of the TDS discharge specification occurred in June, August, September, and October 2013. A cease and desist order, addressing exceedances of the nitrate, TDS and sodium violations will be brought to the Regional Water Board in the near future.

2. Enforcement Action Summary

The Regional Water Board adopted Cease and Desist Order (CDO) No. R1-2010-0006 on February 8, 2010. The CDO contained compliance schedules and interim effluent limitations related to the Permittee's exceedances of effluent limitations for total coliform, DCBM, and copper. The Permittee completed the UV disinfection system in accordance with the compliance schedule in the CDO, as amended by authorization of the Regional Water Board Executive Officer, by letter dated April 30, 2012. The Permittee also evaluated means to comply with copper effluent limitations and completed a WER study in accordance with the compliance schedule in the CDO.

The State Water Board also adopted Administrative Civil Liability Order (ACLO) No. WQ 2011-0009 on April 19, 2011, assessing administrative civil liabilities for violations of coliform and DCBM effluent limitations. The ACLO included a compliance schedule for completion of a compliance project to address the coliform and DCBM violations. The requirements of this Order were met through the Permittee's completion of the UV disinfection system.

The Permittee has completed and satisfied all obligations under CDO No. R1-2010-0006 and ACLO No. R1-2011-0009.

E. Planned Changes

The Report of Waste Discharge identified plans to upgrade the Facility to include biological nutrient removal (BNR) for more effective nitrification and denitrification to occur in order to ensure compliance with ammonia and nitrate effluent limitations. The project involves construction of a Modified Ludzak Ettinger process for BNR using active and still basins. In addition, the upgrade will include phosphorus removal functionality in anticipation of future regulation of phosphorus. The construction will encompass a micro diffuser aeration system to be installed in the existing aeration basins, along with a concrete service walkway-bearing wall and fiberglass reinforced baffle walls to create the desirable habitats for optimized biological activity. Within these portioned habitats, mixers and a recirculation pump system will be installed as well as sensors for control of the system. The aeration system will be fed with high efficiency blowers that will be able to modulate their outputs based on feedback from the sensors. A control panel to control all these mechanical inputs will be installed as part of the upgrade project. Section VI.C.7 of this Order includes a compliance schedule that requires startup of the BNR treatment process by October 1, 2014 and compliance with final effluent limitations and discharge specifications for ammonia and nitrate by December 1, 2014. Aspects of the upgrade project that are not critical to operation and startup will be completed by January 2015.

The Permittee is also planning to construct a 3.5 million gallon equalization basin. The final EIR certification and project approval occurred in 2009. The Permittee does not currently have funding for this project.

The Permittee also certified an EIR for an irrigation expansion project in 2009. The Permittee does not currently have funding for this project. In addition, more planning efforts would be required to identify a phase 1 project for approval.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as a Master Recycling Permit pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with section 13500).

B. California Environmental Quality Act (CEQA)

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

This action also involves the adoption of a Master Recycling Permit, which is subject to CEQA. For the portion of the permit that addresses WDRs for discharges to land, the Regional Water Board has prepared a notice of exemption that the project is categorically exempt from CEQA pursuant to section 15301 of title 14 of the California Code of Regulations. Because the Regional Water Board is issuing the WDRs for discharges from an existing facility for which no expansion of design flow is being permitted, this project meets the requirements of the categorical exemption, including the requirements set forth in section 15300.2 that the project not have any significant effects or result in cumulative impacts. The two existing irrigation areas, the Burch property and the Northwood Golf Course, have been utilized by the Permittee for the land discharge of treated wastewater since the Facility was first constructed in the early 1980's.

In order to allow land disposal/reclamation in additional areas, the Permittee will need to conduct an environmental analysis of any potential impacts, and will act as the lead agency for CEQA. The Permittee is planning a future expansion of its recycled water system and a final EIR was adopted on December 11, 2007. Additional CEQA planning is needed to identify a phase 1 project. In addition, the Permittee must ensure all recycled water activities comply with Attachment G – Water Recycling Requirements and Provisions, of this Order.

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. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

   Beneficial uses applicable to the Russian River are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
002	Russian River - Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit	Existing: • Municipal and Domestic Supply (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Ground Water 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) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Estuarine Habitat (EST) Potential: • Industrial Process Supply (PRO) • Hydropower Generation (POW) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA)
003 004	Groundwater	Existing: • Municipal and Domestic (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) Potential: Industrial Process Supply (PRO)

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 Coastal Basin. For the Russian River and its tributaries, no point source waste discharges are allowed from May 15 through September 30 and during all other periods when the waste discharge flow is greater than one percent of the receiving stream's flow, except where exceptions have been granted and set forth in NPDES permits for individual dischargers. For municipal waste discharged from October 1 through May 14, the discharge must be of advanced treated wastewater, and must meet a median coliform level of 2.2 Most Probable Number (MPN) per 100 milliliters (mL).

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. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 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 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Effluent limitations contained in this Order are at least as stringent as the previous Order (Order No. R1-2009-0003) with the exception that effluent limitations for settleable solids, DCBM, copper and chlorine residual that applied at Discharge Point 002 and the discharge specification for chloride that applied at Discharge Point 003 have been removed due to a finding of no reasonable potential to exceed applicable water quality objectives. These exceptions are discussed in detail in section IV.D.1 of this Fact Sheet.

6. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. 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, to U.S. EPA. 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. Placement on the 303(d) list generally triggers development of a pollution control plan called a total maximum daily load (TMDL) for each water body and associated pollutant/stressor on the list. 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 October 11, 2011, the U.S. EPA provided final approval of the 303(d) list of impaired water bodies prepared by the State. The list identifies the entire Russian River watershed as impaired by excess sediment and elevated water temperatures and the Lower Russian River, between Fife Creek and Dutch Bill Creek, as impaired by pathogens. Pursuant to CWA section 303(d), TMDLs are developed to address impairing pollutants in 303(d) listed waters, and are then implemented in part through provisions of NPDES permits.

Regional Water Board staff is currently developing TMDLs for temperature, sediment and pathogens in the Russian River to address continuing water quality impairments. These TMDLs are estimated to be completed in a few years.

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 water body over time, making them a persistent or accumulative constituent. The impact of suspended solids and turbidity, by contrast, results from their concentration in the water column.

An analysis of the Permittee's effluent monitoring data reveals that the discharge from this Facility, during periods of high wet weather flows, occasionally exceeds concentration-based coliform, BOD_5 and TSS effluent limitations as well as wet-weather design flow limitations which leads to occasional exceedances of mass-based effluent limitations for BOD_5 and TSS. During the last five years, the Facility has had 12 exceedances of the monthly maximum and 19 exceedances of the 7-day median coliform effluent limitations and no exceedances of concentration- or mass-based effluent limitations for BOD_5 and TSS. At all other times the discharge has been in compliance with these effluent limitations. Thus, the discharge does not typically contain sediment (e.g., settleable solids, suspended solids, and turbidity) or coliform at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River. This finding is based in part on the summer discharge prohibition, the one-percent flow limitation for winter discharge, and the results of previous solids and turbidity monitoring that has demonstrated that the Permittee's Facility removes all settleable solids and reduces TSS and turbidity to negligible levels. In addition, the Permittee improved its disinfection capabilities with the completion of the UV disinfection system which should address coliform violations.

E. Other Plans, Polices 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 February 20, 2008 adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements 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 2008-0002 and any future revisions thereto for operation of its wastewater collection system.

2. Coverage under the State Water Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (Industrial Storm Water General Permit) is not required, due to the fact that this Facility has an ADWF less than 1 mgd. Storm water run-on enters a storm drain that diverts storm water from the property.

3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and 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.

4. On February 3, 2009, the State Water Board adopted the Recycled Water Policy (State Water Board Resolution No. 2009-0011) for the purpose of increasing the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Recycled Water Policy became effective on May 14, 2009. The Recycled Water Policy provides direction to the regional water boards regarding the appropriate criteria to be used in issuing permits for recycled water projects and describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. Pertinent provisions and requirements of the Policy have been incorporated into this Order to address conditions specific to the Permittee's plan to implement water recycling.

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

   This Order is consistent with the requirements of the Recycled Water Policy to implement an SNMP. The Recycled Water Policy currently requires monitoring for priority pollutants annually. This Order implements this requirement through the annual CTR priority pollutant monitoring requirement in the MRP that is required of the Permittee pursuant to the SIP.

5. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Permittee must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

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

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

   Whether or not the Permittee reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Permittee disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of Order adoption.

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

   This prohibition is based on section 13050 of the Water Code, and has been retained from the previous Order, WDRs Order No. R1-2009-0003.

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

   This prohibition 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). It has been retained from the previous Order.

4. **Discharge Prohibition III.D.** The discharge or reclamation 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 section IV.C.2 (Recycling Specifications) and in Attachment D, Standard Provision G (Bypass) and H (Upset).

   This prohibition has been retained from the previous Order and is based on the Basin Plan to protect 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. 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 sanitary sewer overflow (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 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 Russian River County Sanitation District ordinance, 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 WDRs Order No. R1-2009-0003, 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 permit issued by the State Water Board or another Regional Water Board Order is prohibited.

   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. **Discharge Prohibition III.H.** The mean daily dry weather flow of waste into the Permittee's Facility in excess of 0.51 mgd over a period of 30 consecutive days is prohibited, unless the Permittee demonstrates that it has storage and recycled water capacity to handle a higher ADWF, not to exceed 0.71 mgd. Compliance shall be determined as defined in section VII.K of this Order.

   This prohibition is retained from the previous Order and is based on the dry weather treatment capacity of the Facility.

9. **Discharge Prohibition III.I.** The peak daily wet weather influent flow to the Facility in excess of 3.5 mgd is prohibited.

This prohibition is retained from the previous Order and is based on the wet weather 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.

10. **Discharge Prohibition III.J.** The discharge of wastewater effluent from the Facility to the Russian River or its tributaries is prohibited during the period May 15 through September 30 each year.

    This prohibition is retained from the previous Order 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, North Coastal Basin Discharge Prohibition No. 3). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

11. **Discharge Prohibition III.K.** During the period from October 1 through May 14, discharges of wastewater shall not exceed one percent of the natural flow of the Russian River, as measured by USGS Gage No. 11-4670.00 at Hacienda Bridge.

    This prohibition is required by the Basin Plan (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 4 does not specify how compliance to the one-percent flow requirement should be determined. This prohibition (retained from the previous Order) corrects this oversight and 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 at Hacienda Bridge. This modification provides day-to-day operational flexibility for the Permittee while retaining the intent of the prohibition.

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

    This prohibition is based on section 13375 of the Water Code.

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/or 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 biochemical oxygen demand (BOD_5), total suspended solids (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, and 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 exceed the technology-based requirements for secondary treatment set forth in 40 C.F.R 133.102. Effluent limitations for pH have been established that also 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 ponds, 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 WDRs Order No. R1-2009-0003.

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) contained in the Basin Plan.

c. Turbidity. The proposed turbidity requirements are based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will

meet this standard regardless of whether the final use is water recycling or discharge to surface water. The point of compliance for the turbidity requirements is a point following the effluent filters and before discharge to the disinfection system. The proposed limitation specifies that the turbidity of the filtered wastewater not exceed an average of 2 NTU within a 24-hour period, 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time. This performance standard is consistent with the title 22 definition of filtered wastewater.

d. Mass-Based Effluent Limitations. Federal regulations at 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 122.45(f)(2), which states "when applicable standards and limitations are expressed in terms of other units of measure." Because this Facility has a demonstrated problem with I&I during periods of sustained wet weather flows, mass-based effluent limitations are necessary to encourage correction of I&I. Applied in this way, mass-based effluent 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. Dry-weather and wet-weather mass-based effluent limitations for BOD_5 and TSS have been retained from the previous Order.

e. Total 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 limits because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order retains the effluent limitations for total coliform bacteria from WDRs Order No. R1-2009-0003. These effluent limitations reflect standards for tertiary treated effluent in the Basin Plan (Section 4, Implementation Plans) and utilize the definition of tertiary treated recycled water adopted by the California Department of Public Health (CDPH) in title 22 of the CCR. Recycled water from the Facility meets the most protective title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of advanced wastewater treatment, is discussed in section IV.B.2 of the Fact Sheet. In addition, the Order contains additional requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section IV.C.3 of the Fact Sheet.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard.

As discussed in detail in the following sections, Regional Water Board staff determined that there is reasonable potential for the discharge to exceed numeric water quality objectives for bis (2-Ethylhexyl) Phthalate, nitrate, and ammonia.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (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 domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by CDPH 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 California Toxics Rule (CTR), established by the U.S. EPA at 40 C.F.R. section 131.38; and the National Toxics Rule (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.

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, the Russian River, has the beneficial use designation of municipal and domestic supply.

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 dischargers to submit data sufficient to do so.

At title 22, division 4, chapter 15 of the CCR, CDPH 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.

Attachment F-1 includes a summary of RPA results for all priority toxic pollutants as well as ammonia, nitrate, and phosphorus, with water quality criteria/objectives that are applicable to the Russian River.

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.

a. Non-Priority Pollutants.

i. pH. The effluent limitation for pH of 6.5 to 8.5 is retained from WDRs Order No. R1-2009-0003. This limitation is based on the water quality objective for all surface waters of the North Coast Region established in Chapter 3 of the Basin Plan. Federal technology-based requirements prescribed in 40 C.F.R. section 133 are not sufficient to meet these Basin Plan water quality standards.

ii. Ammonia and Nitrate. Untreated domestic wastewater contains ammonia. 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. Wastewater treatment facilities commonly use nitrification to remove ammonia from the waste stream and denitrification to remove nitrate from the waste stream. 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 currently operated to achieve nitrification and the Permittee is upgrading the Facility to include BNR in to achieve controlled levels of denitrification needed to meet the nitrate effluent limitations in the Order. As discussed in the following two paragraphs, effluent limitations for nitrate and ammonia are included in the Order to ensure that the Permittee modifies operations and/or upgrades the Facility to achieve these limits to protect the beneficial uses of the receiving waters and to prevent aquatic toxicity.

(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 the CDPH 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 N) is therefore applicable as a water quality criterion for the Russian River. The Permittee sampled its discharge to the Russian River weekly during periods of discharge March 20, 2009 and October 30, 2013. Monitoring results ranged between 5.1 and 42 mg/L, in over 140 samples. Because nitrate levels in effluent have been measured at concentrations greater than 10 mg/L N, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water. The Order therefore establishes effluent limitations for nitrate for the protection of human health.

(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 in fresh water from the 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, EPA 822-R-13-001 (April 2013) to interpret the Basin Plan's narrative objective for toxicity. U.S. EPA has recommended 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 that salmonids. The acute criteria are based on receiving water pH and temperature, and the presence/absence of salmonids. The chronic criteria are based on pH and temperature.

In conditions documented in the receiving water for discharges from the Facility (pH =8.5, temperature = 20.7^0C, and the known presence of salmonids), U.S. EPA's recommended chronic and acute criteria for protection of aquatic life from ammonia toxicity result in effluent limitations of 0.47 mg/L (AMEL) and 1.2 mg/L (MDEL) total ammonia, respectively, expressed as N. Calculations of these effluent limitations is included in section IV.C.4 of this Fact Sheet.

The Permittee monitored the discharge to the Russian River for ammonia monthly during periods of discharge to the Russian River between March 20, 2009 and December 31, 2013. The monitoring data shows a range of ammonia concentrations between <0.2 and 2.3 mg/L and an average total ammonia concentration of 0.20 mg/L N. The maximum concentration of 2.3 mg/L N occurred on May 5, 2010. Because ammonia levels in the effluent have been measured at concentrations greater than U.S. EPA's recommended water quality criteria for fresh waters, 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. The Order therefore establishes effluent limitations for ammonia for the protection of aquatic life.

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 WDRs Order No. R1-2009-0003, CTR priority pollutant and title 22 sampling was conducted on January 10, 2010, December 5, 2012, and April 10, 2013.

Hardness. The California Toxics Rule and the National Toxics Rule 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 hardness-dependent metal criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. Effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones (See 40 C.F.R. 131.38(c)(4)(i)). The CTR does not define whether the term "ambient", as applied in the regulations, necessarily requires the consideration of the upstream as opposed to downstream hardness conditions.

State Water Board Order No. WQ-2008-0008 (City of Davis) further interpreted the SIP by stating "…*the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which a particular hardness exists….Regardless of the hardness used, the resulting limits must always be protective of water quality under all flow conditions.*"

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, where reliable, representative data are available, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria.

A 2006 Study (*Emerick, R.W.; Booroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations,* WEFTEC, Chicago, Ill.) demonstrates that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective of the receiving water under various mixing conditions (e.g., when the effluent hardness is less than the receiving water hardness).

The 2006 study evaluated the relationships between hardness and the CTR metals criterion that is calculated using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

$$\text{CTR Criterion} = \text{WER} \times (e^{m[\ln(H)]+b}) \qquad \text{(Equation 1)}$$

Where:

WER = water effect ratio
H = Hardness
b = metal- and criterion-specific constant
m = metal- and criterion-specific constant

In accordance with the CTR, the default value for the WER is 1. A discharger-specific WER study must be conducted in order to use a WER value other than 1. The constants "m" and "b" are specific to both the metal under consideration, and the type of total recoverable criterion (i.e., acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The relationship between hardness and the resulting criterion in Equation 1 can exhibit either a downward –facing (i.e., concave downward) or an upward-facing (i.e., concave

upward) curve depending on the values of the criterion-specific constants. The curve shapes for acute and chronic criteria for the metals are as follows:

Concave Downward Metals: acute and chronic chromium (III), copper, nickel, and zinc; and chronic cadmium.

For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness, any mixture of receiving water that is compliant with water quality objectives for that metal and effluent that is compliant with water quality objectives for that metal will always result in a mixture that is compliant with water quality objectives and use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. Use of the lowest recorded effluent hardness is also protective under all possible mixing conditions between the effluent and the receiving water (i.e., from high dilution to no dilution).

Because this Order requires compliance with effluent limitations at the end of the discharge pipe, effluent hardness is an appropriate and protective hardness to use in adjusting the water quality criteria for the concave downward metals. The reasonable worst-case ambient hardness can be estimated by using the lowest effluent hardness of 160 mg/L.

Water Effect Ratio (WER) Study

The water quality objective for copper specified in the California Toxics Rule for inland surface waters is in the form of an equation that includes a site-specific WER multiplier factor. The WER reflects any effect that local site water constituents have on increasing or decreasing the bioavailability and toxicity of copper. Application of the WER multiplier, where available, allows for site-specific adjustment of the copper objective. In turn, the copper objective becomes the basis for developing appropriate effluent limitations. In the absence of a site-specific WER multiplier, the CTR uses a default value of one. WDRs Order No. R1-2009-0003, established final copper effluent limitations based on the CTR objective assuming a WER multiplier of one, since no site-specific data were available to justify a different multiplier.

The Permittee conducted a WER study to develop a site-specific copper multiplier for the discharge in accordance with guidance established by U.S. EPA in a document titled *Streamlined Water Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005).

The Permittee submitted the WER study work plan on June 1, 2011, and the WER study results on June 20, 2013, (report titled *Russian River County Sanitation District Copper Water-Effect Ratio Study for the Russian River Wastewater Treatment Facility* Regional Water Board staff reviewed the WER study report and determined that the WER test results were developed in accordance with the methodology in EPA's guidance document.

The WER study resulted in the development of a WER for total recoverable copper in the receiving waters affected by the Permittee's discharge of 2.41 and a WER for dissolved copper in the receiving water affected by the Permittee's discharge of 2.47. Accordingly, Regional Water Board staff conducted a reasonable potential analysis of the Permittee's discharge, utilizing the total-recoverable WER of 2.41. The WER study results have been used in the reasonable potential analysis (RPA) for copper in section IV.C.3.c. below. Based on the results of the RPA, effluent limitations for copper are not necessary.

Concave Upward Metals: cadmium (acute), lead, and silver (acute).

For Concave Upward Metals, the 2006 Study demonstrates that due to a different relationship between hardness and the metals criteria, the effluent and upstream receiving water can be in compliance with the CTR criteria, but the resulting mixture may be out of compliance. The 2006 Study provides a mathematical approach to calculate the final effluent limitations for Concave Upward Metals that is protective of aquatic life in all areas of the receiving water affected by the discharge, under all discharge and receiving water flow (see Equation 2, below).

To be consistent with this methodology, the reasonable worst-case upstream receiving water hardness, the lowest observed effluent hardness, and assuming no receiving water assimilative capacity for metals (i.e., ambient background metals concentrations are at their respective CTR criterion), was used in Equation 4 for determining whether reasonable potential exists for the Concave Upward hardness-based metals. Equation 2 is not used in place of the CTR equation (Equation 1). Rather, Equation 2, which is derived using the CTR equation, is used as a direct approach for calculating the ECA. The CTR equation has been used to evaluate the receiving water downstream of the discharge at all discharge and flow conditions to ensure the ECA is protective.

$$ECA = \left(\frac{m(H_e - H_{rw})\left(e^{m\{\ln(H_{rw})\}+b}\right)}{H_{rw}} \right) + e^{m\{\ln(H_{rw})\}+b} \qquad \text{(Equation 2)}$$

Where:

m, b = criterion specific constants (from CTR)
H_e = lowest observed effluent hardness
H_{rw} = reasonable worst-case upstream receiving water hardness

The lowest effluent hardness is 160 mg/L, and the lowest upstream receiving water hardness is 50 mg/L as $CaCO_3$. In this case, the reasonable worst-case upstream receiving water hardness to use in Equation 2 to calculate the ECA is 50 mg/L. Using the procedures discussed above to calculate the ECA for all Concave Up Metals will result in WQBELs that are protective under all potential effluent/receiving water flow conditions (high flow to low flow) and under all known hardness conditions.

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 for Priority Pollutants

The RPA demonstrated reasonable potential for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria for one CTR priority pollutants, bis (2-Ethylhexyl) Phthalate. 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 the remainder of the 126 priority pollutants.

Table F-4 summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent or the receiving water (detected values are indicated in bold type). 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 for Priority Pollutants, Nutrients, and Title 22 Pollutants

CTR No.	Priority Pollutants (and Nutrients)	C or Most Stringent WQO/WQC (µg/L)	MEC or Minimum DL (µg/L)[1]	B or Minimum DL (µg/L)[1]	RPA Results[2]
1	Antimony	6	0.68	0.11	No
2	Arsenic	10	0.62	0.04	No
4	Cadmium	1.4	0.025	0.022	No
5a	Chromium III	330	0.61	5.8	No
6	Copper	36[3]	26	3.7	No
7	Lead	1.3	0.079	0.64	No
8	Mercury	2	0.00276	0.0134	No
9	Nickel	85	8.9	11	No
10	Selenium	5	0.34	0.16	No
13	Zinc	200	41	8.6	No
14	Cyanide	5.2	3.3	<1	No
26	Chloroform	---	12.46	---	No
27	Dichlorobromomethane	0.56	6.86	---	No
68	Bis (2-Ethylhexyl) Phthalate	1.8	3.5 (DNQ)	2.4 (DNQ)	Yes
U.S. EPA	Ammonia (as N)	360	2300	240	Yes
Title 22	Nitrate (as N)	10,000	42,000	310	Yes

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 are < WQO/WQC or all effluent data are undetected;
   = Undetermined (Ud).
3. Copper WQO calculated with a WER of 2.41 and the most stringent WQO from the CTR using the lowest effluent hardness of 160 mg/L (2.41 x 15 ug/L = 36 µg/L)

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

Bis (2-Ethylhexyl) Phthalate. The CTR establishes only a water quality objective for the protection of human health for bis (2-ethylhexyl) phthalate. The Permittee sampled effluent for bis (2-ethylhexyl) phthalate three times during the term of the previous permit – February 10, 2010, December 5, 2012, and April 10, 2013. The data revealed concentrations of <0.39 µg/L, <0.83 µg/L, and 3.5 (DNQ) µg/L. A determination of reasonable potential has been made based on the maximum effluent concentration of 3.5 µg/L exceeding the most stringent water quality objective of 1.8 µg/L.

Additional details regarding constituents for which reasonable potential no longer exists are included in the following paragraphs.

Copper. Order No. R1-2009-0003 included an effluent limitation for copper. With the use of the WER of 2.41, discussed in section IV.C.3.b of this Fact Sheet, the most stringent water quality objective for copper is 36 ug/L. Since the maximum effluent concentration of 26 ug/L is less than the most stringent WER-adjusted water quality objective, there is no longer reasonable potential for copper. See additional details in Table F-4, above.

Dichlorobromomethane (DCBM) and Chlorodibromomethane (CDBM). Order No. R1-2009-0003 included an effluent limitation for DCBM and monitoring for DCBM and CDBM. In October 2012, the Permittee commissioned its new UV disinfection system and stopped using the chlorine disinfection system. Monitoring data collected from October 2012 through December 2013 demonstrates that DCBM and CDBM are no longer detected in the effluent and that there is no longer reasonable potential for these chlorine disinfection by-products in the Permittee's effluent. Therefore, effluent limitations DCBM and monitoring requirements for DCBM and CDBM have been removed from this Order.

4. WQBEL Calculations

a. WQBELs for Bis (2-ethylhexyl) phthalate are based on the CTR Human Health criteria (water & organisms) of 1.8 µg/L. When the most stringent water quality criterion/objective is a human health criterion/objective, the AMEL is set equal to the effluent concentration allowance (ECA). For a limited data set (less than 10 data points) the coefficient of variation (CV) is set equal to 0.6. For bis (2-ethylhexyl) phthalate, from Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL/AMEL multiplier equals 2.01. The MDEL is calculated by multiplying the MDEL/AMEL multiplier by the ECA. Final WQBELs for bis (2-ethylhexyl) phthalate are calculated as shown in Table F-5c, below.

b. WQBELs for nitrate are based on the title 22 WQO for protection of drinking water of 10 mg/L. The CV for the 140 nitrate samples was calculated to be 0.43. From Table 2 of the SIP, when CV = 0.43 and n = 4, the MDEL/AMEL multiplier equals1.72. The nitrate AMEL is set equal to the ECA, and the nitrate MDEL is calculated by multiplying the MDEL/AMEL multiplier by the ECA. Final WQBELs for nitrate are calculated as shown in Table F-5c, below.

c. WQBELs for ammonia are based on U.S. EPA's 2013 Ammonia Criteria, using methodology described in U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control* (March 1991) (TSD). Using the highest observed receiving water pH of 8.5 and temperature of 20.7^{0}C, from Tables 5a and 6 in the Ammonia Criteria document, the acute ammonia criteria is 1.4 mg/L, the chornic 4-day criteria is 0.89 mg/L, and the chronic 30-day criteria is 0.36 mg/L.

Using the ammonia data set for the period of March 2009 through December 2013, the coefficient of variation is 1.14. From Table 5-1 of the TSD, using a 99th percentile, the ECA acute multiplier is 0.18, the ECA chronic 4-day multiplier is 0.33, and the ECA chronic 30-day multiplier is 0.63.

Table F-5a. Long-Term Average Calculations for Ammonia

	Criteria	ECA Multiplier	LTA (mg/L)
Acute	1.4	0.18	0.25
Chronic – 4-day	0.89	0.33	0.30
Chronic – 30-day	0.63	0.63	0.23
LTA = Criteria x ECA Multiplier			

Table F-5b. Determination of Final WQBELs Based on Aquatic Life Criteria

Pollutant	Lowest LTA	MDEL Multiplier	AMEL Multiplier	MDEL (mg/L)	AMEL (mg/L)
Ammonia	0.23	5.51	2.08	1.2	0.47

Table F-5c. Determination Final WQBELs Based on Human Health Criteria

Pollutant	Units	ECA	MDEL/AMEL Multiplier	MDEL	AMEL
Bis (2-Ethylhexyl) Phthalate	µg/L	1.8	2.01	3.6	1.8
Nitrate (as N)	mg/L	10	1.72	17.2	10

5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent, acute and chronic 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 WDRs Order No. R1-2009-0003, 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 also implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring dischargers to conduct acute toxicity tests on a fish species and on an invertebrate 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*. The Permittee tests its effluent for acute toxicity using the rainbow trout, *Oncorhynchus mykiss*. The Permittee consistently maintained compliance with the acute toxicity limitations during the term

of the previous permit. All acute toxicity testing results during the term of the previous permit were 100 percent survival.

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 during periods of discharge at Discharge Point 002 to demonstrate compliance with the narrative toxicity objective.

The Permittee conducted chronic toxicity testing during the term of the previous permit. The Permittee's chronic toxicity monitoring results are summarized in Table F-6, below:

Table F-6. Whole Effluent Chronic Toxicity Monitoring Results

Test Date	Species	Test Length	Test Type	TUc (100/NOEC)	Notes
03/23/09	*Selenastrum capricornutum*	4 days	Algal Growth	1	Screening Test
03/23/09	Ceriodaphnia dubia	7 days	Reproduction	1	Screening Test
03/23/09	Larval Fathead Minnow	7 days	Growth	1	Screening Test
04/24/09	*Selenastrum capricornutum*	4 days	Algal Growth	1.3	Accelerated Monitoring 1
04/29/09	*Selenastrum capricornutum*	4 days	Algal Growth	1.3	Accelerated Monitoring 2
05/05/09	*Selenastrum capricornutum*	4 days	Algal Growth	1.3	Accelerated Monitoring 3
05/13/09	*Selenastrum capricornutum*	4 days	Algal Growth	1	Accelerated Monitoring 4
11/17/09	*Selenastrum capricornutum*	4 days	Algal Growth	4	Annual Sample
12/01/09	*Selenastrum capricornutum*	4 days	Algal Growth	2	TRE Initiated
12/17/09	*Selenastrum capricornutum*	4 days	Algal Growth	1	Phase I TIE result
01/26/10	*Selenastrum capricornutum*	4 days	Algal Growth	1	Phase I TIE result
02/16/10	*Selenastrum capricornutum*	4 days	Algal Growth	1	Phase I TIE result
03/02/10	*Selenastrum capricornutum*	4 days	Algal Growth	1	Phase I TIE result
03/30/10	*Selenastrum capricornutum*	4 days	Algal Growth	1	Extra Analysis
11/02/10	*Selenastrum capricornutum*	4 days	Algal Growth	1.3	Annual Sample
12/15/10	*Selenastrum capricornutum*	4 days	Algal Growth	1	Accelerated Monitoring 1
01/11/11	*Selenastrum capricornutum*	4 days	Algal Growth	1	Accelerated Monitoring 2
01/18/11	*Selenastrum capricornutum*	4 days	Algal Growth	1	Accelerated Monitoring 3
02/15/11	*Selenastrum capricornutum*	4 days	Algal Growth	1	Accelerated Monitoring 4
12/06/11	*Selenastrum capricornutum*	4 days	Algal Growth	1	Annual Sample
11/27/12	*Selenastrum capricornutum*	4 days	Algal Growth	1	Annual Sample

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.

However, the State Water Board found in WQO-2003-012 that, while it is not appropriate to include final numeric effluent limitations for chronic toxicity in NPDES permits for POTWs, permits must contain a narrative effluent limitation, numeric benchmarks for triggering accelerated monitoring, rigorous Toxicity Reduction Evaluation (TRE)/Toxicity Identification Evaluation (TIE) conditions, and a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity. This Order includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a new 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 002, as specified in the MRP (Attachment E, section V). Furthermore, Special Provision IV.C.2.a of this Order requires the Permittee to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a Toxicity Reduction Evaluation (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.

Section V.B.9 of the MRP defines the chronic toxicity monitoring trigger as 1.6 TUc as a single sample result or 1.0 TUc as a monthly median and section V.C.1.g of the MRP requires TUc to be calculated as 100/NOEC for purposes of determining if the Permittee's effluent exceeds the chronic toxicity monitoring trigger. Although the federal requirements may provide for flexibility in determining how to calculate TUc for compliance purposes (e.g., 100/NOEC, 100/IC25, 100/EC25), U.S. EPA Region 9 recommends that effluent limitations and triggers be based on the no observed effect concentration (NOEC) when the permit language and chronic toxicity testing methods incorporate important safeguards that improve the reliability of the NOEC. These safeguards include the use of a dilution series (testing of a series of effluent concentrations) to verify and quantify a dose-response relationship and a requirement to evaluate specific performance criteria in order to determine the sensitivity of each chronic toxicity test. The goal is to demonstrate that each test is sensitive enough to determine whether or not the effluent is toxic or not.

The use of 100/IC25 or 100/EC25 as methods for calculating chronic toxicity are point estimates that automatically allow for a 25 percent effect before calling an effluent toxic. The Basin Plan has a narrative objective for toxicity that requires that "*all waters 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." Allowance of a possible 25 percent effect would not meet the Basin Plan's narrative toxicity requirement. In addition, California has historically used the NOEC to regulate chronic toxicity for ocean discharges, thus it is fitting that the same method be used to regulate chronic toxicity in inland surface water discharges.

Because no dilution has been granted for the chronic condition, chronic toxicity testing results exceeding 1.6 TUc as a single sample result and 1.0 TUc as a monthly median triggers the need for accelerated monitoring. Accelerated monitoring is necessary to confirm the continued presence or absence of effluent toxicity and the magnitude of that toxicity, and to determine whether a TRE or other action is needed in response to the initial occurrence of toxicity.

If accelerated sampling of the discharge demonstrates a pattern of toxicity exceeding the chronic toxicity trigger, the permit requires the Permittee to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan to determine whether the discharge is contributing chronic toxicity to the receiving water. Special Provision VI.C.2.a.ii of the Order requires the Permittee to maintain the TRE Work Plan to ensure 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 provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as requirements for TRE initiation if a pattern of toxicity is demonstrated.

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.

c. Ammonia-related Toxicity

The chronic toxicity test shall be conducted without modifications to eliminate ammonia toxicity. Ammonia toxicity in water is due mostly to its unionized fraction which is primarily a function of the temperature and the pH of the water being tested. As the pH and temperature increase so does the toxicity of a given concentration of ammonia. In static WET tests, the pH in the test concentrations often increases (drifts) due to the loss of carbon dioxide (CO_2) from the test concentrations as the test chambers are incubated over the test period. This upward drift results in pH values in the test concentrations that often exceed those pH values that could reasonably be expected to be found in the effluent or in the mixing zone under ambient conditions. Unionized ammonia toxicity caused by pH drift is considered to be an artifact of test conditions and is not a true measure of the ammonia toxicity likely to occur as the discharge enters the receiving waters. In order to reduce the occurrence of artifactual unionized ammonia toxicity, it may be necessary to control the pH in toxicity tests, provided 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. This Order authorizes the use of pH control procedures where the procedures are consistent with U.S. EPA methods and do not significantly alter the test water chemistry so as to mask other sources of toxicity.

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. The effluent limitations in this

Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for settleable solids, DCBM, copper, and chlorine residual. The effluent limitations for these pollutants are either less stringent than those in the previous Order or have been removed. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations, as discussed in the following paragraphs:

Settleable Solids. The previous permit contained effluent limitations for settleable solids which have been removed from this Order. This relaxation of settleable solids effluent limitations is governed by CWA section 402(o)(2)(A) which provides that relaxations in effluent limitations are permitted where the circumstances on which the previous permit was based have materially and substantially changed. Settleable solids effluent limitations are not required for tertiary facilities because the filtration process removes all settleable solids. In addition, monitoring data during the previous two permit terms demonstrates that there is no reasonable potential for settleable solids to cause or contribute to an exceedance of the applicable water quality objective for settleable solids. The settleable solids effluent limitations should have been removed when the Facility upgraded to tertiary.

DCBM. The previous permit contained effluent limitations for DCBM which were based on an evaluation of monitoring data collected during the term of the previous permit that showed that the discharge had reasonable potential to cause or contribute to an exceedance of the human health water quality objectives for DCBM. DCBM is a by-product of chlorine disinfection. Beginning in October 2012, the Permittee replaced its chlorine disinfection system with a UV light disinfection system. Monitoring data for DCBM collected since use of the chlorine disinfection facility was discontinued in October 2012 demonstrates that DCBM are no longer present in the Permittee's discharge. This new information demonstrates that there is no longer reasonable potential to cause or contribute to an exceedance of the water quality objective for DCBM, allowing the removal of effluent limitations for DCBM at Discharge Point 002. This relaxation of DCBM effluent limitations is governed by CWA section 402(o)(2)(A) which provides that relaxations in effluent limitations are permitted where the circumstances on which the previous permit was based have materially and substantially changed.

Copper. The previous permit contained effluent limitations for copper which were originally based on the CTR default criteria for the protection of aquatic life. As described in section IV.C.3.b of this Fact Sheet, the Permittee conducted a WER study that resulted in the development of a WER for total recoverable copper of 2.41 and for dissolved copper of 2.47. Accordingly, Regional Water Board staff conducted a reasonable potential analysis of the Permittee's discharge, utilizing the total-recoverable WER of 2.41. The WER study results were used in the reasonable potential analysis (RPA) for copper. Based on the results of the RPA, effluent limitations for copper are not necessary. Updated effluent and receiving water data that was not available at the time WDRs Order No. R1-2009-0003 was adopted indicates that the discharge does not have reasonable potential to cause or contribute to an exceedance of the applicable CTR criteria for copper. This relaxation of copper effluent limitations is governed by CWA section 402(o)(2)(B)(i) which provides that relaxations in effluent limitations are permitted where new information is available which would have justified the application of a less stringent effluent limitation. This new data and finding of no reasonable potential allows the removal of effluent limitations for copper at Discharge Point 002. The new information provided by the Permittee shows that based upon the relative bioavailability of copper to aquatic organisms, the higher numeric concentrations established as final effluent limitations in this Order provide an equal level of protection of beneficial uses as the final effluent limitations for copper established in the previous Order.

Chlorine Residual. The Permittee previously used chlorine for disinfection of the effluent discharged to the effluent storage pond (and subsequently to the Russian River during the

winter months). The Permittee replaced the chlorine disinfection system with a UV disinfection system in October 2012. Due to the discontinued use of chlorine, the Facility no longer has reasonable potential to cause or contribute to an exceedance of the water quality objective for chlorine residual allowing the removal of effluent limitations for chlorine residual at Discharge Point 002. This relaxation of chlorine residual effluent limitations is governed by CWA section 402(o)(2)(A) which provides that relaxations in effluent limitations are permitted where the circumstances on which the previous permit was based have materially and substantially changed.

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 the previous Order.

a. Surface Water

The CWA section 402(o)(3) restricts the extent to which effluent limitations may be relaxed, prohibiting the relaxation of an effluent limitation if the revised effluent limitation would result in a violation of applicable water quality standards, including anti-degradation requirements. As discussed in section IV.D.1, above, the Permittee's monitoring data demonstrates that removal of the effluent limitations for settleable solids, DCBM, copper, and chlorine residual and discharge specification for chloride is consistent with antidegradation policies due to the fact that there is no longer reasonable potential for the discharge to cause or contribute to an exceedance of the applicable water quality objectives for these pollutants.

Pursuant to the antidegradation policy, the lowering of water quality can be allowed only if beneficial uses are protected, and if there is a maximum benefit to the people of the state. The removal of copper effluent limitations is predicated on a finding that there is no reasonable potential for toxicity to organisms from copper in the effluent. Accordingly, this action will result in no less protection of beneficial uses and will maintain water quality. Furthermore, discharges regulated in accordance with this Order are for a POTW. The significant increase in costs for additional treatment that would be required to remove low levels of copper are not in the best interest of the public given that beneficial uses are already shown to be protected and because any resources available for water quality improvements should be used for non-attainment waters or other pressing water quality issues as opposed to treating effluent beyond what is required for protecting beneficial uses.

The activities allowed in accordance with these modifications to the waste discharge requirements apply to existing facilities. Discharges from the Facility will be required to maintain protection of the beneficial uses of the receiving water and comply with applicable provisions of the Basin Plan.

b. Groundwater

According to the State Water Board's Recycled Water Policy (Policy), the use of recycled water for landscape irrigation in accordance with the Policy is to the benefit of the people of the State of California. Nevertheless, the State Water Board found that the use of recycled water for irrigation may affect groundwater quality over time. It is the intent of the Policy that impacts to groundwater from water recycled projects will be addressed through SNMPs for each basin and/or sub-basin in California.

Under the Policy, recycled water projects may be approved by regional water boards without further antidegradation analysis if the project is within a basin where an SNMP

is in place and the project meets the criteria for a streamlined irrigation permit (section 7.c of the Policy and section A.3 of Attachment G of this Order). A regional water board may also approve a recycled water project(s) within a basin where an SNMP has not been completed by requiring submittal of a recycled water irrigation management plan that demonstrates that agronomic rates and BMPs are being implemented for the protection of water quality and by demonstrating through a salt/nutrient mass balance or similar analysis that the project uses less than ten percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin, or where there are multiple recycled water projects, that the projects use less than twenty percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin.

The Permittee currently has one existing recycled water use site, the Northwood Golf Course. Section VI.C.2.b of the Order requires the Permittee to submit a Recycled Water Management/Operation and Management Plan to demonstrate that recycled water is being applied at agronomic rates and that appropriate BMPs are implemented for the protection of water quality. Section VI.C.2.c of the Order requires the Permittee to submit an analysis to demonstrate that recycled water use at the Northwood Golf Course uses less than ten percent of the available assimilative capacity in groundwater with regard to nitrogen and salts. For the addition of any new recycled water uses in the future, the Permittee must submit this documentation in advance of delivering recycled water.

The Permittee has a land disposal site on the Burch property. Groundwater monitoring data collected at the Burch property during the term of Order No. R1-2009-0003 revealed that concentrations of several wastewater pollutants, including nitrate and total dissolved solids in a groundwater monitoring well down-gradient of the land disposal area are higher than pollutant concentrations in groundwater monitoring well up-gradient of the land disposal area. Effluent monitoring data reveals that the treated effluent being applied for land disposal contains concentrations of nitrate and total dissolved solids that exceed discharge specifications in section IV.B.1 and groundwater receiving water limitations in section V.B of this Order. The exceedances of land discharge specifications and groundwater limitations and the need to further assess groundwater quality will be addressed in a cease and desist order or other order to be brought to the Regional Water Board for consideration in the near future.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The terms of this Order meet the minimum federal technology-based effluent limitations for secondary treatment, and in addition include additional requirements, expressed as technology equivalence requirements, for BOD_5, TSS, pH, and total coliform bacteria that are necessary to achieve tertiary treatment of wastewater, consistent with the Basin Plan's requirements that discharges of municipal wastewater into the Russian River and its tributaries be of advanced treated water. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet.

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on May 18, 2000. 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). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH)) and the General Objective regarding antidegradation) were approved by U.S. EPA on March 4, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

In addition, 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.

Water Code section 13263 requires that waste discharge requirements "implement any relevant water quality control plans that have been adopted and 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 section 13241." These requirements, however, only apply to those portions of the permit that exceed the requirements of the federal Clean Water Act, and not to those requirements that are necessary to meet the technology-based effluent limits or the water quality-based effluent limits necessary to protect water quality objectives for surface waters set out in the Water Quality Control Plan for the North Coast Region (Basin Plan). (City of Burbank v. State Water Resources Control Board, 35 Cal. 4th 613, 627.) In this Order, those requirements that exceed the requirements of the federal Clean Water Act are those that solely apply to the land discharge. Nonetheless, the Regional Water Board considered the factors in Water Code section 13263 and 13241 in establishing the requirements for discharges to surface waters and land, and concluded that the factors did not merit any change to the proposed effluent limits, discharge prohibitions, or receiving water limitations.

The Regional Water Board considered the factors set forth in section 13263 and 13241 throughout various portions of the permit, including Attachment F, which contains background information and rationale for the requirements set forth in the permit. Section III.C. of Attachment F, identifies the beneficial uses identified in the Basin Plan. Section IV of Attachment F sets forth the rationale for the effluent limits, particularly the beneficial uses to be protected and water quality objectives required for that purpose. Section IV.F. of Attachment F sets out a discussion of the factors set forth in 13263 and 13241 considered for the effluent limits on the land discharge. The Regional Water Board also considered upgrades to the Facility proposed by RRCSD, along with other waste discharges in the watershed, and concluded that coordinated control of other discharges would not eliminate the need for the requirements on this discharge, particularly given the continued growth in the region and the past, present and probable future uses of the receiving waters and the environmental characteristics, including water quality, of the Guerneville hydrologic subarea of the Russian River. (See Attachment F, Section III (D), (E), and Sections IV and V). The Regional Water Board also considered the need to develop and use recycled water, and the potential for increased water recycling opportunities within the area proposed by the Permittee. The Regional Water Board also considered the need to prevent nuisance, and incorporated discharge prohibitions to protect against nuisance caused by the discharge or recycled water use of untreated or partially treated waste from anywhere within the collection, treatment or disposal system or from sanitary sewer overflows. Because other dischargers throughout the Russian River watershed have achieved compliance with similar

limits, and the Permittee did not submit any evidence regarding the cost of compliance or its effect on the development of housing within the region, the Regional Water Board did not specifically address the issue of the Order's effects on housing or economic considerations.

E. Interim Effluent Limitations

A compliance schedule and interim effluent limitations for ammonia and nitrate are granted by the Order, which requires full compliance with final effluent limitations by December 1, 2014.

F. Land Discharge Specifications

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.

Here, the Regional Water Board considered all of these factors when developing the waste discharge requirements for the land discharge. Limits for nitrate, pH, total dissolved solids, sodium, and aluminum were scientifically derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and the water quality objectives have been approved pursuant to state law. In addition, discharge prohibitions were included to prohibit the recycled water use of untreated or partially treated waste, in order to prevent nuisance. In addition, the Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality, of the Russian River-Guerneville Hydrologic Subarea of the Russian River Hydrologic unit, the coordinated control of all factors which affect water quality in the area, and the need to develop and use recycled water, which this Order supports. The Permittee did not submit any evidence regarding whether the waste discharge requirements for discharges to land would interfere with the development of needed housing within the region or the costs of compliance, particularly anything to show that the costs of compliance with the Order would be unmanageable.

2. Applicable Beneficial Uses

a. Beneficial Uses. Beneficial use designations for receiving waters to which this facility discharges are discussed in section III.C.1 of this Fact Sheet.

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 Discharge Specifications for Discharges to Land

The following land discharge specifications apply to land discharges to the Burch property.

a. Nitrate. The Order establishes a discharge specification for nitrate (as N) of 10 mg/L. This limitation is based on the State and federal primary MCL for protection of health in drinking water.

b. pH. The Order establishes a discharge specification for pH of 6.0 to 9.0 based on technology-based effluent limitations required by U.S. EPA pursuant to Part 133 of the CWA. These pH limits are included in this Order to ensure that pH levels are appropriate for protection of groundwater when discharging to land.

c. Total Dissolved Solids. The Order establishes an effluent limitation for total dissolved solids of 500 mg/L. Total dissolved solids is a direct measure of salinity. Overall salinity affects underlying groundwater quality as it relates to drinking water and agricultural supply beneficial uses. This limitation is based on the State and federal secondary MCL for taste and odor in drinking water.

d. Sodium. The Order establishes an effluent limitation for sodium of 60 mg/L. This limitation is based on the secondary MCL for taste and odor in drinking water.

e. Aluminum. The Order establishes effluent limitations for aluminum of 1 mg/L. This limitation is based on the State primary MCL for protection of health in drinking water. Although monitoring data for aluminum collected during the term of the previous permit did not exceed the water quality objective for aluminum, groundwater monitoring data revealed degradation of groundwater and exceedance of the water quality objective for aluminum.

f. The land discharge specification for chloride that was in Order No. R1-2009-0003 has not been retained in this Order, because monthly effluent monitoring data collected by the Permittee between April 2010 and December 2013 has demonstrated that the effluent does not contain concentrations of chloride that could exceed the water quality objective of 250 mg/L (state drinking water MCL). The effluent monitoring data ranged between 24 mg/L and 100 mg/L.

4. WQBEL Calculations

This section does not apply to the land disposal aspect of this Facility. All of the land discharge specifications are set at the MCL concentrations established by the California Department of Public Health and/or the U.S. EPA, thus no calculations were needed to determine the WQBELs.

G. Recycling Specifications

The Permittee has a recycled water system to irrigate a golf course consistent with agronomic demand. The Permittee may expand its recycled water system in the future to include agricultural and/or urban irrigation sites. Irrigation occurs from May 15 through September 30 and other times during the year when weather allows (e.g., dry fall, winter and spring periods). All of the water recycling specifications are based on the technical capabilities of the advanced 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.

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

The following recycled water specifications apply to effluent discharges to all authorized recycled water use sites at Discharge Point 003.

a. Tertiary Treatment. All distribution of effluent to the recycled water system, must comply with effluent recycling specifications in section IV.C of the Order. Disinfected tertiary treated effluent not meeting recycling specifications in section IV.D.1.b of this Order may be discharged at Discharge Point 003 provided that it meets all other relevant permit requirements.

b. Filtration Rate. This provision in section IV.D.1.a of the Order requires that wastewater be filtered at a rate that does not exceed 5 gallons per minute per square foot of filter surface area, and is based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to demonstrate that recycled water has been coagulated and adequately filtered for removal of wastewater pathogen and for conditioning of water prior to the ultraviolet light disinfection process.

c. Turbidity. This provision in section IV.D.1.b of the Order specifies that the turbidity of the filtered wastewater not exceed an average of 2 NTU within a 24-hour period, 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time, and is based on the definition of filtered wastewater found in title 22 Section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following the effluent filters and before discharge to the disinfection system.

d. Storage Ponds. The Order (section IV.C.3) requires the Permittee to submit design proposals for new storage ponds to the Regional Water Board for review prior to construction and demonstrate that the pond design incorporates features to protect groundwater from exceeding groundwater quality objectives.

e. Recycled Water Requirements and Provisions – Attachment G

Attachment G of this Order contains Water Reclamation Findings, Requirements and Provisions to ensure that recycled water is used in a manner that is protective of groundwater and surface water quality. A key to reducing the potential for spills is for the Permittee to establish and implement appropriate BMPs to protect against the possibility of recycled water spills. Section VI.C.2.b of the Order requires the Permittee to develop BMPs for the management of the recycled water system. It is expected that the BMPs that the Permittee identifies will reduce the potential and severity of recycled water spills and runoff when implemented properly.

H. Other Requirements

The Order contains additional specifications that apply to the Facility regardless of the disposal method (surface water discharge, land disposal, or reclamation), 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 also 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 the CDPH and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research Foundation's (NWRI/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 CDPH 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.

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 ground water 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 Permittee's 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 the California Code of Regulations, title 22, division 4, chapter 15, article 4.1, section 64435, and article 5.5, section 64444, and listed in Table 3-2 of the Basin Plan.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

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.

   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., 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. This Provision implements federal requirements at section 122.41(I)(6) and (7) for notification of noncompliance and spill reporting.

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 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, 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 limitation based on that objective.

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).** 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 2.41 has been used, as further described in section IV.C.3.b 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 when developing effluent limitations for copper. If the Permittee performs studies on additional parameters other than copper to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or translator studies were performed in accordance with U.S.EPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.

f. **Nutrients (Special Provision VI.C.1.f).** This Order establishes monitoring requirements for the effluent and receiving water for nutrients (i.e., ammonia, nitrate, and phosphorus). This provision allows the Regional Water Board to reopen this Order if future monitoring data indicates the need for effluent limitations or more stringent effluent limitations for any of these parameters.

g. **Salt and Nutrient Management Plans (SNMPs) (Special Provision VI.C.1.g)**. This provision allows the Regional Water Board to reopen this Order if it adopts a regional or subregional SNMP that is applicable to the Permittee.

h. **Title 22 Engineering Report (Special Provision VI.C.1.h)**. This provision allows the Regional Water Board to reopen this Order to adequately implement title 22, if future modifications to the Permittee's title 22 engineering report occur.

2. **Special Studies and Additional Monitoring Requirements**

a. **Toxicity Reduction Requirements (Special Provision VI.C.2.a).** 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. Attachment E of this Order requires acute and chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Permittee to maintain an up-to-date TRE Work Plan for approval by the Executive Officer, to ensure 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 obtained

as a result of an accelerated monitoring program. The TRE may end if the Permittee can document that the failed toxicity test was the result of a temporary condition or plant upset (e.g., incomplete dechlorination, toxic chemical slug, etc.). In the absence of demonstrating a temporary condition or plant upset, the TRE may also end by demonstrating that less than 20% of the WET tests demonstrate toxicity.

b. Recycled Water BMP/Operations and Management Plan (Special Provision VI.C.2.b). This Plan is necessary to ensure that the recycled water irrigation system is operated at appropriate hydraulic and nutrient agronomic rates, utilizing BMPs and operations practices that are appropriate.

c. Assimilative Capacity Analysis (Special Provision VI.C.2.c). This analysis is required to comply with the requirements of the state Recycled Water Policy.

d. Treatment and Disposal Capacity Analysis (Special Provision VI.C.2.d). This analysis is required because measures that the Permittee previously identified to increase treatment and disposal capacity have not been completed due to lack of funding. This analysis will provide an update regarding the treatment and disposal capacity of the Facility and identify the Permittee's plans to address any current deficiencies.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Plan. Provision VI.C.3.a is included in this Order as required by 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. 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 the Order, is an integral part of a well-operated and maintained facility.

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 July 30, 2013, the State Water Board adopted Order No. WQ 2013-0058-EXEC to modify the notification and reporting requirements. Notification and reporting of SSOs is conducted in accordance with the requirements of Order Nos. 2006-0003-DWQ, WQ 2008-0002-

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

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

Section 403.8(a) of the C.F.R. 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 reports that there are no known industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the Facility and the average dry weather design flow of the Facility is less than 5 mgd; therefore, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, in order to prevent interference with the POTW or pass through of pollutants to the receiving water, the Order requires the Permittee to implement a source control program. If at any time, an industrial waste survey indicates that a pretreatment program is necessary, pursuant to 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. This Order includes requirements for the Permittee to implement a source identification and reduction program under specific circumstances.

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:

a. Water and sewer billing records
b. Applications for sewer service
c. Local telephone directories
d. Chamber of Commerce and local business directories
e. Business license records
f. POTW and wastewater collection personnel and field observations
g. Business associations
h. The internet
i. 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.

iii. **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. The Permittee has indicated that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of off-site at a permitted point of disposal (typically a municipal solid waste landfill) in accordance with all applicable regulations. See Fact Sheet section II.A for more detail.

iv. **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) for any land application of biosolids as soil amendment to land that is not covered under an appropriate biosolids permit. 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.

v. **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.

6. Other Special Provisions

a. Storm Water (Special Provision VI.C.6.a). The Permittee is not currently required to seek coverage under the Statewide General Industrial Storm Water Permit (State Water Board Order No. 97-03-DWQ), because the design flow of the Facility is less than 1 mgd. The Facility employs storm water BMPs to divert storm water from entering the Facility grounds. This provision is established to ensure that the Permittee inspects and maintains storm water BMPs on an annual basis, and reports these activities to the Regional Water Board.

b. Flood Control and Flow Reduction Mitigation (Special Provision VI.C.6.b). This provision is included to ensure that the Permittee implements measures and actions to minimize the potential for sanitary sewer overflows and bypass events at the Facility. The provision is based in part on the Permittee's "Collection System Operations and Maintenance Plan" dated September 2001 and the findings of the Tetra Tech Diagnostic Inspection Report, which summarized findings of an inspection that occurred on March 19, and 20, 2008. The purpose of the inspection was to investigate the effect of I&I on Facility performance, the adequacy of the collection system design, and compliance with SSO requirements. Although the Facility was expanded in early 2005 to increase the wet weather sustained capacity to 3.5 mgd, it is necessary for flood control and flood reduction measures to occur on an on-going basis and prior to storm events to minimize the potential for SSOs and bypass events from occurring.

7. Compliance Schedules (Special Provision VI.C.7)

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

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

The final permit limitations in Order No. R1-2009-0003 for ammonia and nitrate are more stringent than the limitations previously implemented. These new limitations were based on a new interpretation of the narrative objective for toxicity and chemical constituents. The Permittee has complied with the application requirements in paragraph 4 of the Compliance Schedule Policy, and the Permittee's application demonstrates the need for additional time to implement actions to comply with the new limitations. During the term of Order No. R1-2009-0003, the Permittee diligently complied with Tasks 1 through 3 which included submittal of a work plan to evaluate compliance methods, submittal of reports demonstrating progress toward compliance with final ammonia and nitrate effluent limitations and discharge specifications, and implementation of a plan to comply with final ammonia and nitrate effluent limitations and discharge specifications. The Permittee has designed a biological nutrient removal upgrade project and selected a contractor for construction. Compliance with the final effluent limitations is expected to be completed by December 1, 2014. Elements of the upgrade project that are essential to startup and operation of the new treatment process are expected to be completed by October 1, 2014. Therefore, a compliance schedule for compliance with final effluent limitations for ammonia and nitrate is established in this Order.

A compliance schedule is necessary because the Permittee needed time to implement actions, including needed upgrades and tasks, (e.g., designing and constructing facilities and securing financing) to comply with a more stringent effluent limitation. Remaining construction-related tasks include purchase and installation of necessary equipment.

The Permittee has made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and has documented the results of those efforts.

The compliance schedule is as short as possible. The compliance schedule for ammonia and nitrate is included in Special Provisions section VI.C.7 of the Order.

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 sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (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

Influent monitoring requirements for flow, BOD_5, and TSS are retained from the previous permit, WDRs Order No. R1-2009-0003 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.

B. Effluent Monitoring

Pursuant to the requirements of 40 C.F.R. 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations.

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

Most effluent monitoring requirements for discharges from the Facility at Discharge Points 001 and 002, at their respective monitoring locations are retained from the previous permit. Changes in effluent monitoring requirements are as follows:

1. Monitoring for BOD_5 and TSS at EFF-001 has been changed from weekly 8-hour composite sampling to weekly 24-hour composite sampling to ensure that samples represent an entire day, rather than a portion of the day.

2. Monitoring for total chlorine residual at EFF-001 and EFF-002 has been eliminated due to the fact that the Facility does not use chlorine for disinfection.

3. Monitoring for settleable solids at EFF-001 and EFF-002 has been eliminated due to the fact that this is a tertiary facility that has demonstrated that settleable solids are not present in the effluent discharged to or from storage.

4. Monitoring for DCBM, CDBM, and chloroform has been eliminated due to findings of no reasonable potential for these pollutants.

5. Monitoring for organic nitrogen has been added as a monthly requirement so that total nitrogen can be assessed. The MRP retains monthly monitoring for ammonia and nitrate from the previous permit.

6. Monitoring twice per discharge season has been added for bis (2-ethylhexyl) phthalate due to the finding of reasonable potential for this pollutant.

7. The monitoring frequency for copper and hardness at EFF-002 has been reduced due to the finding that there is no reasonable potential with the inclusion of the copper WER. Monitoring for copper and hardness once per discharge season is included to verify that copper does not have the potential to exceed water quality objectives.

8. Monitoring for aluminum has been added to assess whether there is reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives for aluminum.

9. The frequency of effluent monitoring at EFF-002 for acute toxicity has been reduced from monthly to once per discharge season due to the fact that the Permittee has consistently complied with the acute toxicity effluent limitation for the last 10 years or more.

10. The frequency of effluent monitoring for CTR priority pollutants and title 22 pollutants has been reduced from 3 times over the 5 year permit term to once per permit term. Priority pollutant monitoring during the term of the previous permit demonstrated that there is no reasonable potential for any priority pollutant, except bis (2-ethylhexyl) phthalate to exceed the applicable water quality criteria.

11. The frequency of effluent monitoring at EFF-002 for hardness has been reduced from monthly to once per permit term due the fact that there are no monthly monitoring requirements for any hardness-based metals due to a finding of no reasonable potential for these pollutants. Monitoring of hardness once per permit term is consistent with the monitoring frequency for CTR priority pollutants.

12. A new reporting requirement for chronic toxicity has been added to assess compliance with the narrative toxicity objective in Receiving Water Limitation V.A.2 and with monitoring triggers for chronic toxicity established in section VI.C.2.a.i of the Order.

13. New effluent monitoring for radioactivity has been established in the MRP to demonstrate compliance with the water quality objective for radioactivity in the Basin Plan.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring requirements are retained from the previous Order and are included in the new 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. Changes to monitoring and reporting requirements related to toxicity are identified in sections VI.B.5 and VI.B.8, above.

D. Land Discharge Monitoring Requirements

The monitoring program retains most land discharge monitoring requirements from the previous Order, with the exception of monitoring requirements for ammonia and chloride. Monitoring for these two constituents has been removed because monitoring during the term of the previous Order demonstrates that there is no reasonable potential for either of these pollutants to cause or contribute to an exceedance of an applicable water quality objective in relation to protection of groundwater.

E. Recycled Water Monitoring Requirements

This Order requires that the Permittee comply with applicable state and local requirements regarding the production and use of reclaimed wastewater. Monitoring for filter loading rate and turbidity is retained from the previous permit.

Section 13523.1(b)(4) of the Water Code requires quarterly recycled water reporting. Section X.D.3.a.i of the MRP requires monthly recycled water reporting at the Permittee's request. This more frequent reporting meets the goal of section 13523.1(b)(4) of the Water Code since it is more frequent reporting.

The Order includes several new recycled water monitoring requirements including:

1. Monthly monitoring for nitrite, ammonia, and organic nitrogen (Table E-6a) and reporting of recycled water volume, recycled water application area, total nitrogen application rate and rainfall (Table E-6b) have been added are because it is necessary to determine the total nitrogen concentration of the effluent in order to ensure application of recycled water at nutrient agronomic rates.

2. Monthly monitoring for total dissolved solids, chloride, boron, and sodium has been added to determine whether any of these constituents are present in the effluent at concentrations that may exceed water quality objectives for these constituents to address concerns of the statewide Recycled Water Policy. TDS is a direct measure of salinity, which can affect underlying groundwater quality as it relates to drinking water and agricultural supply beneficial uses. Secondary MCLs for taste and odor in drinking water have been established by CDPH for TDS (500 mg/L), chloride (250 mg/L) and sodium (60 mg/L). An agricultural water quality limit of 0.7 mg/L has been established for boron. The MRP allows for reduction of monitoring frequency or elimination of the monitoring requirement if monitoring data collected over time demonstrates that any constituent is present in concentrations that could not cause an exceedance of water quality objectives.

F. Receiving Water Monitoring

1. Surface Water

a. Provision VI.B.2 of the Order requires the Permittee to resubmit for final approval its Receiving Water Limit Compliance Assurance and Monitoring Plan with a schedule for implementing the plan.

b. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations. Monitoring requirements for pH, dissolved oxygen, temperature, turbidity, specific conductance, TDS, ammonia, nitrate, phosphorus, CTR priority pollutants, and hardness have been retained from WDRs Order No. R1-2009-0003 with some modifications as follows:

i. Monitoring for BOD_5 and TSS are no longer required because monitoring over the last two permit terms has demonstrated that the low concentrations of BOD and TSS in the discharge do not affect the receiving water.

ii. Monitoring requirements for title 22 pollutants has also been removed due to the fact that the monitoring conducted during the term of Order No. R1-2009-0003 didn't reveal reasonable potential.

iii. Monitoring for aluminum has been added as a monthly requirement during periods of discharge to assess whether there is reasonable potential to cause or contribute to an exceedance of the water quality objective for aluminum and because the single receiving water result for aluminum was high.

iv. Monitoring for organic nitrogen has been added as a monthly requirement so that total nitrogen can be assessed. The MRP retains monthly monitoring for ammonia and nitrate from the previous permit.

v. The monitoring frequency for pH, dissolved oxygen, and turbidity has been increased from monthly to weekly to provide a better assessment of the receiving water upstream and downstream of the discharge.

vi. The monitoring frequency for hardness has been reduced from monthly to once per permit term to coincide with the monitoring frequency for CTR priority pollutant monitoring.

2. Groundwater

a. Groundwater monitoring requirements for total dissolved solids, nitrate, sodium, chloride, and aluminum, at groundwater monitoring wells on the Burch property have been retained from the previous Order and increased from quarterly to monthly to assess compliance with groundwater receiving water limitations associated with discharges from land disposal operations and to evaluate whether groundwater quality improves in response to improvements in effluent quality related to recent and upcoming Facility upgrades, such as the discontinuation of chlorine use and the addition of biological nutrient removal. Section VIII.B of the MRP allows the groundwater monitoring frequency to be reduced to quarterly, upon demonstration by the Permittee that the disposal of wastewater has not caused groundwater quality objectives to be exceeded or statistically significant degradation of groundwater quality for a period of two years, and approval by the Regional Water Board Executive Officer.

b. The groundwater monitoring requirements for ammonia and chloride have been eliminated due to the fact that monitoring during the previous permit term demonstrated that these two pollutants do not show reasonable potential to cause or contribute to exceedances of the applicable water quality objectives.

c. Groundwater monitoring requirements for depth to groundwater measurements at groundwater monitoring locations on the Burch property have been retained from the previous Order and increased to monthly to determine flow direction in groundwater each time that groundwater quality is monitored.

G. Other Monitoring Requirements

1. **Water Recycling System (Tertiary Filters).** Monitoring of the surface loading rate and effluent turbidity of the tertiary filters is retained from the previous Order and is required to demonstrate compliance with sections 60301.230 and 60301.320 of title 22 CCR requirements for filtered and disinfected tertiary recycled water.

2. **Water Recycling System (UV Disinfection).** UV disinfection system monitoring requirements are retained from the previous Order and updated at the request of CDPH staff. UV disinfection requirements 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 NWRI/AWWARF's *Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse* (3rd or subsequent editions).

3. **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.

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

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Russian River County Sanitation District Wastewater Treatment Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed draft WDRs and has encouraged 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 WDRs 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: http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml and through publication in the Press Democrat on December 23, 2013.

The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website.

B. Written Comments

Interested persons were invited to submit written comments concerning draft WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Regional Water Board at 5550 Skylane Boulevard, Suite A, Santa Rosa, California, 95403.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on January 27, 2014.

C. Public Hearing

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

Date:	**March 13, 2014**
Time:	**8:30 a.m**. or as announced in the Regional Water Board's agenda
Location:	**Regional Water Board Hearing Room** **5550 Skylane Boulevard, Suite A** **Santa Rosa, CA 95403**

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

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

D. Reconsideration of Waste Discharge Requirements

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 instructions on how to file a petition for review, see http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the 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

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Antimony	µg/L	=	0.68	=	0.11	6	---	---	14	4,300	6	No
Arsenic	µg/L	=	0.62	=	1	10	340	150	---		10	No
Beryllium	µg/L	<	0.5	=	0.04	4	---	---	---	---	4.0	No
Cadmium	µg/L	DNQ	0.025	=	0.022	3.9	---	3.9	---	---	5.0	No
Chromium, Total	µg/L	=	0.61	=	5.8	330	2800	330	---	---	---	No
Chromium (VI)	µg/L	<	5	<	5	11	16	11	---	---	50	No
Copper	µg/L	=	26	=	3.7	36	58	36.0	1300	---	---	No*
Lead	µg/L	DNQ	0.079	=	0.64	1.3	34	1.3	---	---	---	No
Mercury	µg/L	=	0.2	=	0.0134	0.050	---	---	0.050	0.051	2.0	No
Nickel	µg/L	=	8.9	=	11	85	760	85	610	4,600	100	No
Selenium	µg/L	DNQ	0.34	=	0.16	5.0	20	5	---	---	50	No
Silver	µg/L	<	0.25	<	0.02	1.2	1.2	---	---	---	100	No
Thallium	µg/L	<	1	<	0.02	1.7	---	---	1.7	6.3	2	No
Zinc	µg/L	=	27	=	8.6	200	200	200	---	---	5000	No
Cyanide	µg/L	=	3.3	<	1	5.2	22	5.20	700	220,000	150	No
Asbestos	MFL	<	ND	=	320	7.0	---	---	7	---	7	No
2,3,7,8-TCDD (Dioxin)	µg/L	<	5.0E+00	=	0.55	1.3E-08	---	---	1.3E-08	1.4E-08	3.0E-05	No
Acrolein	µg/L	<	2		NA	3	3	3	320	780	---	No
Acrylonitrile	µg/L	<	2		NA	0.06	---	---	0.059	0.66	---	No
Benzene	µg/L	<	1		NA	1.0	---	---	1.2	71	1	No
Bromoform	µg/L	<	1		NA	4.3	---	---	4.3	360	---	No
Carbon Tetrachloride	µg/L	<	1		NA	0.25	---	---	0.25	4.4	0.5	No
Chlorobenzene	µg/L	<	2		NA	70	---	---	680	21,000	70	No
Chlorodibromomethane	µg/L	=	1.35		NA	0.40	---	---	0.401	34	---	No**
Chloroethane	µg/L	<	2.00		NA	No Criteria	---	---	---	---	---	Ud
2-Chloroethylvinyl Ether	µg/L	<	1.00		NA	No Criteria	---	---	---	---	---	Ud
Chloroform	µg/L	=	50		NA	No Criteria	---	---	---	---	---	Ud

Dichlorobromomethane	µg/L	=	6.86		NA	0.56	---	---	0.56	46	---	No**
1,1-Dichloroethane	µg/L	<	1		NA	5.0	---	---	---	---	5	No
1,2-Dichloroethane	µg/L	<	2		NA	0.38	---	---	0.38	99	0.5	No
1,1-Dichloroethylene	µg/L	<	2		NA	0.057	---	---	0.057	3.2	6	No
1,2-Dichloropropane	µg/L	<	1		NA	0.52	---	---	0.52	39	5	No
1,3-Dichloropropylene	µg/L	<	2		NA	0.50	---	---	10	1,700	0.5	No
Ethylbenzene	µg/L	<	2		NA	300	---	---	3100	29,000	300	No
Methyl Bromide	µg/L	<	2		NA	48	---	---	48	4,000	---	No
Methyl Chloride	µg/L	<	2		NA	No Criteria	---	---	---	---	---	Ud
Methylene Chloride	µg/L	<	2		NA	4.7	---	---	4.7	1,600	5	No
1,1,2,2-Tetrachloroethane	µg/L	<	0.50		NA	0.17	---	---	0.17	11	1	No
Tetrachloroethylene	µg/L	<	2		NA	0.80	---	---	0.8	8.85	5	No
Toluene	µg/L	<	0.50		NA	150	---	---	6800	200,000	150	No
1,2-Trans-Dichloroethylene	µg/L	<	1		NA	10	---	---	700	140,000	10	No
1,1,1-Trichloroethane	µg/L	<	2		NA	200	---	---	---	---	200	No
1,1,2-Trichloroethane	µg/L	<	2		NA	0.60	---	---	0.6	42	5	No
Trichloroethylene	µg/L	<	2		NA	2.7	---	---	2.7	81	5	No
Vinyl Chloride	µg/L	<	2		NA	0.50	---	---	2	525	0.5	No
Chlorophenol	µg/L	<	2		NA	120	---	---	120	400	---	No
2,4-Dichlorophenol	µg/L	<	1		NA	93	---	---	93	790	---	No
2,4-Dimethylphenol	µg/L	<	1		NA	540	---	---	540	2,300	---	No
2-Methyl-4,6-Dinitrophenol	µg/L	<	5		NA	13	---	---	13.4	765	---	No
2,4-Dinitrophenol	µg/L	<	5		NA	70	---	---	70	14,000	---	No
2-Nitrophenol	µg/L	<	10		NA	No Criteria	---	---	---	---	---	Ud
4-Nitrophenol	µg/L	<	5		NA	No Criteria	---	---	---	---	---	Ud
3-Methyl-4-Chlorophenol	µg/L	<	1		NA	No Criteria	---	---	---	---	---	Ud
Pentachlorophenol	µg/L	<	1		NA	0.28	16	12	0.28	8.2	1	No
Phenol	µg/L	<	1		NA	21,000	---	---	21000	4,600,000	---	No
2,4,6-Trichlorophenol	µg/L	<	10		NA	2.1	---	---	2.1	6.5	---	No
Acenaphthene	µg/L	<	0.50		NA	1,200	---	---	1200	2,700	---	No

Acenephthylene	µg/L	<	0.20		NA	No Criteria	---	---	---	---	---	Ud
Anthracene	µg/L	<	2		NA	9,600	---	---	9600	110,000	---	No
Benzidine	µg/L	<	5		NA	0.00012	---	---	0.00012	0.00054	---	No
Benzo(a)Anthracene	µg/L	<	5		NA	0.0044	---	---	0.0044	0.049	---	No
Benzo(a)Pyrene	µg/L	<	2		NA	0.0044	---	---	0.0044	0.049	0.2	No
Benzo(b)Fluoranthene	µg/L	<	10		NA	0.0044	---	---	0.0044	0.049	---	No
Benzo(ghi)Perylene	µg/L	<	0.10		NA	No Criteria	---	---	---	---	---	Ud
Benzo(k)Fluoranthene	µg/L	<	2		NA	0.0044	---	---	0.0044	0.049	---	No
Bis(2-Chloroethoxy)Methane	µg/L	<	5		NA	No Criteria	---	---	---	---	---	Ud
Bis(2-Chloroethyl)Ether	µg/L	<	1		NA	0.031	---	---	0.031	1.4	---	No
Bis(2-Chloroisopropyl)Ether	µg/L	<	2		NA	1,400	---	---	1400	170,000	---	No
Bis(2-Ethylhexyl)Phthalate	µg/L	DNQ	3.5	DNQ	2.4	1.8	---	---	1.8	5.9	4	Yes
4-Bromophenyl Phenyl Ether	µg/L	<	5		NA	No Criteria	---	---	---	---	---	Ud
Butylbenzyl Phthalate	µg/L	<	10		NA	3,000	---	---	3000	5,200	---	No
2-Chloronaphthalene	µg/L	<	10		NA	1,700	---	---	1700	4,300	---	No
4-Chlorophenyl Phenyl Ether	µg/L	<	5		NA	No Criteria	---	---	---	---	---	Ud
Chrysene	µg/L	<	5		NA	0.0044	---	---	0.0044	0.049	---	No
Dibenzo(a,h)Anthracene	µg/L	<	0.10		NA	0.0044	---	---	0.0044	0.049	---	No
1,2-Dichlorobenzene	µg/L	<	0.50		NA	600	---	---	2700	17,000	600	No
1,3-Dichlorobenzene	µg/L	<	0.50		NA	400	---	---	400	2,600	---	No
1,4-Dichlorobenzene	µg/L	<	0.50		NA	5.0	---	---	400	2,600	5	No
3,3'-Dichlorobenzidine	µg/L	<	5		NA	0.040	---	---	0.04	0.770	---	No
Diethyl Phthalate	µg/L	<	2		NA	23,000	---	---	23000	120,000	---	No
Dimethyl Phthalate	µg/L	<	2		NA	313,000	---	---	313000	2,900,000	---	No
Di-n-Butyl Phthalate	µg/L	<	10		NA	2,700	---	---	2700	12,000	---	No
2,4-Dinitrotoluene	µg/L	<	5		NA	0.110	---	---	0.11	9.1	---	No
2,6-Dinitrotoluene	µg/L	<	5		NA	No Criteria	---	---	---	---	---	Ud
Di-n-Octyl Phthalate	µg/L	<	10		NA	No Criteria	---	---	---	---	---	Ud
1,2-Diphenylhydrazine	µg/L	<	1		NA	0.040	---	---	0.04	0.54	---	No

Fluoranthene	µg/L	<	0.05		NA	300	---	---	300	370	---	No
Fluorene	µg/L	<	0.10		NA	1,300	---	---	1300	14,000	---	No
Hexachlorobenzene	µg/L	<	1		NA	0.00075	---	---	0.00075	0.00077	1	No
Hexachlorobutadiene	µg/L	<	1		NA	0.44	---	---	0.44	50	---	No
Hexachlorocyclopentadiene	µg/L	<	5		NA	50	---	---	240	17,000	50	No
Hexachloroethane	µg/L	<	1		NA	1.9	---	---	1.9	8.9	---	No
Indeno(1,2,3-cd) Pyrene	µg/L	<	0.05		NA	0.0044	---	---	0.0044	0.049	---	No
Isophorone	µg/L	<	1		NA	8.4	---	---	8.4	600	---	No
naphthalene	µg/L	<	0.20		NA	No Criteria	---	---	---	---	---	Ud
Nitrobenzene	µg/L	<	1		NA	17	---	---	17	1,900	---	No
N-Nitrosodimethylamine	µg/L	<	5		NA	0.00069	---	---	0.00069	8.1	---	No
N-Nitrosodi-n-Propylamine	µg/L	<	5		NA	0.0050	---	---	0.005	1.4	---	No
N-Nitrosodiphenylamine	µg/L	<	1		NA	5.0	---	---	5	16	---	No
Phenanthrene	µg/L	<	0.05		NA	No Criteria	---	---	---	---	---	No
Pyrene	µg/L	<	0.05		NA	960	---	---	960	11,000	---	No
1,2,4-Trichlorobenzene	µg/L	<	1		NA	5.0	---	---	---	---	5	No
Aldrin	µg/L	<	0.01		NA	0.00013	3	---	0.00013	0.00014	---	No
alpha-BHC	µg/L	<	0.01		NA	0.0039	---	---	0.0039	0.013	---	No
beta-BHC	µg/L	<	0.01		NA	0.014	---	---	0.014	0.046	---	No
gamma-BHC	µg/L	<	0.02		NA	0.019	0.95	---	0.019	0.063	0.2	No
delta-BHC	µg/L	<	0.01		NA	No Criteria	---	---	---	---	---	Ud
Chlordane	µg/L	<	0.10		NA	0.00057	2.4	0	0.00057	0.00059	0.1	No
4,4-DDT	µg/L	<	0.01		NA	0.00059	1.1	0.001	0.00059	0.00059	---	No
4,4-DDE	µg/L	<	0.05		NA	0.00059	---	---	0.00059	0.00059	---	No
4,4-DDD	µg/L	<	0.05		NA	0.00083	---	---	0.00083	0.00084	---	No
Dieldrin	µg/L	<	0.01		NA	0.00014	0.24	0.056	0.00014	0.00014	---	No
alpha-Endosulfan	µg/L	<	0.02		NA	0.056	0.22	0.056	110	240	---	No
beta-Endosulfan	µg/L	<	0.01		NA	0.056	0.22	0.056	110	240	---	No
Endosulfan Sulfate	µg/L	<	0.05		NA	110	---	---	110	240	---	No
Endrin	µg/L	<	0.01		NA	0.036	0.086	0.036	0.76	0.81	2	No

Endrin Aldehyde	µg/L	<	0.01		NA	0.76	---	---	0.76	0.81	---	No
Heptachlor	µg/L	<	0.01		NA	0.00021	0.52	0	0.00021	0.00021	0.01	No
Heptchlor Epoxide	µg/L	<	0.01		NA	0.00010	0.52	0	0.0001	0.00011	0.01	No
PCBs sum (2)	µg/L	<	0.50		NA	0.00017	---	0.014	0.00017	0.00017	0.5	No
Toxaphene	µg/L	<	0.50		NA	0.00020	0.73	0	0.00073	0.00075	3	No
Total Ammonia	mg/L	=	2.3	=	0.2	0.36	1.4	0.36	---	---	---	**Yes**
Nitrate (as N)	mg/L	=	38	=	0.31	10	---	---	---	---	10	**Yes**
Phosphate (as P)	mg/L	=	6.1	=	4	No Criteria	---	---	---	---	---	Ud

NA - Not Available ***Water Effect Ratio of 2.41 applied to CCC** **** Chlorine use discontinued - eliminated reasonable potential**

Attachment G – Water Recycling Requirements And Provisions

The Permittee's recycled water system currently includes one urban use site, although agricultural use sites could potentially be added in the future. The Water Recycling Findings, Requirements, and Provisions in sections A, B and C apply to both urban and agricultural use sites, unless specifically identified as applying to just urban [Urban] or just agriculture [Ag].

A. WATER RECYCLING FINDINGS

1. In 1977, the State Water Board adopted Resolution No. 77-1, titled "Policy with Respect to Water Reclamation in California" (Resolution No. 77-1). Resolution No. 77-1, in part, encourages the use of recycled water in the state.

2. On February 3, 2009, the State Water Board adopted Resolution No. 2009-0011, titled "Adoption of a Policy for the Water Quality Control of Recycled Water" (Recycled Water Policy) (Resolution No. 2009-0011). The goal of Resolution No. 2009-0011 is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n). In accordance with the Recycled Water Policy, activities involving recycled water use that could impact high quality waters are required to implement best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

3. Streamlined Permitting

a. Eligibility

Elements of the Permittee's existing recycled water project meet the criteria for streamlined permitting (Paragraph 7(c) of the Recycled Water Policy) for the following reasons:

i. The recycled water project complies with title 22 regulations identified in Finding 4, below.

ii. The proposed irrigation uses will not exceed agronomic rates and will not occur when soils are saturated. An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied and may include, but not be limited to, proper design and maintenance of irrigation systems, accurate monitoring of the amount of water delivered, developing water budgets for use areas, providing supervisor training, and installing smart controllers. An operations and management plan may be developed to cover multiple sites.

iii. Order section VI.C.1.g states that the Order may be reopened to incorporate provisions consistent with any SNMP(s) adopted by the Regional Water Board.

iv. The Permittee will communicate to users the nutrient levels in the recycled water so that users can appropriately evaluate fertilizer needs.

b. Streamlined Permitting Requirements. According to Paragraph 7(b)(4) of the Recycled Water Policy, irrigation projects that qualify for streamlined permitting are not required to conduct project-specific receiving water and groundwater monitoring unless otherwise required by an applicable SNMP. This Order requires the Permittee to comply with any future SNMP adopted by the Regional Water Board. Until a SNMP is adopted, groundwater monitoring could be required as needed for development of the SNMP or if necessary to assess impacts of effluent disposal to the recycled water system.

4. The California Department of Public Health (CDPH) (formerly California Department of Health Services or DHS) has established statewide recycled water criteria in Chapter 3, Division 4, title 22, CCR, sections 60301 through 60355 (hereinafter title 22) for the use of recycled water for

irrigation, impoundments, cooling water, and other purposes. The CDPH has also established Guidelines for Use of Reclaimed Water. This Order (including Attachment G) implements the title 22 recycled water criteria.

5. In 1996, the State Water Board and CDPH set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of recycled water in California, in a document titled Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water (MOA). This Order is consistent with the MOA.

6. This Order implements Water Code section 13523.1 which authorizes issuance of a Master Recycling Permit to suppliers or distributors, or both, of recycled water in lieu of issuing individual water recycling requirements to each recycled water user.

7. The Permittee shall maintain an up-to-date, CDPH-approved title 22 engineering report for the use of recycled water pursuant to sections 60313(d), 60314, and 60323 of title 22, as required by Water Recycling Provision C.2 of this Attachment. The Permittee must submit updates to the Engineering Report to CDPH. The Permittee shall also submit its title 22 engineering report and any approval letters prepared by CDPH to the Regional Water Board Executive Officer. Engineering report(s) shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain (1) a description of the design of the recycled water system; (2) a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use areas; and (3) a cross-connection control program (title 17 of the CCR) where a dual-plumbed system is used. Engineering reports shall clearly indicate the means for compliance with CCR title 22 regulations and this Order.

8. This Order requires the Permittee to minimize the potential for surface runoff of recycled water, but recognizes that even with diligent implementation of best management practices (BMPs), incidental runoff events may occur on occasion. Incidental runoff is defined as unintended small amounts (volume) of runoff from recycled water use areas where agronomic rates and appropriate BMPs are being implemented. Examples of incidental runoff include unintended, minimal over-spray from sprinklers that escapes the recycled water use area or accidental breakage of a sprinkler head on a properly maintained irrigation system. Water leaving a recycled water use area is not considered incidental if it is due to negligent maintenance or poor design of the facility infrastructure, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff events are typically infrequent, low volume, accidental, not due to a pattern of neglect or lack of oversight, and are promptly addressed.

9. This Order authorizes the Permittee to reuse treated municipal wastewater that complies with water recycling specifications contained in section IV of the Order for uses that have been addressed in an approved title 22 Engineering Report and for which recycled water user agreements have been negotiated and or/recycled water use permits have been issued.

10. Effluent Limitations included in this Order will assure compliance with requirements contained in title 22 and the CDPH (DHS)/State Water Board MOA.

11. The Permittee must demonstrate that the storage and use of recycled water complies with applicable state regulations and the Basin Plan.

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

B. WATER RECYCLING REQUIREMENTS

1. The use of recycled water shall not result in unreasonable waste of water. Recycled water shall not be applied at greater than hydraulic agronomic rates.

2. The use of recycled water shall not create a condition of pollution or nuisance as defined in Water Code section 13050(m).

3. All recycled water provided pursuant to this Order shall be treated and managed in conformance with all applicable provisions of the Recycled Water Policy.

4. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of section IV.C and D of the Order and that all users of recycled water comply with the terms and conditions of this Order and with any rules, ordinances, or regulations adopted by the Permittee.

5. The Permittee shall discontinue delivery of recycled water during any period in which there is reason to believe that the requirements for use as specified in this Order or the requirements of CDPH are not being met and cannot be corrected in a timely manner. The delivery of recycled water shall not resume until all conditions have been corrected.

6. The Permittee shall notify recycled water users if recycled water that does not meet the water recycling specifications of this Order is released into the recycled water system.

7. The Permittee shall require each recycled water user to report to the Permittee all noncompliance with recycled water regulations identified in this Order, including runoff incidents not meeting the conditions of incidental runoff. All reported observations of noncompliance shall be included in the Permittee's Monthly Recycled Water Report.

8. The Permittee shall identify a recycled water use site supervisor who is responsible for the recycled water system at each use area under the user's control. Specific responsibilities of the recycled water use site supervisor include the proper installation, operation, and maintenance of the irrigation system; compliance of the project with the Permittee's rules and regulations (e.g., recycled water use ordinance); prevention of potential hazards; and preservation of the recycled water distribution system plans in "as built" form. The Permittee shall require that each recycled water use site supervisor be appropriately trained regarding recycled water rules and regulations and in the use of recycled water. The Permittee shall maintain daytime and emergency contact telephone numbers for the recycled water use site supervisor for each recycled water use site.

9. Application of recycled water to use areas shall not exceed the nitrogen or hydraulic loading reasonably necessary to satisfy the nitrogen or water uptake needs of the use area considering plant, soil, climate, and nutrient demand (i.e., generally accepted agronomic rates).

a. Hydraulic loading to any individual recycled water use site shall be at reasonable agronomic rates designed to minimize percolation of wastewater constituents below the evaporative and root zone.

b. The seasonal nutritive loading of use areas, including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed the nutritive demand of the landscape or vegetation receiving the recycled water. The Permittee shall communicate to the users the nutrient levels in the recycled water.

c. The Permittee's description of agronomic application compliance shall be included in the Annual Recycled Water Summary (Section X.D.3.a.ii of the Monitoring and Reporting Program – Attachment E).

10. Recycled water shall not be applied on water-saturated or frozen ground or during periods of precipitation such that runoff is induced.

11. Recycled water shall not be allowed to escape the recycled use area(s) in the form of surface runoff. [CCR title 22, section 60310(e)] However, incidental runoff of recycled water, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area, or accidental breakage of a sprinkler head on a properly maintained irrigation system, is not a violation of this Order.

12. Best management practices that are protective of groundwater and surface water quality and human health shall be developed and implemented to achieve an efficient irrigation system. Section VI.C.2.b of the Order requires the Permittee to develop and implement BMPs for the recycled water system. Practices and strategies to prevent the occurrence of runoff shall include, where appropriate, but not be limited to:

- **a.** All new recycled water use sites shall include a 100-foot setback to all surface waters or provide written documentation of appropriate BMPs that will be implemented in order to prevent or minimize the potential for runoff discharging to surface water.
- **b.** Urban recycled water use sites shall maintain appropriate setbacks to the street gutter and other inlets to the storm drain system based on site conditions or implement alternative means to prevent the discharge of runoff to surface waters. [Urban]
- **c.** Implementation of an Operations and Maintenance Plan that provides for detection of leaks (for example, from sprinkler heads), and correction within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever comes first. Recycled water delivery shall be terminated to stop the leak as soon as possible, but no longer than two hours after the Permittee has knowledge of the leak.
- **d.** Proper design and aim of sprinkler heads;
- **e.** Proper design and operation of the irrigation system;
- **f.** Refraining from application during precipitation events;
- **g.** Application of recycled water at an agronomic rate that does not exceed the water or nutrient demand of the crop or vegetation being irrigated;
- **h.** Use of repeat start times and multiple water days to increase irrigation efficiency and reduce runoff potential;
- **i.** Maintenance of recycled water infrastructure (pipelines, pumps, etc.) to prevent and minimize breakage and leaks; and
- **j.** Adequate protection of all recycled water reservoirs and ponds against overflow, structural damage, or a reduction in efficiency resulting from a 25-year, 24-hour storm or flood event or greater, and notification of the Regional Water Board Executive Officer, if a discharge occurs.

13. Use areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use. [Urban]

14. Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities. [CCR title 22, section 60310(e)(3)], nor shall it enter any other area where the public would be accidentally exposed to recycled water, such as roadways or neighboring properties. BMPs shall be implemented that will minimize both public contact with recycled water and recycled water application onto areas not under the control of the recycled water user.

15. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff. [CCR title 22, section 60310(e)(3)] [Urban]

16. All recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities.

17. The Permittee shall implement the requirements of the California Health and Safety Code (CHSC), section 116815 regarding the installation of purple pipe. CHSC section 116815 requires that "all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape." Section 116815 also contains exemptions that apply to municipal facilities that have established a labeling or marking system for recycled water used on their premises and for water delivered for agricultural use. The Permittee shall document compliance with this requirement for new sites or newly retrofitted piping on an annual basis in its annual monitoring report. The Permittee shall continue to implement the requirements of CHSC section 116815 during the term of this Order. [Urban]

18. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs, except as explicitly allowed by CDPH. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access. [CCR title 22, section 60310(i)] [Urban]

19. Cross-connections shall not occur between any recycled water system and any separate system conveying potable water. [22 CCR, section 60310(h)] Supplementing recycled water with potable water shall not be allowed except through air gap separation [CCR title 22, section 30615].

20. Disinfected tertiary recycled water shall not be irrigated within 50 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified in CCR title 22, section 60310(a) have been met and approved by CDPH.

21. The use of recycled water shall not cause degradation of any water supply, except in conformance with the State Antidegradation Policy.

22. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.

23. All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in CCR title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road. CDPH may accept alternative signage and wording, or an educational program, provided that applicant demonstrates to CDPH that the alternative approach will assure an equivalent degree of public notification.

24. DHS (now CDPH) Guidance Memo No. 2003-02: Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines provides guidance for the separation of new potable water mains and recycled water pipelines which shall be implemented as follows: [Urban]

- **a.** There shall be at least a four-foot horizontal separation between all pipelines transporting disinfected tertiary recycled water and new potable water mains.
- **b.** There shall be at least a one-foot vertical separation at crossings between all pipelines transporting recycled water and potable water mains, with the potable water main above the recycled water pipeline, unless approved by the CDPH.

c. All portions of the recycled water pipeline that cross under a potable water main shall be enclosed in a continuous sleeve.

d. Recycled water pipelines shall not be installed in the same trench as new water mains.

e. Where site conditions make it impossible to comply with the above conditions, any variation shall be approved by CDPH and comply with alternative construction criteria for separation between sanitary sewers and potable water mains as described in the CDPH document titled "Criteria for Separation of Water Mains and Sanitary Sewers", treating the recycled water line as if a sanitary sewer.

25. A minimum freeboard, consistent with pond design, but not less than two feet, shall be maintained under normal operating conditions in any reservoir or pond containing recycled water. When extraordinary operating conditions necessitate a freeboard below the overflow structure of less than two feet, the Permittee will document the variance in the monthly self-monitoring report. The report will include an explanation of the circumstances under which the variance is required, the estimated minimum freeboard during the extraordinary period, and any permit noncompliance occurring as a result of the variance.

26. The use of recycled water for dust suppression shall only occur during periods of dry weather, shall be limited to periods of short duration, and shall be limited to areas under the control of the Permittee or areas for which the Permittee has explicitly permitted such use.

27. The Permittee shall comply with any SNMP that is adopted by the Regional Water Board in the future.

28. A copy of the recycled water rules and regulations, irrigation system layout map, and a recycled water system operations manual shall be maintained at each use area. These documents shall be available to operating personnel at all times.

C. WATER RECYCLING PROVISIONS

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

2. Upon approval of the Permittee's procedures, engineering standards, rules, ordinances, and/or regulations, the Permittee may authorize specific additional water recycling projects, on a case-by-case basis, in accordance with the approved program and agreements.

3. The Permittee shall submit revised and/or additional engineering report(s) to the Regional Water Board and CDPH for approval, prior to initiating any recycled water use (e.g., new industrial use, recreational surface impoundments, water cooling, new dual-plumbed system, etc.) not addressed in any previously submitted CCR title 22 engineering report(s). Any revision(s) to a title 22 engineering report shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment.

4. The Permittee shall conduct periodic inspections of the recycled water use areas, facilities, and operations to monitor and assure compliance with the conditions of this Order. The Permittee shall take whatever actions are necessary, including termination of delivery of recycled water, to correct any user violations. Where dual-plumbed systems are utilized, the Permittee shall, upon prior notification to the user, conduct regular inspections to assure cross-connections are not made with potable water systems and CDPH approved backflow prevention devices are installed and operable.

5. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of this Order and for the operation and maintenance of transport facilities and associated appurtenances. The Permittee shall hold the recycled water users responsible for the application and use of recycled water on their designated areas and associated operations and maintenance in accordance with all applicable CCR title 22 requirements and this Order. A designated site supervisor involved in the operation and/or maintenance of the recycled water system shall attend training regarding the safe and efficient operation of recycled water use facilities.

6. The Permittee shall notify the Regional Water Board Executive Officer in anticipation of reclaiming water at a new location, prior to commencement of water recycling activities at the new location. The notice shall include the following: site location; acreage involved; the specific use to be made of the recycled water; County Assessor Parcel number(s); a map of the use site showing the site boundaries in relation to the irrigation area and identifying the location of waterbodies, domestic wells, drinking fountains and other features that require protection; name of property owner; name of recycled water user; name and telephone number of recycled person or persons responsible for operation of the recycled water (water use site supervisor); and a User Reclamation Plan. The User Reclamation Plan shall estimate the anticipated volume of recycled water to be used and any special site conditions that require BMPs or other management practices beyond those identified in the Recycled Water Users' Guide.

7. If, in the opinion of the Regional Water Board Executive Officer, recycled water use at proposed new locations cannot be adequately regulated under the Master Recycling Permit, a Report of Waste Discharge may be requested and individual Water Recycling Requirements may be adopted.

8. Prior to the initial operation of any dual-plumbed recycled water system, and annually thereafter, the Permittee shall ensure that the dual-plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the Engineering Report. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to CDPH and the Regional Water Board by March 1 of each year. [CCR title 22, section 60316] [Urban]

9. If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), the Permittee shall notify CDPH and the Regional Water Board of any incidents of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident. [Urban]

   If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of title 17, CCR. [Urban]