California Regional Water Quality Control Board
North Coast Region
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Edmund G. Brown Jr.
Governor

ORDER NO. R1-2011-0054
NPDES NO. CA0022748
WDID NO. 1B83134OHUM

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF RIO DELL RIO DELL WASTEWATER TREATMENT PLANT HUMBOLDT COUNTY

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	City of Rio Dell
Name of Facility	Rio Dell Wastewater Treatment Plant
Facility Address	475 Hilltop Drive
	Rio Dell, CA 95562
	Humboldt County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the City of Rio Dell from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary Treated Municipal Wastewater	40° 29’ 47” N	124° 5’ 40” W	Lower Eel River
002	Secondary Treated Municipal Wastewater	40° 29' 43.32" N	124° 5' 42.22" W	Percolation Pond Groundwater
003	Secondary Treated Municipal Wastewater	40° 30' 47.79" N	124° 7' 54.54" W	Land Disposal at Irrigation Site Groundwater

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**September 29, 2011**
This Order shall become effective on:	**December 1, 2011**
This Order shall expire on:	**November 30, 2016**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**June 3, 2016**

IT IS HEREBY ORDERED, that Order No. R1-2006-0021 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Catherine Kuhlman, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on September 29, 2011.

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Catherine Kuhlman, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	City of Rio Dell
Name of Facility	Rio Dell Wastewater Treatment Plant
Facility Address	475 Hilltop Drive
	Rio Dell, CA 95562
	Humboldt County
Facility Contact, Title, and Phone	Rick Chicora, Operations Supervisor, (707) 764-5754
Mailing Address	675 Wildwood Drive, Rio Dell, CA 95562
Type of Facility	Publicly Owned Treatment Works (POTW)
Existing Facility Design Flow	0.9 million gallons per day (mgd) Average Annual Flow
New Facility Design Flow	0.62 mgd Average Annual Flow 1.25 mgd Average Wet Weather Flow (AWWF)

II. FINDINGS

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

A. Background. The City of Rio Dell (hereinafter Discharger) is currently discharging pursuant to Order No. R1-2006-0021 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022748. The Discharger submitted a Report of Waste Discharge, dated December 9, 2010, and applied for an NPDES permit renewal to discharge up to an average 0.9 mgd of treated wastewater from the Rio Dell Wastewater Treatment Plant, hereinafter Facility. The application was deemed complete on January 13, 2011.

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

B. Facility Description. The Discharger owns and operates a municipal wastewater treatment facility (WWTF) and associated wastewater collection and disposal facilities that serve a population of 3,100 within the City of Rio Dell. The existing treatment system includes an automatic screen and grit removal system, primary clarifiers, rotating biological contactors (RBCs), secondary clarifiers, and chlorine disinfection and dechlorination facilities. The Facility is designed to treat an average annual flow of 0.9 mgd. Solids are stabilized through aerobic digestion and then dewatered with a belt filter press. Dried sludge is applied to agricultural land.

From October 1 through May 14, treated wastewater from the Facility may be discharged at Discharge Point 001 to the Lower Eel River. The Lower Eel River is a water of the United States within the Lower Eel River Watershed. From May 15 through September 30, treated wastewater is discharged to a percolation pond identified as Discharge Point 002 adjacent to the Lower Eel River.

The Discharger plans to construct 1) upgrades to the existing WWTF, 2) a new treated effluent pipeline, and 3) a treated effluent disposal system within the effective period of this Order. Upgrades to the WWTF system include a new headworks pumping system; a secondary treatment and solids stabilization system (Aero-Mod) that will replace the existing primary clarifiers, RBCs, secondary clarifiers, and aerobic digesters. Upgrades will also include changes to the chlorination and effluent pumping systems; and new laboratory and office facilities. The majority of the new treatment components will be located at the southern end of the site, with many of the existing facilities abandoned in place.

The new treated effluent pipeline will be a 14-inch high density polyethylene (HDPE) pipe approximately 13,000 feet in length that will transport treated effluent to a new disposal site and discharge at Discharge Point 003 during the summertime discharge prohibition period and at other times which will not result in production of runoff. The new irrigation disposal site is located northwest of the City of Rio Dell and west of the southbound Highway 101 Bridge on an agricultural parcel. The usable area of the site is approximately 25 acres. Treated effluent will be conveyed to the irrigation site by a pump station located at the WWTF site at the Rio Dell Public Works Yard.

Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters.

This Order also serves as Waste Discharge Requirements (WDRs) for land discharges of irrigated effluent pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order

requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

This action also involves the adoption of WDRs for irrigation using treated effluent. For the portion of the permit that addresses WDRs for discharges to land, the Discharger certified an Environmental Impact Report (EIR; State Clearing House # 2007062006) stating that the land disposal areas of the project would have a "less than significant impact" in regard to potential impacts to beneficial uses of the groundwater resource due to irrigation, which is supported by the Discharger's *Proposed Mozetti Irrigation Site Groundwater Anti-degradation Analysis* (Antidegradation Analysis), prepared by Winzler & Kelly on behalf of the Discharger and submitted in July 2010.

As a responsible agency under CEQA, the Regional Water Board is required to consider the final certified CEQA document(s) and reach its own conclusions on whether and how to approve a permit for the Discharger's proposed land disposal method. Prior to approving this Order, the Regional Water Board considered the environmental effects of the Discharger's proposed land disposal method as identified in the certified final EIR. In considering alternatives and mitigation measures, the Regional Water Board only has the responsibility for mitigating or avoiding those direct or indirect environmental effects from those parts of the proposed land disposal method that are within its jurisdiction to approve. (Public Resources Code, Section 21002.1(d); California Code of Regulations, title 14, section 15096(g) and (h)). The Regional Water Board has required, as a condition of this Order, mitigation measures for those potentially significant impacts over which the Regional Water Board has authority. Specifically, the applicable mitigation measure involves the limitation of nitrogen concentrations which may be applied to the land disposal area. This permit implements the proposed mitigation measure through the application of effluent limitations imposed upon Discharge Point 003. The Regional Water Board finds that with mitigation, all potentially significant impacts of the City's proposed land disposal method will be reduced to levels of insignificance, as described below.

Uses of treated effluent for irrigation of agricultural operations have the potential to create or contribute to incidental offsite runoff and discharge to adjacent drainages. Therefore, discharges of irrigation runoff could reach natural surface waters and potentially cause incidental changes in water quality conditions. As part of the Antidegradation Analysis, the Discharger conducted several analyses to determine the potential for wastewater constituents to reach the Lower Eel River, and determined that the applied effluent will not discharge to the Lower Eel River during the seasonal discharge probation period.

The proposed Irrigation may be used to grow crops, but often exceeds the agronomic demand, thereby allowing effluent to comingle with underlying groundwater. The Antidegradation Analysis included a groundwater fate and transport study which indicates that although the groundwater mixture will eventually reach the hyporheic zone of the Eel River, it is unlikely that any wastewater constituents will be detected in surface water during the discharge prohibition season. This impact would be less than significant.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], 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 Part 133 in accordance with section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA 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).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated

waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to area groundwater and the Lower Eel River within the Ferndale Hydrologic Subarea of the Lower Eel River Hydrologic Area are as follows:

Table 5. Basin Plan Beneficial Uses

Beneficial Use (s)	Receiving Water Name Discharge Points	
	Lower Eel River 001	Groundwater 002 and 003
Municipal and Domestic Water Supply (MUN)	E	E
Agricultural Supply (AGR)	E	E
Industrial Service Supply (IND)	E	E
Industrial Process Supply (PRO)	P	P
Groundwater Recharge (GWR)	E	---
Freshwater Replenishment (FRESH)	E	---
Navigation (NAV)	E	---
Hydropower Generation (POW)	P	---
Water Contact Recreation (REC-1)	E	---
Non-contact Water Recreation (REC-2)	E	---
Commercial and Sport Fishing (COMM)	E	---
Warm Freshwater Habitat (WARM)	---	---
Cold Freshwater Habitat (COLD)	E	---
Wildlife Habitat (WILD)	E	---
Preservation of Rare, Threatened or Endangered Species (RARE)	E	---
Marine Habitat (MAR)	P	
Migration of Aquatic Organisms (MIGR)	E	---
Spawning, Reproduction, and/or Early Development (SPWN)	E	---
Shellfish Harvesting (SHELL)	E	
Estuarine Habitat (EST)	E	
Aquaculture (AQUA)	P	P
Native American Culture (CUL)	E	E

Requirements of this Order implement the Basin Plan.

On November 12, 2010, USEPA provided partial approval of the list of impaired water bodies prepared by the State pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The partial approval supported the 303(d) listing of the Lower Eel River as impaired by aluminum, dissolved oxygen, sedimentation/siltation, and temperature. Pursuant to CWA section 303(d), the Regional Water Board must adopt Total Maximum Daily Loads (TMDLs) to address impairing pollutants in 303(d) listed waters, and then implement TMDLs in NPDES permits. 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) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

In December 2007, USEPA established a TMDL for sediment and temperature in the Lower Eel River. This Order is consistent with the TMDL.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA 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 water quality criteria for priority pollutants.

J. **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 USEPA 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 USEPA 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.

K. **Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This Policy became effective on August 27, 2008. This Order does not include compliance schedules or interim effluent limitations.

L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (section 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS). Restrictions on these pollutants are discussed in section IV.B.2 of the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

N. Antidegradation Policy. Section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters 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. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 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. As discussed in detail in the Fact Sheet, this Order's effluent limitations are consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Endangered Species Act. 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 sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B and V.B of this Order 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.

T. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

U. 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 of this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of any waste not disclosed by the Discharger 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 California 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 system is prohibited, except as provided for in Prohibition III.E and Attachment D, Standard Provision G (Bypass).

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

F. The discharge of waste to land that is not owned by or under agreement to use by the Discharger is prohibited, except for use for fire suppression as provided in title 22, sections 60307 (a) and (b) of the California Code of Regulations.

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

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

I. During the period of October 1 through May 15, discharges of treated effluent shall not exceed one percent of the flow of the Lower Eel River. For purposes of this Order, compliance with the discharge rate limitation is determined as follows:

1. The discharge of 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 Lower Eel River as measured at Scotia at U.S. Geological Survey (USGS) Gage No. 11477000, and

2. In no case shall the total volume of treated wastewater discharged in a calendar month exceed one percent of the total volume of the Lower Eel River at Scotia at USGS Gage No. 11477000 in the same calendar month.

During periods of discharge, the gage shall be read at least once daily, and the effluent flow shall be set for no greater than one percent of the flow of the Lower Eel River at the time of the daily reading. 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 on which the discharge ceased for the season.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Effluent Limitations – Existing WWTF

a. For the duration of operation of the existing WWTF as well as during the initial 90 days start-up period after activation of the new WWTF, the Discharger shall maintain compliance with the following limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 prior to discharge into the Lower Eel River, as described in the Monitoring and Reporting Program (Attachment E). These effluent limitations shall apply in lieu of the corresponding effluent limitations specified for the same parameters that will take effect upon activation of the new WWTF[2].

Table 6. Effluent Limitations – Existing WWTF

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	--	--	--
	lbs/day[3,4]	225	340	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day[2,3]	225	340	--	--	--
pH	std units	--	--	--	6.5	8.5

[2] During the initial 90 day start-up period after activation of the new WWTF the effluent limitations contained in Table 6 shall apply as appropriate to the new WWTF as measured at EFF-001.

[3] The mass discharge (lbs/day) is obtained from the following calculation for any calendar day, week or month:

$$\frac{8.34}{N}\sum^{N} Q_i C_i$$

in which N is the number of samples analyzed, Q_i and C_i are the flow rate (mgd) and the constituent concentration (mg/L) respectively, which are associated with each of the N grab samples, which may be taken in the sampling period. If a composite sample is taken, C_i is the concentration measured in the composite sample and Q_i is the average flow rate occurring during the period over which samples are composited.

[4] Mass-based effluent limitations are based on the average annual flow of 0.9 mgd.

Table 6. Effluent Limitations – Existing WWTF

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine, Total Residual	mg/L	0.01	--	0.02	--	--
Settleable Solids	mL/L	0.1	--	0.2	--	--
Total Coliform Organisms	MPN/100 mL	23[5]	--	230	--	--

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

c. Flow. The mean daily annual flow of waste through the treatment plant shall not exceed 0.9 mgd, measured daily over a calendar month and averaged over a calendar year.

d. Acute Toxicity. There shall be no acute toxicity in treated wastewater discharged to the Lower Eel River and its tributaries. The Discharger will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:

i. Minimum for any one bioassay: 70 percent survival
ii. Median for any three or more consecutive bioassays[6]: at least 90 percent survival.

Compliance with the acute toxicity effluent limitation shall be determined in accordance with section V of the Monitoring and Reporting Program (Attachment E) of this Order.

[5] The median concentrations shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, using the bacteriological results of the last 30 calendar days for which analyses have been completed.

[6] During periods of survival greater than 90 percent, the median shall be reported using the three most recent consecutive bioassays. When survival is depressed below 90 percent, the median calculation shall be reported after two more consecutive bioassays have been completed. The median shall continue to be calculated using all bioassays from the first reduction in survival below 90 percent until the median survival of all such samples exceeds 90 percent survival or until three consecutive samples demonstrate survival exceeding 90 percent.

2. Effluent Limitations – Upgraded WWTF

a. Thirty (30) days prior to activation of the new WWTF described under paragraph 2 of Finding II.B, the Discharger shall submit written notification to the Executive Officer declaring the intent to operate and discharge from the new WWTF. Ninety (90) days after the initial activation of the new WWTF, the Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (Attachment E).

Table 7. Effluent Limitations – New WWTF

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	--	--	--
	lbs/day[3, 7]	155	233	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day[3, 7]	155	233	--	--	--
pH	std units	--	--	--	6.5	8.5
Ammonia Nitrogen, Total (as N)	mg/L	See Attachment G[8]	--	See Attachment G[8]	--	--
Chlorine, Total Residual	mg/L	0.01	--	0.02	--	--
Nitrate Nitrogen, Total (as N)	mg/L	8.0	--	--	--	--
Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Settleable Solids	mL/L	0.1	--	0.2	--	--
Total Coliform Organisms	MPN/100 mL	23[5]	--	230	--	--

b. Percent Removal. The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the

[7] Mass-based effluent limitations are based on the average annual flow of 0.62 mgd.

[8] Average monthly effluent limitations (AMELs) for ammonia are determined based on the pH and temperature of the receiving water at the time the discharge is sampled. Maximum daily effluent limitations (MDELs) for ammonia are determined based on the pH of the receiving water at the time the discharge is sampled. See Attachments G-1 and G-2 for full tables of effluent limitations for ammonia.

monthly average value of effluent concentration for the same constituent measured over a calendar month at Monitoring Locations INF-001 and EFF-001, respectively.

c. Flow. The mean daily annual flow of waste through the treatment plant shall not exceed 0.62 mgd, measured daily over a calendar month and averaged over a calendar year. The monthly average wet weather flow of waste through the treatment plant shall not exceed 1.25 mgd measured continuously, calculated daily and averaged over a calendar month. At no time shall daily peak flows of waste through the treatment plant exceed 2.51 mgd during a single 24 hour period.

d. Acute Toxicity. There shall be no acute toxicity in treated wastewater discharged to the Lower Eel River and its tributaries. The Discharger will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:

i. Minimum for any one bioassay: 70 percent survival
ii. Median for any three or more consecutive bioassays[6]: at least 90 percent survival.

Compliance with the acute toxicity effluent limitation shall be determined in accordance with section V of the Monitoring and Reporting Program (Attachment E) of this Order.

B. Land Discharge Specifications

1. Land Discharge Specifications – Discharge Point 002

a. The Discharger shall maintain compliance with the following land discharge specifications at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program. Land Discharges at Discharge Point 002 will no longer be authorized upon activation of Discharge Point 003.

Table 8. Land Discharge Specifications – Discharge Point 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	--	--
	lbs/day[3, 4]	225	340	450	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day[3, 4]	225	340	450	--	--

Table 8. Land Discharge Specifications – Discharge Point 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	std units	--	--	--	6.0	9.0
Settleable Solids	ml/L	0.1	--	0.2	--	--
Total Coliform Organisms	MPN/100 mL	23[5]	--	230	--	--

b. Flow. The mean influent flow shall not exceed 0.9 mgd, measured over a calendar month and averaged over a calendar year.

2. Land Discharge Specifications – Discharge Point 003

a. Thirty (30) days prior to activation of irrigation as described under paragraph 2 of Finding II.B, the Discharger shall submit written notification to the Regional Water Board Executive Officer declaring the intent to operate and discharge from the new location. Upon activation of the irrigation system, the Discharger shall maintain compliance with the following land discharge specifications at Discharge Point 003, with compliance measured at Monitoring Location EFF-003 as described in the Monitoring and Reporting Program.

Table 9. Land Discharge Specifications – Discharge Point 003

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	--	--
	lbs/day[3, 7]	155	233	310	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day[3, 7]	155	233	310	--	--
pH	std units	--	--	--	6.0	9.0
Total Nitrogen (as N)	mg/L	10	--	--	--	--
Nitrate Nitrogen, Total (as N)	mg/L	8.0	--	--	--	--
Settleable Solids	ml/L	0.1	--	0.2	--	--
Total Coliform Organisms	MPN/100 mL	23[5]	--	230	--	--

b. Flow. The mean annual flow shall not exceed 0.62 mgd, measured over a calendar month. The peak wet weather flow shall not exceed 1.25 mgd, calculated daily and averaged over a calendar month.

C. Reclamation Specifications

This section of the Order is not applicable.

D. Other Requirements

1. **Disinfection Process Requirements for Chlorination System.** A minimum chlorine residual of 1.5 mg/L shall be maintained at the end of the disinfection process.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the Monitoring and Reporting Program (Attachment E). Discharges from the Facility shall not cause the following in receiving waters:

1. The discharge shall not cause the dissolved oxygen concentration of the receiving waters 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 assessed over a calendar year. In the event that the receiving waters are determined to have 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 specific conductance (micromhos[9]) concentration of the receiving waters to increase above 225 micromhos 50 percent of the time, or above 375 micromhos more than 10 percent of the time.

3. The discharge shall not cause the total dissolved solids concentration of the receiving waters to increase above 140 mg/L more than 50 percent of the time, or above 275 mg/L more than 10 percent of the time.

4. The discharge shall not cause the pH of the 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 normal ambient pH levels. If the pH of the receiving water is less than 6.5, the discharge shall not cause a further depression of the pH of the receiving water. If the pH of the

[9] Measured at 77°F.

receiving water is greater than 8.5, the discharge shall not cause a further increase in the pH of the receiving water.

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

7. 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.

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

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

10. The discharge shall not cause or contribute concentrations of biostimulants to the receiving water that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

11. 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.

12. The discharge shall not alter the natural receiving water temperature.

13. No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found in bottom sediments or aquatic life.

14. The discharge shall not cause the receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in the Basin Plan. The discharge shall not cause the receiving waters to contain concentrations of pesticides in excess of the limiting concentrations established as Maximum Contaminant Levels (MCLs) by the CDPH in title 22, Cal. Code of Regs, section 64444.

15. 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.

16. 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 CWA and regulations adopted thereunder. If more stringent 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 more stringent standards.

17. 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, Cal. Code of Regs. Division 4, Chapter 15, Articles 4 and 5.5.

B. Groundwater Limitations

1. The collection, storage, and use of wastewater or recycled water shall not cause or contribute to a statistically significant degradation of groundwater quality.

2. The collection, storage, and use of wastewater or recycled water shall not cause alterations in groundwater that result in contaminant concentrations that cause nuisance or adversely affect beneficial uses.

3. The collection, treatment, storage, and/or use of wastewater or recycled water shall not cause alterations of groundwater that result in chemical concentrations in excess of limits specified in Cal. Code of Regs, title 22 section 64435 Tables 2 and 3, limits specified in title 22 section 64444.5, or the Basin Plan.

4. The collection, treatment, storage, or use of wastewater shall not result in 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 Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. Regional Water Board Standard Provisions. The Discharger shall comply with the following provisions:

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 Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, reclamation specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, sanitary sewer overflow, irrigation runoff, etc., and/or that results in a discharge to a drainage channel or a surface water, the Discharger shall report orally and in writing to the Regional Water Board staff all unauthorized spills. Spill notification and reporting shall be conducted in accordance with section X.E. of the Monitoring and Reporting Program (Attachment E).

c. 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 Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code § 1211)

d. Ponds used for the storage of recycled water shall be constructed in a manner that protects groundwater. The Discharger shall submit design proposals for new wastewater storage ponds to the Regional Water Board Executive Officer for review prior to construction and demonstrate that the pond complies with the Water Code and title 27 of the California Code of Regulations. Pond design and operation plan must include features and best management practices (BMPs) to protect groundwater and prevent exceedances of groundwater quality objectives.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP and future revisions thereto, in Attachment E of this Order.

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, has the reasonable potential to cause, or contributes to an excursion above an applicable water quality objective.

c. Whole Effluent Toxicity (WET). As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation and/or a limitation for a specific toxic pollutant identified by a TRE. In addition, if a numeric water quality objective for chronic toxicity is adopted by the State Water Board, this Order may be reopened to include an effluent limitation for chronic toxicity based on that objective. As directed by the State Water Resources Control Board (State Water Board), staff members are working to replace the toxicity control provisions established in Section 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) with a standalone policy. The provisions proposed in the *Policy for Toxicity Assessment and Control* (Policy) include a new method to determine the toxicity of discharges, statewide numeric objectives, and further standardization of toxicity provisions for National Pollutant Discharge Elimination System (NPDES) dischargers and facilities subject to Waste Discharge Requirements (WDR). Once adopted, this Order may be reopened or revised to reflect changes in accordance with the Policy.

d. 303 (d)-Listed Pollutants. If a new TMDL is adopted and is applicable to receiving waters for this discharge, this Order may be reopened to incorporate requirements of the TMDL. If the Regional Water Board determines that a voluntary offset program is feasible for and desired by the Discharger, then this Order may be reopened to reevaluate the effluent limitations for the pollutant or pollutants addressed by the TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program.

e. Special Studies. If a water effect ratio, mixing zone or other water quality study provides new information and a basis for determining that a permit condition or conditions should be modified, the Regional Water Board may reopen this Order and make modifications in accordance with section 122.62.

f. Nutrients. This Order contains effluent limitations for ammonia, total nitrogen, and nitrate. If new water quality objectives for nutrients are established, or if monitoring data indicate the need for more stringent effluent limitations for these or other nutrient parameters, this Order may be reopened and modified to include new or modified effluent limitations, as necessary.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

i. Whole Effluent Toxicity (WET). In addition to a limitation for whole effluent acute toxicity, the Monitoring and Reporting Program (MRP) of this Order requires routine monitoring for whole effluent chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity. As established by the MRP, if either of the effluent limitations for acute toxicity is exceeded (a single sample with less than 70% survival or a three sample median of less than 90% survival) or if the chronic toxicity monitoring trigger of 1.0 TUc (where TUc = 100/NOEC)[10] is exceeded, the Discharger shall conduct accelerated monitoring as specified in section V. of the MRP.

Results of accelerated toxicity monitoring will indicate a need to conduct a TRE, if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. A TRE shall be conducted in accordance with the TRE Workplan prepared by the Discharger pursuant to Section VI.C.2.a.ii of this Order, below.

ii. Toxicity Reduction Evaluations (TRE) Workplan. The Discharger shall prepare and submit to the Regional Water Board Executive Officer a TRE Workplan **within 180 days of the effective date of this Order**. This requirement may be met using an existing TRE Workplan which meets the criteria contained in this section. This workplan shall be reviewed and updated by the Discharger as necessary in order to remain current and applicable to the discharge and discharge facilities. The workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include at least the following items:

(a) A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

(b) A description of the Discharger's methods of maximizing in house treatment efficiency and good housekeeping practices.

(c) If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in house expert or an outside contractor).

[10] This Order does not allow any credit for dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

iii. Toxicity Reduction Evaluation (TRE). The TRE shall be conducted in accordance with the following:

(a) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test, required by section V of the MRP, observed to exceed either the acute or chronic toxicity parameter.

(b) The TRE shall be conducted in accordance with the Discharger's workplan.

(c) The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B 99/002.

(d) The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.

(e) The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. As guidance, the Discharger shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

(f) As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.

(g) Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.

(h) The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

3. Best Management Practices and Pollution Prevention

a. Pollution Minimization Plan. The Discharger shall develop and conduct a Pollutant Minimization Program (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 MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of WET, 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:

i. A sample result is reported as DNQ and the effluent limitation is less than the reporting level (RL); or

ii. A sample result is reported as not detected (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.

iii. 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 sent to the Regional Water Board including:

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

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

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

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

4. Construction, Operation and Maintenance Specifications

a. The Discharger shall 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 Discharger to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures. This provision requires the operation or backup or auxiliary facilities or similar systems that are installed by the Discharger only when necessary to achieve compliance with the conditions of this Order. (section 122.41 (e))

b. The Discharger shall maintain an updated Operation and Maintenance (O&M) Manual for the facility. The Discharger 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. The O&M Manual shall include the following:

i. Description of the treatment plant table of organization 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 Discharger will be able to comply with requirements of this Order.

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

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems

i. Statewide-General WDRs for Sanitary Sewer Systems

(a) On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs 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 by November 2, 2006. 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 Sanitary Sewer Systems. The Discharger shall maintain coverage under, and shall be subject to the requirements of Order Nos. 2006-0003-DWQ and WQ-2008-0002-EXEC and any future revisions thereto for operation of its wastewater collection system.

(b) In addition to the coverage obtained under Order No. 2006-0003, the Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system. (section 122.41 (e)) The Discharger must report any noncompliance (section 122.41 (l) (6) and (7)) and mitigate any discharge from the collection system in violation of this Order (section 122.41 (d)).

ii. Sanitary Sewer Overflows

(a) The Discharger shall take all feasible steps to stop spills and sanitary sewer overflows (SSOs) as soon as possible. All reasonable steps should be taken to collect spilled material and protect the public from contact with wastes or waste-contaminated soil or surfaces.

(b) The Discharger shall report orally and in writing to the Regional Water Board staff all SSOs and unauthorized spills of waste. Spill notification and reporting shall be conducted in accordance with the MRP (Attachment E).

b. Source Control Provisions

The Discharger shall perform source control functions, to include the following:

i. 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.

ii. 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.

iii. Conduct a waste survey one time every 5 years, or more frequently if required by the Executive Officer, to identify all industrial dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility.

(a) General prohibitions. Pollutants introduced into WWTFs by a non-domestic source shall not pass through [section 403.3(n)] the WWTF or interfere [section 403.3(i)] with the operation or performance of the works. These general prohibitions and the specific prohibitions in paragraph (b) of this provision apply to all non-domestic sources introducing pollutants into a WWTF whether or not the source is subject to other National Pretreatment Standards or any national, state, or local pretreatment requirements.

(b) Specific prohibitions. In addition, the following pollutants shall not be introduced into a WWTF:

(1) Pollutants that create a fire or explosion hazard in the WWTF;

(2) Pollutants that will cause corrosive structural damage to the WWTF, but in no case discharges with pH lower than 5.0, unless the WWTF is specifically designed to accommodate such discharges;

(3) Solid or viscous pollutants in amounts that will cause obstruction to the flow in the WWTF resulting in interference;

(4) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration that will cause interference with the WWTF;

(5) Heat in amounts that will inhibit biological activity in the WWTF resulting in interference, but in no case heat in such quantities that the temperature at the WWTF exceeds 40ºC (104ºF) unless the Regional Water Board, upon request of the permittee, approves alternate temperature limits;

(6) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

(7) Pollutants that result in the presence of toxic gases, vapors, or fumes within the WWTF in a quantity that may cause acute worker health and safety problems; and

(8) Any trucked or hauled pollutant, except at discharge points designated by the permittee.

iv. Perform ongoing industrial inspections and monitoring, as necessary, to ensure adequate source control.

v. 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.

c. Sludge Disposal and Handling Requirements

i. Sludge, as used in this document, 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 and tested and shown 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 requirements of section Part 503, which are enforceable by the USEPA, not the Regional Water Board. If, during the term of this Order, the State accepts primacy for implementation of section 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 landfill daily cover shall meet the applicable requirements of section Part 258. In its annual Self-Monitoring Report, the Discharger shall report the amount of sludge or biosolids disposed of, and the landfill(s) which received the sludge or biosolids.

v. The beneficial use of biosolids by application to land as soil amendment is not covered or authorized by this Order. Biosolids that are applied to land as soil amendment by the Discharger within the North Coast Region shall comply with State Water Board Water Quality 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) or other permits issued by the Regional Water Board.

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

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

viii. Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm event.

ix. The discharge of sewage sludge, biosolids, and other waste 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. Operator Certification

Supervisors and operators of municipal WWTFs shall possess a certificate of appropriate grade in accordance with title 23, Cal. Code of Regs, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified WWTF operator, the State Water Board may approve use of a water treatment facility operator of appropriate grade certified by CDPH where water reclamation is involved.

e. Adequate Capacity

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

within 4 years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself (title 23, Cal. Code of Regs., section 2232)

f. Statewide General WDRs for Discharge of Biosolids to Land

For the discharge of biosolids from the WWTF, **no later than 1 year from the effective date of this Order**, the Discharger shall obtain authorization to discharge under and meet the requirements of the State Water Resources Control 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 other permit issued by the Regional Water Board as applicable. Alternatively, the Discharger may dispose of biosolids at another appropriately permitted facility.

6. Other Special Provisions

a. Storm Water

For the control of storm water discharged from the site of the WWTF, if applicable, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities* (or subsequent renewed versions of the General Permit).

7. Compliance Schedules

This section of the Order is not applicable.

VII. COMPLIANCE DETERMINATION

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

A. General

Compliance with effluent limitations for priority pollutants 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 Discharger 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. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

C. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure.

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.

D. 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 Discharger 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 Discharger will be considered out of compliance for that calendar month. The Discharger 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.

E. 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 Discharger 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 Discharger will be considered out of compliance for that calendar week. The Discharger 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.

F. 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 Discharger 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.

G. 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 Discharger 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).

H. 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 Discharger 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).

I. Mass-Based Effluent Limitations

Compliance with mass- and concentration-based effluent limitations for the same parameter shall be determined separately.

1. **Six-Month Median.** The six-month median limitation applies as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. Compliance shall be determined with six-month median limitations by determining a rolling median of effluent

concentrations over a 180-day period. Compliance with a mass-based limitation shall be determined by using the following formula:

lbs/day = 8.34 * Ce * Q, where

Ce = rolling 180-day median of effluent concentrations (µg/L)

Q = average flow rate over that same 180-day period (mgd)

If only one effluent sample is collected during that period that one sample shall be used to determine compliance with the mass-based limitation.

2. **Daily Maximum.** Compliance with the daily maximum mass-based effluent limitation shall be determined using the following formula:

   lbs/day = 8.34 * Ce * Q, where

   Ce = daily maximum effluent concentration (µg/L)

   Q = instantaneous flow rate at the time of sample collection for a grab sample, or a daily average flow rate for a 24-hour composite sample (mgd)

3. **Instantaneous Maximum.** Compliance with the instantaneous maximum mass-based limitation shall be determined using the following formula:

   lbs/day = 8.34 * Ce * Q, where

   Ce = daily maximum effluent concentration (µg/L)

   Q = instantaneous flow rate at the time of sample collection for a grab sample, or a daily average flow rate for a 24-hour composite sample (mgd)

4. **30-Day Average.** Compliance with the 30-day mass-based average limitation shall be determined using the following formula:

   lbs/day = 8.34 * Ce * Q, where

   Ce = average of effluent concentrations collected during the 30-day period (µg/L)

   Q = average flow rate averaged over the same 30-day period (mgd)

5. **Monthly Average.** Compliance with the monthly mass-based average limitation shall be determined using the following formula:

   lbs/day = 8.34 * Ce * Q, where

   Ce = average of effluent concentrations collected during the calendar month (mg/L)

   Q = average flow rate averaged over the same calendar monthly (mgd)

6. **Weekly Average.** Compliance with the monthly mass-based average limitation shall be determined using the following formula:

lbs/day = 8.34 * Ce * Q, where

Ce = average of effluent concentrations collected during the calendar week (mg/L)

Q = average flow rate averaged over the same calendar week (mgd)

J. Bacteriological Limitations

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 values around the middle, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the data points. DNQ is lower than a detected value, and ND is lower than DNQ.

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 Annual Flow

The daily flow of wastes through the treatment plant averaged over a calendar month, calculated as the sum of all monthly discharges measured during a calendar year divided by 12.

Average Wet Weather Flow (AWWF)

The highest allowable average of daily discharges averaged 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 Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Carcinogenic

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

Coefficient of Variation (CV)

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

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit

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

Effluent Concentration Allowance (ECA)

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

Enclosed Bays

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

Estimated Chemical Concentration

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

Estuaries

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

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Maximum Daily Effluent Limitation (MDEL)

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

Median

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

Method Detection Limit (MDL)

MDL is the minimum 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 (section Part 136), Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

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

Mixing Zone

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

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The 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

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL)

RL is the ML (and its associated analytical method) used for reporting and compliance determination from the MLs included in this Order. 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)

Standard Deviation is a measure of variability that is calculated as follows:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

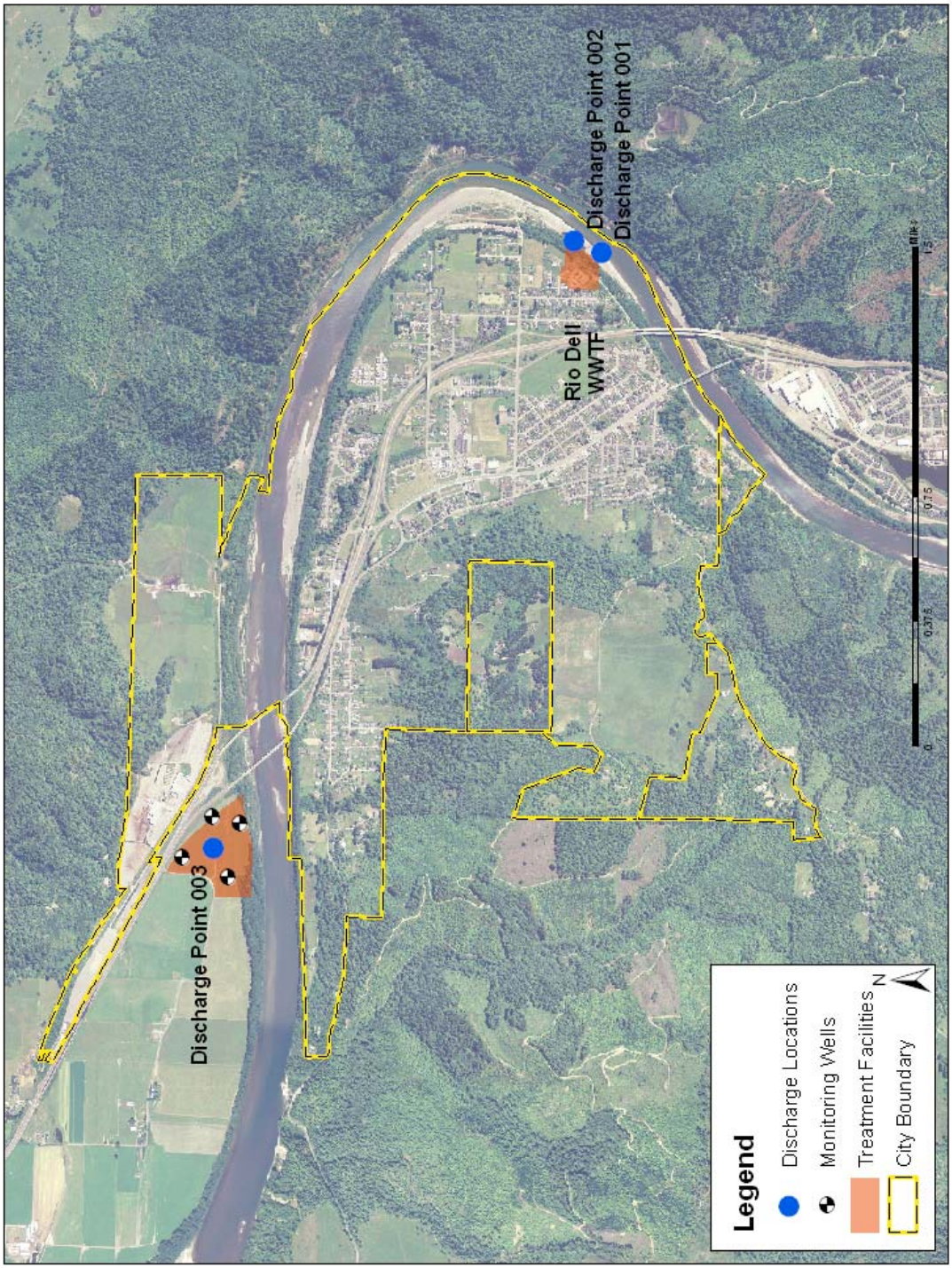
n is the number of samples.

Toxicity Reduction Evaluation (TRE)

TRE is 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

Figure C-1. Existing WWTF Schematic

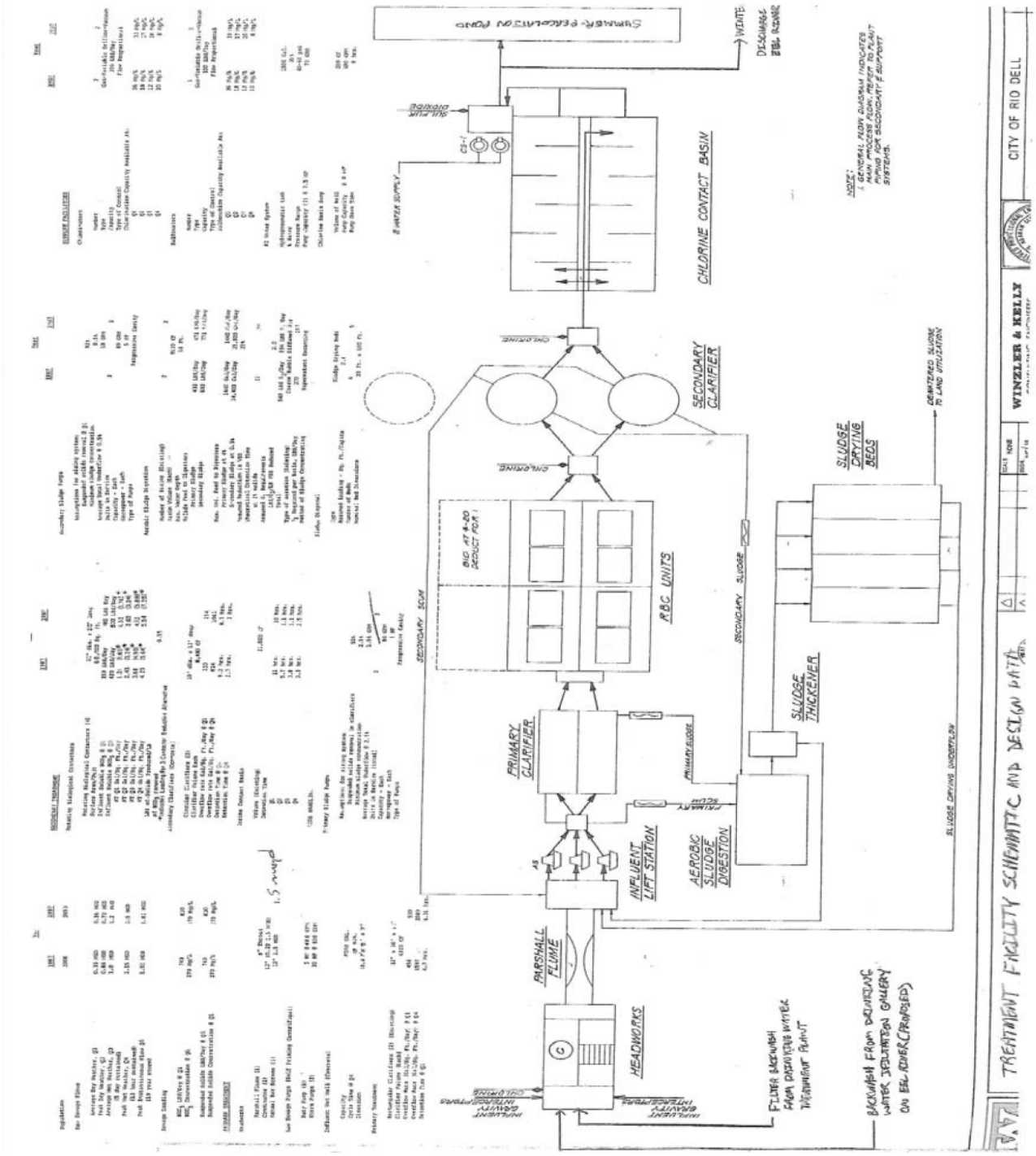


Figure C-2. New WWTF Schematic (Options 1 and 2)

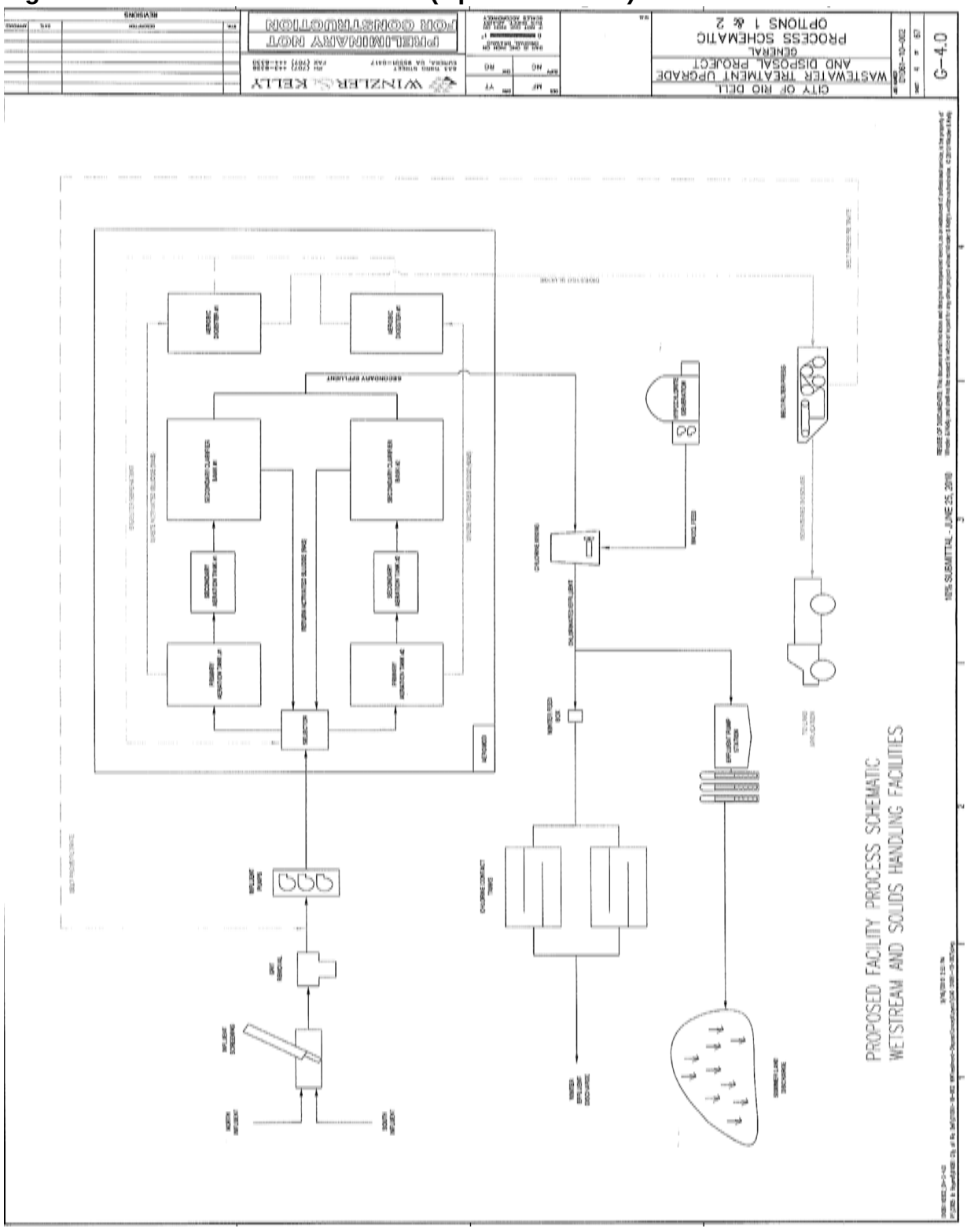


Figure C-3. New WWTF Schematic (Option 3)

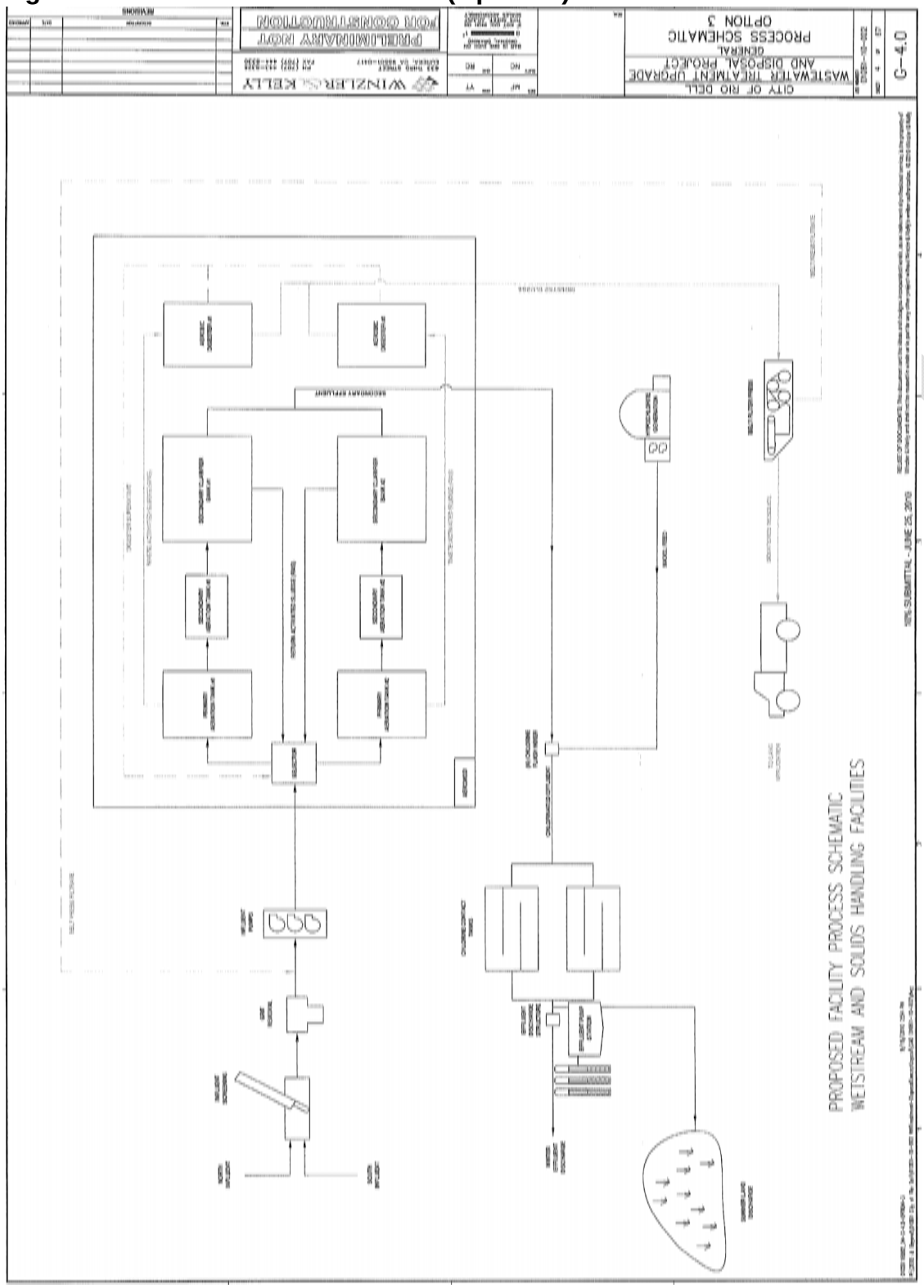
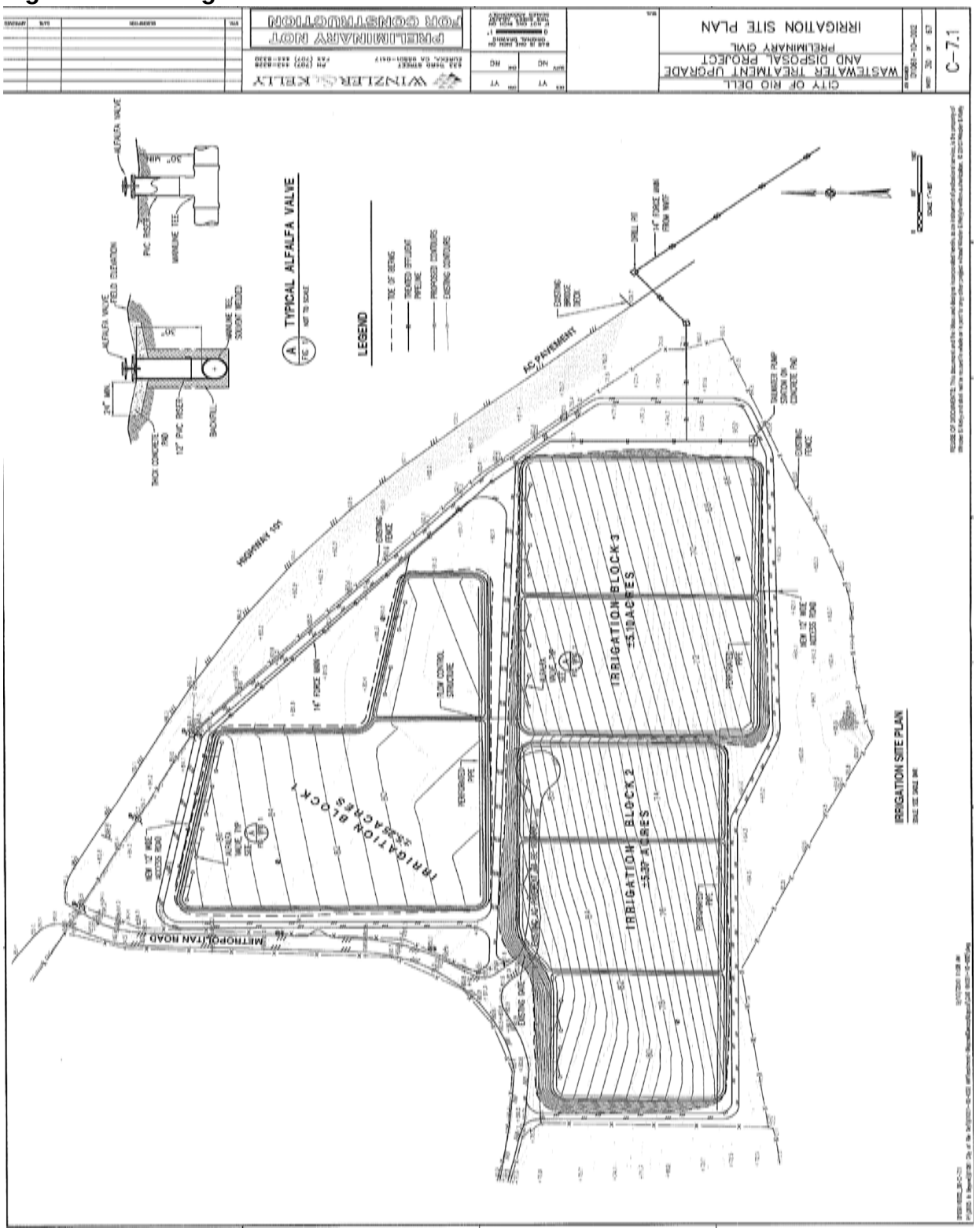


Figure C-4. Irrigation Site Plan



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger 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. (section 122.41(a).)

2. The Discharger 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. (section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

The Discharger 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. (section 122.41(d).)

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 CFR 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (section 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 (section 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 (section 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. (section 122.41(i)(4).)

G. Bypass

1. Definitions

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

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

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (section 122.41(m)(2).)

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

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

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

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

4. 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. (section 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (section 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include

noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (section 122.41(n)(1).)

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (section 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 Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (section 122.41(l)(3) and 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures under section Part 136 or, in the case of sludge use or disposal, approved under section Part 136 unless otherwise specified in section Part 503 unless other test procedures have been specified in this Order. (section 122.41(j)(4) and 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by section Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (section 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (section 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (section 122.41(j)(3)(ii));
3. The date(s) analyses were performed (section 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (section 122.41(j)(3)(iv));
5. The analytical techniques or methods used (section 122.41(j)(3)(v)); and
6. The results of such analyses. (section 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (section 122.7(b)):

1. The name and address of any permit applicant or Discharger (section 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (section 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 USEPA 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. (section 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (section 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA 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 (section 122.22(b)(1));

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

c. The written authorization is submitted to the Regional Water Board and State Water Board. (section 122.22(b)(3).)

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (section 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. (section 122.22(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. (section 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under section Part 136 or, in the case of sludge use or disposal, approved under section Part 136 unless otherwise specified in section Part 503, or as specified in this Order, the results of this 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. (section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

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

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

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (section 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (section 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. (section 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger 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 (section 122.41(l)(1)):

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

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

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

G. Anticipated Noncompliance

The Discharger 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 General Order requirements. (section 122.41(l)(2).)

H. Other Noncompliance

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

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (section 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 (section 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 (section 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. (section 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. (section 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Title 40 of the Code of Federal Regulations section 122.48 (section 122.48) requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed 1 hour.

B. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by section Part 136, or as specified in this Order, the results of monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.

C. Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (DPH; formerly the Department of Health Services), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. 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 minimum level (ML) value is below the effluent limitation, the lowest ML shall be selected as the reporting level (RL).

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A representative point preceding primary treatment.
--	INT-001	Internal monitoring location for purposes of monitoring chlorine residual in chlorine treated wastewater within the contact chamber prior to dechlorination.

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Treated effluent from the wastewater treatment facility (WWTF) downstream of disinfection processes, before contact with the receiving water.
002	EFF-002	Treated effluent from the WWTF downstream of disinfection processes, before discharge to the percolation pond.
003	EFF-003	Treated effluent from the WWTF downstream of disinfection processes, before discharge to the Irrigation Site.
--	RSW-001	Lower Eel River surface water upstream of and beyond influence of the discharge.
--	RSW-002	Lower Eel River surface water at the point of discharge of Discharge Point 001.
--	MW-1 thru MW-4	Existing monitoring wells, located on irrigation parcel

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow (Mean)[2]	mgd	Meter	Continuous	--
Biochemical Oxygen Demand (5-day @ 20°C)[3]	mg/L	24-hr Composite	Weekly	Std Method 5210B
Total Suspended Solids[3]	mg/L	24-hr Composite	Weekly	Std Method 2540D

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. When discharging at Discharge Point 001, the Discharger shall monitor treated effluent at Monitoring Location EFF-001 as follows:

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1 In accordance with the current edition of *Standard Methods (Std Method) for the Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in section Part 136.

2 In addition to daily flows, the Discharger shall report average monthly flow calculated over a calendar month.

3 Monitoring of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) in the influent shall occur near simultaneously with effluent monitoring for the same parameters.

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow (Mean Daily)[2]	mgd	Meter	Continuous	--
Chlorine, Total Residual	mg/L	Grab	Daily	Part 136
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	Weekly	Std Method 5210B
Total Suspended Solids	mg/L	24-hr Composite	Weekly	Std Method 2540D
Settleable Solids	mL/L	Grab	Weekly	Std Method 2540F
pH	std units	Grab	Weekly	Part 136
Temperature	°C	Grab	Weekly	Part 136
Total Coliform Organisms	MPN/100 mL	Grab	Weekly	Std Method 9221
Ammonia Nitrogen,(as N)	mg/L	Grab	Monthly[4]	Std Method 4130
Nitrate Nitrogen	mg/L	Grab	Monthly	Std Method 4130
Nitrite Nitrogen	mg/L	Grab	Monthly	Std Method 4130
Organic Nitrogen	mg/L	Grab	Monthly	Std Method 4500
Nitrogen, Total (as N)	mg/L	Calculation	Monthly	Std Method
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Std Method 4130
Acute Toxicity	% Survival	24-hr Composite	2X / Year[5]	MRP section V
Chronic Toxicity	TUc	24-hr Composite	2X / Year[5]	MRP section V
CTR Pollutants[6]	µg/L	Grab	1X / Permit Term	Std Methods

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct whole effluent toxicity (WET) testing to determine compliance with the acute toxicity effluent limitations established in section IV.A.1. and IV.A.2 of the Order. The Discharger shall meet the following acute toxicity testing requirements:

4 Receiving water measurements for pH and temperature monitoring must coincide with monthly effluent monitoring for ammonia.

5 Monitoring shall occur during the first month of surface water discharge and during the second consecutive month thereafter (i.e., if monitoring occurs in November, consecutive monitoring shall be performed in January).

6 Those pollutants identified by the California Toxics Rule (CTR) at section 131.38. Monitoring shall occur simultaneously with receiving water monitoring for CTR pollutants and hardness required by section VIII.A.1 of this MRP.

1. **Test Frequency.** The Discharger shall conduct acute WET testing in accordance with the schedule established by this MRP, as summarized in Table E-3, above, when discharging to surface water.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be a 24-hr composite sample and shall be representative of the volume and quality of the discharge. Effluent samples shall be collected at Monitoring Location EFF-001. Ammonia, pH, and temperature shall be recorded at 24-hour intervals during the test and shall be reported with the toxicity test results.

3. **Test Species.** Test species for acute testing shall be an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Oncorhynchus mykiss*, for at least the first two suites of tests conducted within 12 months after the effective date of the Order. After this screening period, monitoring shall be conducted using the most sensitive species. At least one time every 5 years, the Discharger shall re-screen with the two species described above and continue routine monitoring with the most sensitive species.

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* (USEPA 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 USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. Control of the pH in acute toxicity tests is allowed, provided the test pH is maintained at the measured effluent pH, 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-001.

6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger 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 established in section IV.A.1.d or IV.A.2.d of the Order (70 percent survival), and the testing meets all test acceptability criteria, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the initial sample result. If any of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger 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 the testing meets all test acceptability criteria, then TRE implementation will not be required. If the discharge has ceased before the additional samples could be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger. The notification will describe actions the Discharger 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.** Test results for acute toxicity tests shall be reported according to section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* or in an equivalent format that clearly demonstrates that the Discharger is in 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 Discharger shall conduct chronic WET testing to demonstrate compliance with the Basin Plan's narrative water quality objective for toxicity. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Discharger shall conduct chronic WET testing in accordance with the schedule established by this MRP, as summarized in Table E-3 when discharging to surface water.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be 24-hr composite samples and shall be representative of the volume and quality of the discharge. Effluent samples shall be collected at Monitoring Location EFF-001.

3. **Test Species.** Test species for chronic testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth test); an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test); and a plant, the green alga, *Selanastrum capricornutum* (growth test).). Based upon results from the first two suites of toxicity tests, the Discharger will determine the most sensitive aquatic species and continue to monitor with the most sensitive species. At least

once every 5 years, the Discharger will rescreen to reconfirm the most sensitive species for the chronic toxicity test.

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, 4th or subsequent editions). Test procedures related to pH control, sample filtration, aeration, temperature control, and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each chronic toxicity report submitted to the Regional Water Board. Control of the pH in chronic toxicity tests is allowed, provided the test pH is maintained at the measured pH of the downstream receiving water, 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 effluent. Control and dilution water should be receiving water at an appropriate location upstream of the discharge point. Laboratory water may be substituted for receiving water, as described in the manual, upon approval by the Regional Water Board Executive Officer. Specifically, for the *Selenastrum capricornutum* test, synthetic laboratory water with a hardness similar to the receiving water shall be used as the 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 Discharger shall re-sample and re-test as soon as possible, not to exceed 14 days following notification of test failure.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing within 14 days after the receipt of test results that indicate an exceedance of the monitoring trigger for chronic toxicity during regular or accelerated monitoring.

9. **Accelerated Monitoring Requirements.** If the result of any chronic toxicity test exceeds a chronic toxicity trigger of 1.0 TUc, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples, on test

conducted approximately every week, over a 4-week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Discharger shall contact the executive Officer within 21 days with a plan to demonstrate compliance with the Basin Plan's narrative water quality objective for toxicity. The following protocol shall be used for accelerated monitoring and TRE implementation.

a. If the results of four consecutive accelerated monitoring tests do not exceed the chronic toxicity trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. If there is adequate evidence of a pattern of effluent toxicity, however, the Regional Water Board Executive Officer may require that the Discharger initiate a TRE.

b. If the source(s) of the toxicity is easily identified (i.e., temporary plant upset), the Discharger shall make necessary corrections to the Facility and shall continue accelerated monitoring until four consecutive accelerated tests do not exceed the chronic toxicity trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

c. If the result of any accelerated toxicity test exceeds the chronic toxicity trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the chronic toxicity trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

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

ii. Specific actions the Discharger 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.

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

C. Chronic Toxicity Reporting Requirements

1. **Routine Reporting.** Test results for chronic tests shall be reported according to the acute and chronic manuals and this MRP and shall be attached to the corresponding monthly self-monitoring report. 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 and EC50 value(s) for reference toxicant test(s);
   k. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia);
   l. Statistical methods used to calculate endpoints; and
   m. The statistical output page, which includes the calculation of percent minimum significant difference (PMSD).

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* (EPA-821-R-02-013, 2002), 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.

3. **Compliance Summary.** Monthly self-monitoring reports submitted by the Discharger shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth, or

reproduction), and monitoring frequency (routine, accelerated, or TRE). The final report shall clearly demonstrate that the Discharger is in compliance with effluent limitations and other permit requirements.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location EFF-002

1. When discharging at Discharge Point 002, the Discharger shall monitor treated effluent at Monitoring Location EFF-002 as follows:

Table E-4. Land Discharge Monitoring – Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow (Mean Daily)[2]	mgd	Meter	Continuous	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	Weekly	Std Method 5210B
Total Suspended Solids	mg/L	24-hr Composite	Weekly	Std Method 2540D
Settleable Solids	mL/L	Grab	Weekly	Std Method 2540F
pH	std units	Grab	Weekly	Part 136
Total Coliform Organisms	MPN/100 mL	Grab	Weekly	Std Method 9221

B. Monitoring Location EFF-003

2. When discharging at Discharge Point 003, the Discharger shall monitor treated effluent at Monitoring Location EFF-002 as follows:

Table E-5. Land Discharge Monitoring – Monitoring Location EFF-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow (Mean Daily)[2]	mgd	Meter	Continuous	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	Weekly	Std Method 5210B
Total Suspended Solids	mg/L	24-hr Composite	Weekly	Std Method 2540D
Settleable Solids	mL/L	Grab	Weekly	Std Method 2540F
pH	std units	Grab	Weekly	Part 136
Total Coliform Organisms	MPN/100 mL	Grab	Weekly	Std Method 9221
Nitrogen, Total (as N)	mg/L	24-hr Composite	Monthly	Std Method 4130
Nitrate Nitrogen	mg/L	24-hr Composite	Monthly	Std Method 4130

Table E-5. Land Discharge Monitoring – Monitoring Location EFF-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Title 22 Pollutants[7]	µg/L	Grab	1x / 3 Years	Std Methods

VII. RECLAMATION MONITORING REQUIREMENTS

This section is not applicable to the Discharger as treated wastewater is not discharged to or applied to land for the purpose of reclamation. The Discharger disposes of treated wastewater to land, thus the Discharger has Land Discharge Monitoring Requirements rather than Reclamation Monitoring Requirements.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring Location RSW-001

1. The Discharger shall monitor the Lower Eel River at Monitoring Location RSW-001 when discharging to surface water as follows:

Table E-6. Receiving Water Monitoring – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow	mgd	Gauge[8]	Daily	--
Visual Observations	--	Visual[9]	Monthly	--
pH	std units	Grab	Monthly[4]	Part 136
Dissolved Oxygen	mg/L	Grab	Monthly	Part 136
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Monthly	Part 136
Total Dissolved Solids	mg/L	Grab	Monthly	Part 136
Hardness, Total (as $CaCO_3$)	mg/L	Grab	Monthly	Std Methods
Temperature	°C	Grab	Monthly[4]	Part 136
Turbidity	NTU	Grab	Monthly	Std Method 2130B
CTR Pollutants[6]	µg/L	Grab	1X / Permit Term	Std Methods

[7] Title 22 Pollutants refers to those chemical constituents specified in the Basin Plan and/or constituents for which Maximum Contaminant Levels (MCLs) have been established in title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the California Code of Regulations

[8] The flow in the Lower Eel River shall be measured daily during the discharge season (October 1 through May 14) at the Scotia gauging station.

[9] Visual observations shall be made for evidence of floatables (i.e., solids, liquids, foam, and scum), visible films (i.e., oils, greases, and waxes), aquatic growths, and discoloration. Observations shall be recorded and included in the monthly self-monitoring reports.

B. Surface Water Monitoring Location RSW-002

1. The Discharger shall monitor the Lower Eel River at Monitoring Location RSW-002 when discharging to surface water as follows:

Table E-7. Receiving Water Monitoring – Monitoring Location RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Visual Observations	--	Visual[9]	Monthly	--
pH	std units	Grab	Monthly[4]	Part 136
Dissolved Oxygen	mg/L	Grab	Monthly	Part 136
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Monthly	Part 136
Total Dissolved Solids	mg/L	Grab	Monthly	Part 136
Temperature	°C	Grab	Monthly[4]	Part 136
Turbidity	NTU	Grab	Monthly	Std Method 2130B

C. Groundwater Monitoring Locations MW-1 through MW-4

1. The Discharger shall monitor groundwater at the irrigation site from Monitoring Well Locations MW-1 through MW-4 as follows:

Table E-8.Groundwater Monitoring – Monitoring Locations MW-1 thru MW-4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Depth to Groundwater	0.01 feet	Grab	Semiannually	Measurement
Nitrate Nitrogen	Mg/L	Grab	Semiannually	Part 136
Total Coliform Organisms	MPN/100 mL	Grab	Semiannually	Std Method 9221
Total Dissolved Solids	Mg/L	Grab	Semiannually	Part 136
Title 22 Pollutants[7]	µg/L	Grab	1x / 3 Years	Std Methods

IX. OTHER MONITORING REQUIREMENTS

A. Monitoring Location INT-001

The Discharger shall monitor the discharge from the chlorine contact chamber prior to dechlorination at Monitoring Location INT-001 as follows:

Table E-9. Internal Monitoring Requirements – Monitoring Location INT-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Chlorine, Total Residual	mg/L	Grab	Daily	Part 136

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. **Special Study.** No Special studies are required in accordance with this Order.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. All monitoring results shall include complete laboratory data sheets for each analysis and be submitted in conjunction with the monthly SMR on the first day of the second month following sample collection. Annual summary reports shall be submitted by March 1st each year.

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

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
Continuous	November 1, 2011	All

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
Daily	November 1, 2011	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
Weekly	November 1, 2011	Sunday through Saturday
Monthly	November 1, 2011	1st day of calendar month through last day of calendar month
2X / Year	October 1, 2011	1st month of surface water discharge and during the 2nd consecutive month thereafter
Quarterly	October 1, 2011	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2x Annually	November 1, 2011	January 1 through June 30 July 1 through December 31
Semiannually	January 1, 2012	January 1 through March 31 July 1 through September 30
Annually	January 1, 2011	January 1 through December 31

5. **Reporting Protocols**. The Discharger shall report with each sample result the applicable ML, the RL and the current MDL, as determined by the procedure in section Part 136.

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

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

   b. Sample results less than the 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 as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

d. Dischargers 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 Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. **Self Monitoring Reports**. The Discharger shall submit self monitoring reports (SMRs) in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:

      i. Facility name and address;

      ii. WDID number;

      iii. Applicable period of monitoring and reporting;

      iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);

      v. Corrective actions taken or planned; and

      vi. The proposed time schedule for corrective actions.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the 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)

DMRs are required for facilities designated as Major dischargers.

1. As described in section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger 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 Discharger 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

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

1. **Special Study Submittals.** No Special studies are required under VI.C.2 of this Order.

2. **Annual Report.** The Discharger shall submit an annual report to the Regional Water Board for each calendar year. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:

   a. **Monitoring Data Summaries.** Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under section Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted in the SMR.

   b. **Compliance Reporting.** 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. Sanitary Sewer System Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's activities within the sanitary sewer system over the previous calendar year. The report shall contain:

i. A description of any change in the local legal authorities enacted to implement the Sewer System Management Plan (SSMP).

ii. A summary of the SSOs that occurred in the past year. The summary shall include the date, location of overflow point, affected receiving water (if any), estimated volume, and cause of the SSO, and the names and addresses of the responsible parties as well as the names and addresses of the property owner(s) affected by the SSO.

iii. A summary of compliance and enforcement activities during the past year. The summary shall include fines, other penalties, or corrective actions taken as a result of the SSO. The summary shall also include a description of public participation activities to involve and inform the public.

iv. Documentation that all feasible steps to stop and mitigate impacts of SSOs have been taken.

d. Source Control Activity Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's source control activities, during the past year. This annual report is due on March 1st of each year.

i. A copy of the source control standards.

ii. A description of the waste hauler permit system.

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

iv. A summary of any waste survey results.

v. A summary of public participation activities to involve and inform the public.

e. Biosolids Handling and Disposal Activity Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's solids handling, disposal, and reuse activities over the previous calendar year. At a minimum, the report shall contain:

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

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

iii. Methods of final disposal of sludge:

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

(b) For any portion of sludge discharged through land application, the Discharger 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 Discharger 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.

E. Spills and Overflows Notification

1. All spills, unauthorized discharges, and SSOs equal to or in excess of 1,000 gallons or any size spill or SSO that results in a discharge to a drainage channel or a surface water:

a. As soon as possible, **but not later than two (2) hours** after becoming aware of the discharge, the Discharger shall notify the California Emergency Management Agency (Cal EMA), the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas, and the Regional Water Board.[10]

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

[10] The contact number for spill reporting for Cal EMA is (800) 852-7550. The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to OES will satisfy the 2 hour notification requirement for the Regional Water Board.

i. Name and contact information of caller;
ii. Date, time and location of spill occurrence;
iii. Estimates of spill volume, rate of flow, and spill duration;
iv. Surface water bodies impacted, if any;
v. Cause of spill;
vi. Cleanup actions taken or repairs made; and
vii. Responding agencies.

b. As soon as possible, but **not later than twenty-four (24) hours** after becoming aware of a discharge, the Discharger shall submit to the Regional Water Board a certification that Cal EMA and the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas have been notified of the discharge. For the purpose of this requirement, "certification" means a Cal EMA certification number and, for the local health department, name of local health staff, department name, phone number and date and time contacted.

c. **Within five (5) business days**, the Discharger shall submit a written report to the Regional Water Board office. The report must include all available details related to the cause of the spill and corrective action taken or planned to be taken, as well as copies of reports submitted to other agencies.

i. Information provided in the verbal notification;
ii. Other agencies notified by telephone;
iii. Detailed description of cleanup actions and repairs taken; and
iv. Description of actions that will be taken to minimize or prevent future spills.

d. In the cover letter of the SMR, the Discharger shall include a brief written summary of the event and any additional details related to the cause or resolution of the event, including, but not limited to results of any water quality monitoring conducted.

2. All spills, unauthorized discharges, and sanitary sewer overflows (SSOs) less than 1,000 gallons that do not reach a drainage channel or a surface water:

a. As soon as possible, but **not later than twenty-four (24) hours** after becoming aware of the discharge, the Discharger shall notify the Regional Water Board and provide the applicable information in requirement 1.a of this section.

b. In the cover letter of the SMR, the Discharger shall include a written description of the spill event.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II 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 Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1B83134OHUM
Discharger	City of Rio Dell
Name of Facility	Rio Dell Wastewater Treatment Plant
Facility Address	475 Hilltop Drive Rio Dell, CA 95562 Humboldt County
Facility Contact, Title and Phone	Rick Chicora, Operations Supervisor, (707) 764-5754
Authorized Person to Sign and Submit Reports	Rick Chicora, Operations Supervisor, (707) 764-5754
Mailing Address	675 Wildwood Drive, Rio Dell, CA 95562
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	A
Pretreatment Program	N/A
Reclamation Requirements	No
Existing Facility Design Flow	0.9 million gallons per day (mgd) Average Annual Flow
Existing Facility Permitted Flow	0.9 mgd Average Annual Flow
New Facility Design Flow	0.62 mgd Average Annual Flow 1.25 mgd Average Wet Weather Flow (AWWF)
New Facility Permitted Flow	0.62 mgd Average Annual Flow 1.25 mgd AWWF
Watershed	Lower Eel River
Receiving Water	Lower Eel River
Receiving Water Type	Inland surface water

A. The City of Rio Dell (hereinafter Discharger) is the owner and operator of the Rio Dell Wastewater Treatment Plant (hereinafter Facility), a publicly owned treatment works (POTW).

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

B. The Facility discharges wastewater to the Lower Eel River, a water of the United States, and is currently regulated by Order No. R1-2006-0021 which was adopted on May 17, 2006, amended on February 8, 2007, amended on January 27, 2011 by Order No. R1-2011-0003, and expires on April 1, 2012.

C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on December 9, 2010. Supplemental application information was requested on January 26, 2011 and received on February 23, 2011.

II. FACILITY DESCRIPTION

The Discharger owns and operates a secondary municipal wastewater treatment facility (WWTF) and associated wastewater collection and disposal facilities. The Facility is located southeast of Rio Dell, California adjacent to the Lower Eel River and serves a population of approximately 3,100 in the City of Rio Dell. From October 1 through May 14, treated wastewater is discharged from Discharge Point 001 to the Lower Eel River, just downstream of the Highway 101 Bridge. From May 15 through September 30, treated wastewater is discharged to a percolation pond adjacent to the Lower Eel River. The discharge to the Lower Eel River is located within the Ferndale Hydrologic Subarea of the Lower Eel River Hydrologic Area.

A. Description of Wastewater and Biosolids Treatment or Controls

The secondary treatment process at the existing WWTF consists of an automatic screen and grit removal system, primary clarifiers, rotating biological contactors (RBCs), secondary clarifiers, and chlorine disinfection and dechlorination facilities. Flow capacity is not a concern in dry summer months, but excessive infiltration and inflow (I/I) during the winter can cause partially treated wastewater to overflow the RBCs, flooding portions of the Facility.

The Discharger plans to construct upgrades to the existing WWTF, a new treated effluent pipeline and a treated effluent disposal system within the effective period of this Order. The upgrades to the WWTF will include a new headworks pumping system; a secondary treatment and solids stabilization system that will replace the existing primary clarifiers, RBCs, secondary clarifiers, and aerobic digesters; chlorination and effluent pumping systems; and new laboratory and office facilities. The majority of the new treatment components will be located at the southern end of the site, with many of the existing facilities abandoned in place. The permitted flow through the new WWTF is reduced to an average annual flow of 0.62 mgd based upon the design capacity of the new facility.

The proposed treated effluent pipeline will be a 14-inch high density polyethylene (HDPE) pipe, approximately 13,000 feet in length, that will transport treated effluent to a

new disposal site from May 15 to October 1. The new disposal site, also called the Irrigation Site, is located northwest of the City of Rio Dell and west of the southbound Highway 101 Bridge on an agricultural parcel. The usable area of the site is approximately 25 acres. Treated effluent will be conveyed to the irrigation site by a pump station located at the WWTF site at the Rio Dell Public Works Yard.

Solids are stabilized through aerobic digestion and then dewatered with a belt filter press. Dried sludge is applied to agricultural land.

B. Discharge Points and Receiving Waters

The Facility discharges to the Eel River from Discharge Point 001 during the period October 1 through May 14 in accordance with the seasonal discharge prohibitions contained in the Basin Plan. Discharges may not exceed one percent of the Lower Eel River's natural flow as measured at the U.S. Geological Survey (USGS) gauging station located at Scotia.

During the period of May 15 to September 30, the Facility currently discharges to a percolation pond located adjacent to the Lower Eel River. The percolation pond is seasonally constructed within the gravels of the active channel of the Lower Eel River. Gravels in this area are minimal and shallow bedrock is encountered at less than 40 feet from the surface. Historical testing and observations indicated that wastewater discharged to the percolation pond indirectly enters the Lower Eel River in violation of the seasonal discharge prohibition. Therefore, upon completion of the new treated effluent disposal system, the Discharger will discontinue discharges to the percolation pond and begin discharging to the Irrigation Site during the period of May 15 to September 30.

The main tributaries to the Lower Eel River are the Van Duzen River, Yager Creek, Larabee Creek, Bull Creek, and Salmon Creek. The upper watershed is mountainous and vegetated by redwood and Douglas fir, interspersed with some hardwoods and meadows. Toward the coast, the river spreads out on a coastal plain where the Salt River joins it in the Eel River Estuary. The Eel River is designated as a Critical Coastal Area by the Statewide Critical Coastal Areas Committee.

The Eel River Watershed Management Area (WMA) encompasses roughly 3,684 square miles in highly erodible soils in the steep mountains of the North Coast Region, supporting a variety of water uses including municipal supply and agricultural supply systems, salmonid fisheries, and recreation. The Eel River WMA is a prime recreational area boasting numerous State and private campgrounds along its length with both water contact and non-contact uses such as boating and swimming. The Eel River is the third largest producer of salmon and steelhead in the State and supports a large recreational fishing industry. The erodible soils, steep terrain, and other contributing factors evoke a high level of concern for the anadromous fishery resource. Coho salmon, a native species of the Eel River watershed, were listed as endangered under the federal Endangered Species Act in 1997.

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

1. Effluent Limitations – Discharge Point 001

Effluent limitations contained in Order No. R1-2006-0021 for discharges to the Lower Eel River from Discharge Point 001 (Monitoring Location EFF-001) and documented violations from the term of Order No. R1-2006-0021 are as follows:

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

Parameter	Units	Effluent Limitations			Monitoring Data (From May 2006 to June 2010)	
		Average Monthly[1]	Average Weekly[2]	Maximum Daily[3]	Reported Value of Highest Violation	Total Number of Violations
Flow	mgd	0.9[4]	--	--	--	No Violations
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	130 mg/L	42
	lbs/day[5,6]	225	340	450	563 lbs/day	13
	% Removal	85	--	--	80%[7]	1
Total Suspended Solids	mg/L	30	45	60	92 mg/L	12
	lbs/day[5,6]	225	340	450	541 lbs/day	8
	% Removal	85	--	--	61%	7
Settleable Solids	ml/L	0.1	--	0.2	--	No Violations
Total Coliform Organisms	MPN/100 mL	23[8]	--	230	1,600	8
pH	std units	--	--	6.5 – 8.5	--	No Violations
Chlorine, Total Residual	mg/L	--	--	0.1[9]	--	No Violations
Copper[10]	µg/L	--	--	27[11]	--	No Violations
		6.1[12]	--	12[12]	--	No Violations

1 The arithmetic mean of all samples collected in a calendar month.

2 The arithmetic mean of all samples collected in a calendar week, Sunday to Saturday.

3 The maximum result of all samples collected in a calendar day.

4 The mean daily dry weather flow shall not exceed 0.9 mgd averaged over a period of a calendar month.

5 The mass discharge (lbs/day) is obtained from the following calculation of any calendar day:

$$\frac{8.34}{N}\sum^{N} Q_i C_i$$

in which N is the number of samples analyzed in any calendar day. Q_i and C_i are the flow rate (mgd) and the constituent concentration (mg/L), respectively, that are associated with each of the N grab samples, that may be taken in any calendar day. If a composite sample is taken, C_i is the concentration measured in the composite sample; and Q_i is the average flow rate occurring during the period over which samples are composited.

6 Mass based effluent limitations are based on the WWTF flow of 0.9 mgd.

7 Represents the minimum observed monthly average percent removal value.

8 The median concentrations shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, using the bacteriological results of the last 30 calendar days for which analyses have been completed.

9 Treated wastewater discharged to the Lower Eel River shall not contain detectable levels of chlorine, using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/L.

10 The North Coast Regional Water Quality Control Board (Regional Water Board) adopted Order No. R1-2011-0003 on January 27, 2011, which amended Order No. R1-2006-0021 to remove effluent limitations for copper.

11 Interim effluent limitation effective until May 18, 2010.

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

Parameter	Units	Effluent Limitations			Monitoring Data (From May 2006 to June 2010)	
		Average Monthly[1]	Average Weekly[2]	Maximum Daily[3]	Reported Value of Highest Violation	Total Number of Violations
Cyanide[10,]	µg/L	--	--	8.5[11]	--	No Violations
		4.3[12]	--	8.5[12]	--	No Violations
Dichlorobromomethane[10]	µg/L	--	--	1.13[11]	--	No Violations
		0.56[12]	--	1.13[12]	--	No Violations
Methyl Tertiary Butyl Ether	µg/L	13[12]	--	26[12]	--	No Violations
Acute Toxicity	% Survival	--	--	[13]	--	No Violations

D. Compliance Summary

The Discharger currently discharges treated effluent to a percolation pond on a gravel bar adjacent to the Lower Eel River between May 15 and September 30. The thin gravel bar is underlain by clay soils, which has allowed effluent to surface on the gravel bar and discharge directly to the Lower Eel River, in violation of the seasonal discharge prohibition in the Basin Plan and in prior Order Nos. R1-2000-0015 and R1-2006-0021. On May 15, 2003, the Regional Water Board adopted Cease and Desist Order (CDO) No. R1-2003-0046, which 1) imposed a connection restriction on the Facility, allowing the addition of no more than the equivalent of 40 single-family dwelling units, and 2) established time schedules for tasks associated with development of a summertime disposal method. The Discharger complied with the time schedules and tasks in CDO No. R1-2003-0046, including a detailed analysis of the selected preferred disposal alternative, which was subsurface infiltration on the point bar south of the Facility. However, the detailed analysis revealed that this alternative would not result in compliance with the seasonal discharge prohibition because testing results showed that wastewater was discharging through the shallow gravel bar directly to the Lower Eel River.

On March 21, 2005, the Discharger notified the Regional Water Board of its intent to explore other alternatives to achieve compliance with the seasonal discharge prohibition and requested a 2-year extension to Order No. R1-2003-0046. The Discharger also requested 25 additional connections annually to allow for continued modest growth in the community. Therefore, the Regional Water Board adopted CDO No. R1-2005-0034 on June 21, 2005, which amended and supplemented CDO No. R1-2003-0046. CDO No. R1-2005-0034 provided the Discharger until May 15, 2009 to attain full compliance with the seasonal discharge prohibition and restricted the addition of new flows of wastewater to the WWTF to the equivalent of 100 single-family dwellings or 45,000

[12] Final effluent limitation effective May 18, 2010.

[13] There shall be no acute toxicity in the effluent when discharging to the Lower Eel River. The Discharger will be considered in compliance with this effluent limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with the following: 1) Minimum of 70 percent survival for any one bioassay, or 2) Median of at least 90 percent survival for any three or more consecutive bioassays.

gallons per day (gpd), whichever is less. The Discharger is planning to construct upgrades to the existing WWTF, a new treated effluent pipeline and a treated effluent disposal system within the effective period of this Order to achieve compliance with the seasonal discharge prohibition.

On July 25, 2007, the Regional Water Board issued Administrative Civil Liability (ACL) Complaint No. R1-2007-0020 which assessed Mandatory Minimum Penalties (MMPs) for 31 violations of effluent limitations in Order No. R1-2000-15 for 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), total coliform organisms, acute toxicity, occurring between February 24, 2000 and May 31, 2006, resulting in MMPs that totaled $63,000. The ACL provided three alternatives for addressing the MMPs, including a) pay the MMP of $63,000 in full to the State Water Pollution Cleanup and Abatement Account (SWPCAA), b) propose a supplemental environmental project (SEP) in an amount up to $39,000 and pay the remaining balance to the SWPCAA, or c) propose a compliance project (CP) in the amount up to $53,000 and pay the remaining balance to the SWPCAA. In response, the Discharger proposed a CP in the amount of $55,000 to install automated chlorine and sulfur dioxide analyzers and metering equipment that would allow for automatic adjustments of the chlorine and sulfur dioxide injection rates based on the WWTF's effluent flows, needed chlorine contact time and desired chlorine residual. Due to an error in calculating the MMPs, the Regional Water Board reduced the amount of the MMPs to $60,000. Furthermore, the Discharger requested that the amount due to the SWPCAA be reduced from $10,000 to $5,000 due to financial hardship. Subsequently, the Regional Water Board issued ACL Order No. R1-2007-0042, which required the Discharger to pay the sum of $5,000 to the SWPCAA and the remaining sum of $55,000 to be permanently suspended upon completion of the CP.

On June 27, 2008, the Regional Water Board issued a Notice of Violation (NOV) for violations of effluent limitations in Order Nos. R1-2000-15 and R1-2006-0021 between January 2000 and June 2008. The Regional Water Board offered the Discharger the opportunity to participate in an expedited payment program to pay the MMPs of $3,000.

E. Planned Changes

As described in section II.A of this Fact Sheet, the Discharger plans to construct upgrades to the existing WWTF, a new treated effluent pipeline and a treated effluent disposal system within the effective period of this Order in order to achieve compliance with the seasonal discharge prohibitions.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section. This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency

(USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

This action also involves the adoption of WDRs for irrigation using treated effluent. For the portion of the permit that addresses WDRs for discharges to land, the Discharger certified an Environmental Impact Report (EIR; State Clearing House # 2007062006) stating that the land disposal areas of the project would have a "less than significant impact" in regard to potential impacts to beneficial uses of the groundwater resource due to irrigation, which is supported by the Discharger's *Proposed Irrigation Site Groundwater Anti-degradation Analysis* (Antidegradation Analysis), prepared by Winzler & Kelly on behalf of the Discharger and submitted in July 2010.

As a responsible agency under CEQA, the Regional Water Board is required to consider the final certified CEQA document(s) and reach its own conclusions on whether and how to approve a permit for the Discharger's proposed land disposal method. Prior to approving this Order, the Regional Water Board considered the environmental effects of the Discharger's proposed land disposal method as identified in the certified final EIR. In considering alternatives and mitigation measures, the Regional Water Board only has the responsibility for mitigating or avoiding those direct or indirect environmental effects of those parts of the proposed land disposal method that are within its jurisdiction to approve. (Public Resources Code, Section 21002.1(d); California Code of Regulations, title 14, section 15096(g) and (h)). The Regional Water Board has required, as a condition of this Order, effluent limitations as mitigation measures for those potentially significant impacts over which the Regional Water Board has authority. The Regional Water Board finds that with mitigation, all potentially significant impacts of the City's proposed land disposal method will be reduced to levels of insignificance, as described below.

Uses of treated effluent for the proposed irrigation of agricultural operations have the potential to create or contribute to incidental offsite runoff and discharge to adjacent drainages. Therefore, discharges of irrigation runoff could reach natural surface waters and potentially cause incidental changes in water quality conditions. As part of the Antidegradation Analysis, the Discharger conducted several analyses to determine the potential for wastewater constituents to reach the Lower Eel River, and determined that the applied effluent will not discharge to the Lower Eel River during the seasonal discharge period. In addition, the projected effluent quality indicates that the anticipated constituent concentrations would be low and the small quantity of incidental runoff events would not be expected to substantially impair receiving waters. This impact would be less than significant.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter the 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. The Basin Plan identifies present and potential uses for the Lower Eel River within the Ferndale Hydrologic Subarea of the Lower Eel River Hydrologic Area. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, the beneficial uses established by the Basin Plan for the receiving water for discharges from the Facility are described in Table F-3.

Table F-3. Basin Plan Beneficial Uses

Beneficial Use (s)	Receiving Water Name Discharge Points	
	Lower Eel River 001	Groundwater 002 and 003
Municipal and Domestic Water Supply (MUN)	E	E
Agricultural Supply (AGR)	E	E
Industrial Service Supply (IND)	E	E
Industrial Process Supply (PRO)	P	P
Groundwater Recharge (GWR)	E	---
Freshwater Replenishment (FRESH)	E	---
Navigation (NAV)	E	---
Hydropower Generation (POW)	P	---
Water Contact Recreation (REC-1)	E	---
Non-contact Water Recreation (REC-2)	E	---
Commercial and Sport Fishing (COMM)	E	---
Warm Freshwater Habitat (WARM)	---	---
Cold Freshwater Habitat (COLD)	E	---
Wildlife Habitat (WILD)	E	---
Preservation of Rare, Threatened or Endangered Species (RARE)	E	---
Marine Habitat (MAR)	P	
Migration of Aquatic Organisms (MIGR)	E	---
Spawning, Reproduction, and/or Early Development (SPWN)	E	---
Shellfish Harvesting (SHELL)	E	
Estuarine Habitat (EST)	E	
Aquaculture (AQUA)	P	P
Native American Culture (CUL)	E	E

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coast Basin. For the Lower Eel River and its tributaries, no point source waste discharges are allowed during the period of May 15 through September 30 and for all other periods the receiving stream's flow must be at least 100 times greater than the waste flow unless an exception to the requirement is granted by the Regional Water Board.

The Basin Plan also contains 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, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassay of appropriate duration or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for 'experimental water' as described in Standard Methods for the Examination of Water and Wastewater 18th Edition (1992). At a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluent will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data becomes available, and source control of toxic substances will be required.

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal and interstate waters and enclosed bays and estuaries of the State. Requirements of this Order implement the Thermal Plan to the extent that it is applicable to receiving waters for this Discharger.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA 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, USEPA 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 water quality criteria for priority pollutants.

4. **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 USEPA 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 USEPA 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.

Section 1.2 of the SIP allows the Regional Water Board to adjust the criteria/objectives for metals with discharge-specific Water Effect Ratio (WER) established in accordance with USEPA guidance – *Interim Guidance on Determination and Use of Water Effect Ratios for Metals* (EPA-823-B-94-001) or *Streamlined Water-Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005) (Streamlined Procedure). The Streamlined Procedure determines site-specific values for a WER, a criteria adjustment factor accounting for the effect of site-specific water characteristics on pollutant bioavailability and toxicity to aquatic life.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **Antidegradation Policy.** Section 131.12, title 40 of the Code of Federal Regulations (section 131.12) requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16. Section IV.D.2 of this Fact Sheet discusses how the requirements of this Order satisfy the Antidegradation Policy.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at section 122.44(l) prohibit 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. Section IV.D.1 of this Fact Sheet provides a detailed discussion of how the requirements of this Order satisfy anti-backsliding requirements.

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 USEPA by April of each even numbered year. 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. USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body contaminant. 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) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

On November 12, 2009, USEPA provided partial approval of the 303(d) list of impaired water bodies prepared by the State. The partial approval supported the 303(d) listing of the Lower Eel River as impaired by aluminum, dissolved oxygen, sedimentation/siltation, and temperature. TMDLs for aluminum and dissolved oxygen in the Lower Eel River are scheduled for completion in 2021. On December 18, 2007, USEPA approved a TMDL addressing sediment and temperature in the Lower Eel River.

Regarding temperature, the TMDL concludes that most sources of heat in the Lower Eel River are from diffuse, nonpoint sources and result from such factors as removal of stream shade, longer travel time, changes in timing and volume of natural stream flow due to water diversions and impoundments, and increased sediment loads that cause widening of streams. As the critical time period for temperature is in the summer, the TMDL was established for that critical time period, which is also the time period when point source discharges from the Facility are prohibited. The TMDL concludes that, because of the summer discharge prohibition, area facilities such as the Facility, do not contribute to temperature loadings to the Lower Eel River Watershed, and therefore, the TMDL establishes a “zero” WLA to mean that, as long as the Discharger adheres to the summer discharge prohibition, it will be in compliance with the approved TMDL for temperature.

Regarding sediment, the TMDL establishes a maximum loading of 125 percent of the natural sediment loading for the watershed and further defines that loading rate as 2.5 tons of sediment per square mile of watershed per day on a long term basis. Although nonpoint sources were found to be primarily responsible for excessive sediment loadings to the Lower Eel River, the TMDL establishes WLAs for area wastewater treatment facilities at levels corresponding to existing permit limitations for suspended and settleable solids. To satisfy the requirements of the TMDL, this Order therefore retains the average monthly limitations for settleable solids of 0.1 ml/L and TSS of 30 mg/L from Order No. R1-2006-0021.

E. Other Plans, Polices and Regulations

1. **Storm Water.** State Water Board 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*, does not

require wastewater treatment facilities with design flows less than 1 mgd to obtain coverage. The average annual flow for the Facility is less than 1.0 mgd; therefore, coverage under the General Storm Water Permit is not required for this Facility.

2. **Sanitary Sewer Systems.** On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, *Statewide General WDRs for Sanitary Sewer Systems.* The general permit is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California." The purpose of the general permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows. Section VI.C.5.a of the Order requires the Discharger to seek/maintain coverage under Order No. 2006-0003-DWQ, and restates some provisions of the general permit.

3. **Discharge of Biosolids to Land.** 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 general waste discharge requirements establish standards for agronomic applications and the use of biosolids as a soil amendment or fertilizer in agriculture, forestry, and surface mining reclamation, and include provisions to mitigate significant environmental impacts. The Order requires the Discharger to obtain coverage under Order No. 2004-0012-DWQ or other appropriate WDRs for the discharge of biosolids from the wastewater treatment plant. Section VI.C.5.f of the Order requires the Discharger to seek coverage under Order No. 2004-0012-DWQ, if applicable, and restates some provisions of the general permit.

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: section 122.44(a) requires that permits include applicable technology-based limitations and standards, and section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where the discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, but numeric water quality objectives have not been established, WQBELs may be established using one or more of three methods described at section 122.44(d)(vi). First, WQBELs may be established using a calculated water quality criterion, such as a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion. Second, WQBELs may be established on a case-by-case basis using USEPA criteria guidance published under CWA section 304(a). Third, WQBELs may be established using an indicator parameter for the pollutant of concern.

A. Discharge Prohibitions

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

   This prohibition is based on the Basin Plan, the previous Order (Order No. R1-2006-0021), and State Water Board Order WQO 2002-0012 regarding the petition of WDR Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order 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 Discharger or are not reasonably anticipated to be present in the discharge, but have not been disclosed by the Discharger. 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…or…can be reasonably contemplated." (In re the Petition of East Bay Municipal Utilities District et al., (State Water Board 2002) Order No. WQ 2002-0012, p. 24) In that Order, the State Water Board cited a case which held the Discharger is liable for discharge of pollutants not "within the reasonable contemplation of the permitting authority"…, (Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 368 F .3d 255, 268.) Thus, State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Discharger or (2) can be reasonably contemplated by the Regional Water Board.

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

2. **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. It has been retained from Order No. R1-2006-0021.

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

   This prohibition is based on restrictions on the disposal of sewage sludge found in federal regulations (section Part 503 (Biosolids), Part 527, and Part 258) and title 27 Cal. Code of Regs. It has been retained from Order No. R1-2006-0021.

4. **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 system is

prohibited, except as provided for in Prohibition III.E and Attachment D, Standard Provision G (Bypass).

This Prohibition has been retained from Order No. R1-2006-0021 and is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of 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 section 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by this Order.

5. **Prohibition III.E.** Any SSO that results in a discharge of untreated or partially treated wastewater to (a) waters of the United States, (b) groundwater, or (c) land that creates a 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 States' antidegradation policy as specified in State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the prohibition imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less that that prescribed in State Water Board or Regional Water Board plans and policies.

   This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-0003-DWQ, *Statewide General WDRs for Sanitary Sewer Systems*. Order 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 create a nuisance. Prohibition III.E of this Order further prohibits any SSO that results in the discharge of untreated or partially treated wastewater to groundwater due to the prevalence of high groundwater in this Region and this Region's reliance on groundwater as a drinking water source.

6. **Prohibition III.F.** The discharge of waste to land that is not owned by or under agreement to use by the Discharger is prohibited, except for use for fire suppression as provided in title 22, sections 60307 (a) and (b) of the California Code of Regulations.

   This prohibition is retained from Order No. R1-2006-0021. Land used for the application of wastewater must be owned by the Discharger or be under control of the Discharger by contract so that the Discharger maintains a means for ultimate disposal of treated wastewater.

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

   This prohibition is a general prohibition that allows the Discharger to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

8. **Prohibition III.H.** The discharge of waste to the Lower Eel River and its tributaries is prohibited during the period from May 15 through September 30 of each year.

   This prohibition is required by the Basin Plan. The Basin Plan prohibits discharges to the Lower Eel River and its tributaries during the period May 15 through September 30 (Chapter 4, Waste Discharge prohibitions for the North Coastal Basin).

9. **Prohibition III.I**. During the period of October 1 through May 15, discharges of treated effluent shall not exceed one percent of the flow of the Lower Eel River.

   This prohibition is required by the Basin Plan (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan prohibits discharges to the Lower Eel River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 3 does not specify how compliance of the one-percent flow requirement should be determined. This prohibition, retained from Order No. R1-2006-0021, 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 Discharger makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of the Lower Eel River as measured at the nearest gauging station in Scotia, CA. This modification provides day-to-day operational flexibility for the Discharger while retaining the intent of the prohibition.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 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 section Part 133.

Regulations promulgated in 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 USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in section Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH as follows:

a. BOD_5 and TSS

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

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

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

b. pH

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

In addition, section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, 2) when applicable standards and limitations are expressed in terms of other units of measure, and 3) where the permit limitation is established on a case-by-case basis under section 125.3, and the limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation, and permit conditions ensure that dilution will not be used as a substitute for treatment. Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require that permittee to comply with both limitations. Mass-based effluent limitations are based on the facility design flow.

Technology-based effluent limitations may be set on a case-by-case basis under section 402(a)(1) of the CWA to the extent that USEPA-promulgated effluent limitations are inapplicable based upon the available information and unique factors related to the applicant. A combination of USEPA-promulgated effluent limitations and effluent limitations developed under a case-by-case basis scenario may be applied to carry out the provisions of the CWA.

2. Applicable Technology-Based Effluent Limitations

a. BOD_5 and TSS. Federal regulations at section Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. This Order includes effluent limitations for BOD_5 and TSS consistent with the secondary treatment requirements established in section Part 133. [A daily maximum effluent limitation for discharges between October 1st and May 14th for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in

accordance with design capabilities]. Mass emission limitations are based on the Facility's current design capacity of 0.9 mgd. In addition, section 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. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month.

b. pH. The secondary treatment regulations at section 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 required to meet the water quality objective for hydrogen ion concentration (pH) in the Lower Eel River is contained in the Basin Plan, Table 3-1.

This Order establishes the following technology-based effluent limitations, applicable to the Facility for discharges from Discharge Point 001.

Table F-4. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	--	--	--
	lbs/day[14,15][16]	225	340	--	--	--
	lbs/day[14,15][17]	155	233	--	--	--
	% Removal[18]	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day[14,15]	225	340	--	--	--
	lbs/day[14,15]	155	233	--	--	--
	% Removal[18]	85	--	--	--	--
pH	std units	--	--	--	6.0[19]	9.0[16]

c. Existing Treatment Facility Flow. The mean daily annual flow of waste through the treatment plant shall not exceed 0.9 mgd, measured daily at Monitoring

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[14] The mass discharge (lbs/day) is obtained from the following calculation for any calendar week or month:

$$\frac{8.34}{N}\sum^{N} Q_i C_i$$

in which N is the number of samples analyzed in any calendar week or month. Q_i and C_i are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the N grab samples, which may be taken in any calendar week or month. If a composite sample is taken, C_i is the concentration measured in the composite sample and Q_i is the average flow rate occurring during the period over which samples are composited.

[15] Mass-based effluent limitations are based on the average flow of 0.9 mgd.

[16] Applies to existing facility

[17] Applies to new facility

[18] Percent removal is determined for both BOD_5 and TSS through comparison of the monthly average concentrations measured in the influent and effluent.

[19] The final effluent limitation for pH is established between 6.5 and 8.5 based upon the more stringent water quality criteria.

Location INF-001, averaged over a calendar month and calculated over a calendar year.

This effluent limitation applies the treatment capacity of the Facility which considers engineering, control techniques, age of equipment and facilities in Rio Dell.

d. New Treatment Facility Flow. The mean daily annual flow of waste through the treatment plant shall not exceed 0.62 mgd, measured at Monitoring Location INF-001 over a calendar month and averaged over a calendar year. The monthly average wet weather flow of waste through the treatment plant shall not exceed 1.25 mgd measured continuously at Monitoring Location INF-001, calculated daily and averaged over a calendar month. At no time shall daily peak flows of waste through the treatment plant exceed 2.51 mgd during a single 24 hour period.

This effluent limitation applies the treatment capacity of the Facility which considers engineering, control techniques, age of equipment and facilities in Rio Dell.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and NPDES regulations at 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, including numeric and narrative objectives within a standard.

Section 122.44(d)(1)(i) mandates 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.

A reasonable potential analysis (RPA) demonstrated reasonable potential for discharges from the existing WWTF to cause or contribute to exceedances of applicable water quality criteria for chlorine residual, pH, settleable solids, and total coliform organisms.

An RPA demonstrated reasonable potential for discharges from the new WWTF to cause or contribute to exceedances of applicable water quality criteria for ammonia, chlorine residual, nitrate, total nitrogen, pH, settleable solids, and total coliform organisms.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of section 122.44(d)(1)(vi), using: (1) USEPA 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.

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 the Basin Plan and in other applicable State and federal rules, plans, and policies, including applicable water quality criteria from the CTR and the 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 discussed in Finding II.H of the Order and section III.C.1 of this Fact Sheet.

b. Basin Plan Water Quality Objectives. In addition to specific water quality objectives, 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 Lower Eel River.

c. State Implementation Policy (SIP), CTR, and NTR. Water quality criteria and objectives applicable to this receiving water are established by the CTR, established by the USEPA at section 131.38; and the NTR, established by the USEPA at 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 further identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or 1-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the RPA, and for the calculation of effluent limitations for pollutants that showed reasonable potential.

Human health criteria are further identified as "water and organisms" and "organisms only." The criteria from the "water and organisms" column of the CTR were used for the RPA, as the receiving water, the Lower Eel River, has the beneficial use designation as a municipal and domestic supply.

At title 22, Division 4, Chapter 15, Cal. Code of Regs, the Department of Public Health (DPH) has established Maximum Contaminant Levels (MCLs) for certain pollutants. 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

The SIP, which is described in Finding II.J of the Order and section III.C.4 of this Fact Sheet, includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Table F-5 summarizes applicable water quality criteria/objectives for each priority pollutant that has been detected at a measurable concentration in the effluent or in the receiving water during the term of Order No. R1-2006-0021.

Table F-5. Applicable Water Quality Criteria

Constituent	Water Quality Criteria (µg/L)			
	Title 22 MCLs	CTR/NTR Aquatic Life		CTR/NTR Human Health
		Acute	Chronic	
Copper, Total Recoverable	--	75[20,21]	52[20, 21]	1,300
Nickel, Total Recoverable	100	300[17]	33[17]	610
Zinc, Total Recoverable	--	77[17]	77[17]	--
Asbestos (MFL)	7	--	--	7
Chloroform	--	--	--	--
Dichlorobromomethane	--	--	--	0.56
Toluene	150	--	--	6,800
Methyl Bromide	--	--	--	48

3. Determining the Need for WQBELs

a. Non-Priority Pollutants

i. pH. The Order retains an effluent limitation for pH of 6.5 to 8.5 from Order No. R1-2006-0021. This limitation is based on the water quality objective for the Lower Eel River established by the Basin Plan Table 3-1 (Chapter 3). This effluent limitation will be in effect for both the existing and new WWTF.

ii. Total Coliform Bacteria. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order retains effluent limitations for total coliform bacteria from Order No. R1-2006-0021. These effluent limitations will ensure that water quality objectives for bacteria, as established by Chapter 3 of the Basin Plan, will be maintained. The specific limitations are based on requirements established by DPH at title 22, Cal. Code of Regs, Division 4, Chapter 3 (Water Recycling Criteria), and are those

[20] Aquatic life criteria for this metal are hardness dependent (in general, as hardness decreases, metal toxicity increases). For this metal, a hardness of 59 mg/L $CaCO_3$, the lowest hardness measured in the receiving water, was used to determine "reasonable potential." If an effluent limitation was required based on a finding of "reasonable potential" for this metal, the Order requires a determination of limitations based on actual receiving water hardness measured at the time of compliance determination.

[21] Aquatic life criteria for copper were determined using a total recoverable WER of 8.75, as determined in the Discharger's WER study.

levels of bacteria required for the reclamation use of treated wastewater for surface irrigation of (i) pasture used for animals producing milk for human consumption and (ii) any nonedible vegetation where access is controlled. These effluent limitations will be in effect for both the existing and new WWTF.

iii. Settleable Solids. Effluent limitations for settleable solids are established in this Order and reflect levels of treatment attainable by secondary treatment facilities. These limitations are based on the water quality objective prohibiting bottom deposits for all surface waters of the North Coast Region established by the Basin Plan. These effluent limitations will be in effect for both the existing and new WWTF.

iv. Chlorine Residual. 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."* The Regional Water Board considers any chlorinated discharge as having the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity, and therefore, the Order establishes effluent limitations for chlorine. USEPA has established the following criteria for chlorine-produced oxidants for protection of freshwater aquatic life. [*Quality Criteria for Water 1986* (The Gold Book, 1986, EPA 440/5/-86-001)]

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

Order No. R1-2006-0021 required that there be no detectable level of chlorine in the effluent at the point of discharge. This Order revises effluent limitations for chlorine residual to be consistent with the water quality criteria, which are below current analytical detection limits. The water quality criteria recommended by USEPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual. These effluent limitations will be in effect for both the existing and new WWTF.

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

(a) Total Nitrogen. The Basin Plan contains a narrative water quality objective for biostimulatory substances that states, "[w]*aters shall not contain biostimulatory substances in concentrations that promote aquatic*

growths to the extent that such growths cause nuisance or adversely affect beneficial uses." The Regional Water Board is increasingly concerned about the biostimulatory properties of discharges to surface waters in the North Coast Region. Stimulation of biological growth can diurnally deplete dissolved oxygen in receiving water below Basin Plan criteria. Table 2 in the Discharger's Report of Waste Discharge indicates that the expected concentration of total nitrogen in effluent from the new WWTF is 10 mg/L. In order to protect water quality and ensure proper operation of the new WWTF, this Order establishes an effluent limitation for the new WWTF for total nitrogen at 10 mg/L.

(b) 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 DPH for the protection of public water supplies at title 22 of the California Code of Regulations, section 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. Table 2 in the Discharger's Report of Waste Discharge indicates that the expected concentration of nitrate in effluent from the new WWTF is 8 mg/L. In order to protect water quality and ensure proper operation of the new WWTF, this Order establishes an effluent limitation for the new WWTF for nitrate at 8.0 mg/L.

(c) 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 USEPA's recommended water quality criteria for ammonia in fresh water from the 1999 *Update of Ambient Water Quality Criteria for Ammonia*, EPA-822-R-99-014 (1999) to interpret the Basin Plan's narrative objective for toxicity. USEPA has recommended acute and chronic water quality criteria for the protection of aquatic life, which are dependent on receiving water pH, and the presence/absence of salmonids (acute criteria); and pH, temperature, and the presence/absence of early life stages of fish (chronic criteria). Applying the USEPA acute and chronic ammonia toxicity criteria for periods where salmonids are present the acute and chronic ammonia concentrations in observed receiving water temperature (14.5°C) and pH (8.7) conditions, as reported in the Discharger's SMRs, would be calculated at 2.14 mg/L and 0.78 mg/L, respectively. Table 2 in the Discharger's ROWD indicates that the expected concentration of ammonia in effluent from the new WWTF is 1.0 mg/L. Because the projected ammonia levels in the effluent are greater than USEPA's recommended chronic water quality criterion 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.

This Order establishes effluent limitations for ammonia for the protection of aquatic life. The new WWTF will have the abaility to remove ammonia to very low levels. Compliance with the effluent limitations for ammonia, which are based on USEPA's recommended water quality criteria, will be determined based on the pH and temperature of the receiving water at the time the discharge is sampled. Full tables of the effluent limitations for ammonia are included in Attachment G. These effluent limitations will take effect once the new WWTF is online.

b. Priority Pollutants

i. Reasonable Potential Analysis (RPA). SIP section 1.3 requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. For this RPA, the Regional Water Board has used effluent and receiving water monitoring data generated from a priority pollutant scan on February 2, 2011 and reported in self-monitoring reports (SMRs) between February 2007 and January 2011.

Some freshwater water quality criteria are hardness-dependent; i.e., as hardness decreases, the toxicity of certain metals increases and the applicable water quality criteria become correspondingly more stringent. For this RPA, a hardness concentration of 59 mg/L $CaCO_3$ was used, reflecting the lowest receiving water hardness reported by the Discharger during the term of Order No. R1-2006-0021.

To conduct the RPA, Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background concentration (B) for each priority pollutant from effluent and receiving water data provided by the Discharger, 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 Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

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

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

(c) 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.

ii. Priority Pollutant Reasonable Potential Determination. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria and/or available monitoring data 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 126 priority pollutants.

The following table summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent from the Facility or background receiving water. The MECs, most stringent WQO/WQCs (C), and background concentrations (B) used in the RPA are presented in the following table, along with the RPA results (yes or no) for each priority pollutant analyzed.

Table F-6. Summary of RPA Results

CTR #	Priority Pollutant	MEC or Minimum DL[22,23]	C	B or Minimum DL	RPA Results[24]
6	Copper, Total Recoverable	16	52	<5	No
9	Nickel, Total Recoverable	<5	33	6.1	No
13	Zinc, Total Recoverable	19	77	14	No
15	Asbestos (MFL)	0.59	7	<0.20	No
26	Chloroform	18	No Criteria	<0.50	Ud
27	Dichlorobromomethane	0.53	0.56	<0.50	No
39	Toluene	21	150	<0.50	No
48	Methyl Bromide	1.8	48	<0.50	No

(a) Copper. During the term of Order No. R1-2006-0021 the Discharger conducted an individual WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The study was conducted in accordance with the Streamlined Procedure and concluded that a site specific WER of 8.75 for total recoverable copper and 6.62 for dissolved copper apply to the discharge. The Regional Water Board concurred with the findings of the WER study and adopted Order No. R1-2011-0003 on January 27, 2011, amending Order No. R1 2006-0021 to adjust water quality criteria and discontinue effluent limitations for copper based on the WER.

[22] The MEC or 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). Values reported as DNQ were "detected, but not quantified".

[23] The MEC or B is "Not Available" when there are no monitoring data for the constituent.

[24] 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), if no criteria have been promulgated.

Using the worst-case measured hardness from the receiving water (59 mg/L as CaCO3), the USEPA recommended dissolved-total translator of 0.96, and the site-specific WER, the applicable chronic criterion (maximum 4-day average concentration) is adjusted to 52 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 75 µg/L, as total recoverable copper. The maximum effluent concentration (MEC) measured for total copper was 16 µg/L, based on samples collected from February 2007 through January 2011. All effluent copper concentrations measured in accordance with Order No. R1-2006-0021 are below the applicable criteria. Therefore, effluent copper concentrations do not demonstrate reasonable potential to exceed water quality criteria for copper.

4. WQBEL Calculations

Final WQBELs for chlorine residual have been determined using the methods described in section 1.4 of the SIP.

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

ECA = C + D (C – B), where

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

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

B = background concentration

Here, because no credit for dilution is allowed, the ECA is equal to the applicable criterion (ECA = C).

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

From Table 1 of the SIP, the ECA multipliers for calculating LTAs at the 99th percentile occurrence probability are 0.321 (acute multiplier) and 0.527 (chronic multiplier). The LTAs are determined as follows in Table F-7.

Table F-7. Determination of Long-Term Average

Pollutant	ECA		ECA Multiplier		LTA (mg/L)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Chlorine, Total Residual	0.019	0.011	0.321	0.527	0.0061	0.0058

Step 3: WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL) are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here, the CV is set equal to 0.6, and the sampling frequency is set equal to 4 (n = 4). The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier is 3.11, and the AMEL multiplier is 1.55. Final WQBELs for chlorine residual are determined as follows.

Table F-8. Final WQBELs Based on Aquatic Life Criteria

Pollutant	LTA (mg/L)	MDEL Multiplier	AMEL Multiplier	MDEL (mg/L)	AMEL (mg/L)
Chlorine, Total Residual	0.0058	3.11	1.55	0.02	0.01

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective, the AMEL is set equal to the ECA. From Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.11, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.55. The MDEL for protection of human health is calculated by multiplying the ECA by the ratio of the MDEL multiplier to the AMEL multiplier. The pollutants that demonstrated reasonable potential (i.e., chlorine residual) do not have applicable human health criteria/objectives.

5. Whole Effluent Toxicity (WET)

Effluent limitations for acute and chronic WET protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in the effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. The Basin Plan establishes a narrative water quality objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to, or produce other detrimental responses in aquatic organisms. 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.

Consistent with Order No. R1-2006-0021, 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.

In addition to the Basin Plan requirements, section 4 of the SIP states that chronic toxicity limitations are required in Orders for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. This Order does not establish an effluent limitation for chronic toxicity; however, chronic WET monitoring is required and limitations will be established if monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

Except as provided in section 122.44(l)(2), federal anti-backsliding regulations require effluent limitations, standards, and conditions contained in reissued permits to be at least as stringent as the effluent limitations, standards, and conditions contained in the previous permit. Daily maximum limitations for BOD and TSS as well as effluent limitations for cyanide, dichlorobromomethane, and methyl tertiary butyl ether from the previous permit (Order No. R1-2006-0021) are not retained in this Order; however, anti-backsliding requirements are met, as explained below. All other effluent limitations, standards, and conditions contained in this Order are at least as (or more) stringent as the effluent limitations in Order No. R1-2006-0021.

Monitoring results showed no violations of daily maximum limitations for BOD and TSS during the term of Order No. R1-2006-0021. Daily maximum limitations for BOD and TSS are not required in accordance with secondary treatment standards for compliance with section 133.102. The equally stringent weekly and monthly requirements for those parameters have been retained thus; anti-backsliding requirements are satisfied for BOD and TSS.

Order No. R1-2006-0021 established effluent limitations for cyanide, dichlorobromomethane, and methyl tertiary butyl ether. Monitoring data collected during the term of Order No. R1-2006-0021 indicated that the discharge does not have reasonable potential to cause or contribute to an exceedance of applicable water quality criteria/objectives for these constituents. Therefore, this Order does not retain effluent limitations for cyanide, dichlorobromomethane, or methyl tertiary butyl ether. The State Water Resources Control Board has held that anti-backsliding does not necessarily dictate that a pollutant that was limited in a prior permit must have a limit in a later permit, even though the discharge of the pollutant does not have a reasonable potential to cause or contribute to a water quality standards violation. State Water Board Order WQ 2001-16 (Napa Sanitation District). The updated monitoring data also constitutes new information that was not available at the time Order No. R1-2006-0021 was adopted, which permits removal of the effluent limitations consistent with the exceptions to anti-backsliding requirements in CWA section 402(o)(2)(B). Furthermore, where the water quality meets or exceeds the applicable water quality standard for that constituent, section 303(d)(4) allows the effluent limitation to be revised if it is consistent with the anti-degradation policy. As explained below, this permit satisfies the requirements of the federal and State antidegradation policies. Existing effluent water quality exceeds applicable water

quality criteria. Thus for the foregoing reasons, anti-backsliding requirements are met for not retaining these limits.

With respect to chlorine residual, new effluent limitations are established in this Order. In the previous permit, the effluent limitation was expressed as no detectable levels of chlorine residual in the discharge, using a method detection limit of 0.1 mg/L. The new limitations are expressed as an average monthly limitation of 0.01 mg/L and a maximum daily limitation of 0.02 mg/L. The new limitations established in the Order are numerically lower than the minimum detection limit for the final effluent limitation of the previous permit that required no detectable level of chlorine in the effluent at the point of discharge. Although no longer expressed as "non-detect", the newly established effluent limitations are effectively more stringent limitations because the discharge is required to achieve an effluent concentration of chlorine residual that is numerically lower than was required by the previous permit. Thus, anti-backsliding requirements are satisfied for chlorine residual.

2. Satisfaction of Antidegradation Policy

a. Surface Water. Order No. R1-2006-0021 permitted an average annual flow of 0.9 mgd. This Order permits an average annual flow of 0.62 mgd and is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with Order No. R1-2006-0021.

b. Groundwater. The Discharger submitted an Antidegradation Analysis in July 2010. The primary purpose of the Antidegradation Analysis was to evaluate existing site conditions in light of proposed discharges to ensure consistency with State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*. State Water Board Resolution 68-16 requires a demonstration that high quality water be maintained and that any change to those waters will not unreasonably affect present and anticipated beneficial uses of that water.

The Antidegradation Analysis evaluated the potential for exceedance of water quality objectives which apply to the existing and potential beneficial uses of groundwater at the proposed irrigation site. The constituents evaluated include ammonia, nitrate, total nitrogen, total dissolved solids, chloride, sodium, electrical conductivity, pH, and total coliform organisms. Priority pollutants were not considered during this evaluation based on the analytical results of routine sampling from the existing WWTF, which did not indicate a need for inclusion of any priority pollutants. Each of the constituents evaluated were compared to the water quality objectives for the protection of MUN, AGR, IND, PRO, AQUA, and CUL. The Antidegradation Analysis compared the most restrictive criteria for each constituent to existing groundwater concentrations, anticipated concentrations in the effluent, and the anticipated mixture of effluent and groundwater at the proposed irrigation site. Results of the comparison indicate that groundwater beneath the proposed irrigation site will continue to support the beneficial uses given the proposed irrigation of treated effluent.

The Antidegradation Analysis evaluated the potential for wastewater constituents to reach surface water as part of a fate and transport study. The reported results of the fate and transport study, in conjunction with the groundwater evaluation discussed above, indicate that although the groundwater mixture will eventually reach the hyporheic zone, it is unlikely that any wastewater constituents will be detected in surface water during the discharge prohibition season. Increased flows and mixing in the Eel River throughout the winter season would likely further preclude detection of wastewater constituents in surface water.

Based on the results of the Discharger's Antidegradation Analysis, existing high quality water exceeding water quality criteria for the protection of the beneficial uses of water will be maintained. The Regional Water Board finds that the proposed discharge of treated wastewater to the Irrigation Site is consistent with the requirements of State Water Board Resolution 68-16 and the Basin Plan. The effluent limitations established in Order No. R1-2011-0054 will result in best practicable treatment or control of the discharge to assure no pollution or nuisance and highest water quality consistent w/ the maximum benefit to people of State.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and TSS. Restrictions on these pollutants are discussed in sections IV.B.2 and IV.D of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations for chlorine residual, pH, total coliform bacteria, and settleable solids that are more stringent than the minimum, federal technology-based requirements but are necessary to meet water quality standards. These requirements are discussed in section IV.C.3 of this Fact Sheet.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA 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 USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial use of Native American Culture (CUL) and the General Objective regarding antidegradation) were approved by USEPA 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.

4. Summary of Final Effluent Limitations

a. Summary of Final Effluent Limitations – Existing WWTF

Final effluent limitations for discharges from the existing WWTF at Discharge Point 001 are summarized below.

Table F-9. Summary of Final Effluent Limitations – Existing WWTF

Parameter	Units	Effluent Limitations					Basis[25]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Biochemical Oxygen demand (5-day @ 20°C)	mg/L	30	45	--	--	--	CFR
	lbs/day[14,15]	225	340	--	--	--	
Total Suspended Solids	mg/L	30	45	--	--	--	CFR
	lbs/day[14,15]	225	340	--	--	--	
pH	std units	--	--	--	6.5	8.5	BP
Chlorine, Total Residual	mg/L	0.01	--	0.02	--	--	NAWQC
Settleable Solids	mL/L	0.1	--	0.2	--	--	BP
Total Coliform Organisms	MPN/100 mL	23[8]	--	230	--	--	Title 22

i. 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 30-day average value influent wastewater concentration in comparison to the 30-day average value effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.

ii. Acute Toxicity. There shall be no acute toxicity in treated wastewater discharged to the Lower Eel River and its tributaries. The Discharger will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:

(a) Minimum for any one bioassay: 70 percent survival; and

[25] CFR – Based on secondary treatment requirements established at section Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life to implement the Basin Plan's narrative toxicity objective.
Title 22 – Based on DPH Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

(b) Median for any three or more consecutive bioassays: at least 90 percent survival.

iii. Flow. The mean daily annual flow of waste through the treatment plant shall not exceed 0.9 mgd, measured continuously, calculated daily over a calendar month and averaged over a calendar year.

b. Summary of Final Effluent Limitations – New WWTF

Final effluent limitations for discharges from the new WWTF at Discharge Point 001 are summarized below.

Table F-10. Summary of Final Effluent Limitations – New WWTF

Parameter	Units	Effluent Limitations					Basis[25]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Biochemical Oxygen demand (5-day @ 20°C)	mg/L	30	45	--	--	--	CFR
	lbs/day[14,26]	155	233	--	--	--	
Total Suspended Solids	mg/L	30	45	--	--	--	CFR
	lbs/day[14,26]	155	233	--	--	--	
pH	std units	--	--	--	6.5	8.5	BP
Ammonia Nitrogen, Total (as N)	mg/L	See Attachment G[27]	--	See Attachment G[27]	--	--	NAWQC
Chlorine, Total Residual	mg/L	0.01	--	0.02	--	--	NAWQC
Nitrate Nitrogen, Total (as N)	mg/L	8.0	--	--	--	--	PB
Nitrogen, Total (as N)	mg/L	10	--	--	--	--	PB
Settleable Solids	mL/L	0.1	--	0.2	--	--	BP
Total Coliform Organisms	MPN/100 mL	23[8]	--	230	--	--	Title 22

[26] Mass-based effluent limitations are based on the average annual flow of 0.62 mgd

[27] Average monthly effluent limitations (AMELs) for ammonia are determined based on the pH and temperature of the receiving water at the time the discharge is sampled. Maximum daily effluent limitations (MDELs) for ammonia are determined based on the pH of the receiving water at the time the discharge is sampled. See Attachments G-1 and G-2 for full tables of effluent limitations for ammonia.

i. **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 30-day average value influent wastewater concentration in comparison to the 30-day average value effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.

ii. **Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to the Lower Eel River and its tributaries. The Discharger will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:

(a) Minimum for any one bioassay: 70 percent survival; and

(b) Median for any three or more consecutive bioassays: at least 90 percent survival.

iii. **Flow.** The mean daily annual flow of waste through the treatment plant shall not exceed 0.62 mgd, measured daily over a calendar month and averaged over a calendar year. The monthly average wet weather flow of waste through the treatment plant shall not exceed 1.25 mgd measured continuously, calculated daily and averaged over a calendar month. At no time shall daily peak flows of waste through the treatment plant exceed 2.51 mgd during a single 24 hour period.

E. Interim Effluent Limitations

No interim effluent limitations are established in this Order as the Discharger has not requested interim effluent limitations. In addition, interim limitations for CTR constituents may no longer be included in NPDES permits after May 18, 2010.

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.

Water Code section 13241 requires the Regional Water Board to establish water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and prevention of nuisance, recognizing

that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. The Basin Plan establishes water quality objectives specific to the North Coast Region for the protection of past, present, and probable future beneficial uses of water. Factors required for consideration during development of applicable water quality objectives, such as the characteristics of the hydrologic unit under consideration, economic considerations, and other factors required in accordance with section 13241 were considered during the Basin Planning and adoption process.

Until the Discharger completes construction of the new treated effluent pipeline and treated effluent disposal system at the Irrigation Site, the discharge of treated wastewater from the Facility will vary between surface water and the percolation pond located adjacent to the Lower Eel River at varying times of the year. Subsequently, the discharge of treated wastewater will be land applied at the Irrigation Site between May 15th and September 30th. Therefore, limitations for BOD_5 and TSS were derived based upon the treatment capability of the Facility in order to protect beneficial uses of both surface water and groundwater. Both beneficial uses and the water quality objectives have been approved pursuant to State law, and then submitted to and approved by USEPA. In addition, discharge prohibitions were included to prohibit the reclamation use of untreated or partially treated waste, in order to prevent nuisance.

The Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality, of the Ferndale Hydrologic Subarea of the Eel River Hydrologic Unit, and the coordinated control of all factors which affect water quality in the area. The Discharger did not submit any evidence regarding whether the waste discharge requirements for land discharges would interfere with the development of needed housing within the region or the costs of compliance, particularly anything to show that the costs of compliance with the Order would be unmanageable.

2. Applicable Beneficial Uses and Water Quality Objectives

a. Beneficial Uses. Beneficial use designations for groundwater established in the Basin Plan include MUN, AGR, IND, PRO (potential), AQUA (potential), and CUL.

b. 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. Land Discharge Specifications – Discharge Points 002 and 003

a. BOD_5 and TSS. This Order establishes land discharge specifications for BOD_5 and TSS consistent with the secondary treatment requirements at

section Part 133. Although the secondary treatment requirements are only applicable to discharges to surface waters, these specifications are included in this Order to ensure that discharges to the percolation pond receive proper treatment. These levels are technically achievable based on the capability of the secondary treatment system. These land discharge specifications are applicable at Discharge Point 002 and 003.

b. pH. The Order establishes a land discharge specification for pH of 6.0 to 9.0 based on technology-based effluent limitations required by USEPA pursuant to section Part 133. These pH limits are included in the Order to ensure that pH levels are appropriate for protection of groundwater when discharging to the percolation pond and Irrigation Site. These land discharge specifications are applicable at Discharge Point 002 and 003.

c. Coliform Bacteria. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order establishes land discharge specifications for total coliform bacteria. These land discharge specifications will ensure that water quality objectives for bacteria, as established by Chapter 3 of the Basin Plan, will be maintained. The specific limitations are based on requirements established by DPH at title 22, Cal. Code of Regs, Division 4, Chapter 3 (Water Recycling Criteria), and are those levels of bacteria required for the reclamation use of treated wastewater for surface irrigation of (i) pasture used for animals producing milk for human consumption and (ii) any nonedible vegetation where access is controlled. These land discharge specifications are applicable at Discharge Point 002 and 003.

d. Settleable Solids. Untreated or improperly treated wastewater can contain high amounts of settleable solids. Therefore, this Order establishes land discharge specifications for discharges at Discharge Points 002 and 003 for settleable solids. These limitations are a typical standard of performance for secondary treatment facilities and are technically achievable based on the capability of the secondary treatment system.

e. Nitrate and Total Nitrogen. 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 California Code of Regulations, section 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. As part of the Discharger's *Proposed Irrigation Site Groundwater Anti-Degradation Analysis*, the Discharger performed a water quality balance to determine resulting concentrations of ammonia, nitrate, and total nitrogen after the effluent from the new WWTF mixes with groundwater at the site, accounting for fate and transport of the various nitrogen components that occur as part of the nitrogen cycle. When comparing the background concentration of total nitrogen to the projected effluent concentration from the new WWTF after mixing with the groundwater, the increase in background concentration is less than 10 percent of the available assimilative capacity of background concentrations. Further, the study concluded that nitrate is not

anticipated to degrade background water quality at the site. Table 5 of the Antidegradation Analysis projects a total nitrogen concentration of 10 mg/L and a nitrate concentration of 8 mg/L from the new WWTF. Therefore, consistent with the Antidegradation Analysis, and in order to protect groundwater, this Order establishes land discharge specifications for discharges to the Irrigation Site (Discharge Point 003) for total nitrogen and nitrate at 10 mg/L and 8.0 mg/L, respectively.

G. Reclamation Specifications

This section is not applicable to the Discharger as treated wastewater is not discharged to or applied to land for the purpose of reclamation. The Discharger disposes of treated wastewater to land, thus the Discharger has Land Discharge Specifications rather than Reclamation Specifications.

H. Other Requirements

1. **Disinfection Process Requirements for Chlorination System.** This Order requires the Discharger to maintain a minimum chlorine residual of 1.5 mg/L at the end of the disinfection process to ensure the disinfection process achieves adequate pathogen reduction.

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 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

The beneficial uses of the underlying ground water are MUN, AGR, IND, PRO (potential), AQUA (potential), and CUL. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

State Water Board Resolution No. 68-16, requires, in part, that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality water will be maintained until it is demonstrated to the State that any changes will be consistent with maximum benefit

to the people of the State, will not unreasonably affect beneficial uses of such water, and will not result in water quality less than prescribed in the policies.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for the Facility.

A. Influent Monitoring

1. Influent monitoring requirements for BOD_5 and TSS are retained from Order No. R1-2006-0021 and are necessary to determine compliance with the Order's percent removal requirements for these parameters. Influent monitoring requirements for flow are also retained from Order No. R1-2006-0021.

B. Effluent Monitoring

1. Pursuant to the requirements of section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the potential for impacts of the discharge to the receiving stream and groundwater.

2. This Order retains weekly effluent monitoring requirements for BOD_5 and TSS from Order No. R1-2006-0021 to determine compliance with the applicable technology-based effluent limitations.

3. This Order retains weekly effluent monitoring requirements for settleable solids, total coliform organisms, and pH from Order No. R1-2006-0021 to determine compliance with the applicable WQBELs.

4. This Order retains daily effluent monitoring requirements for chlorine residual from Order No. R1-2006-0021 to determine compliance with effluent limitations.

5. Continuous flow monitoring has been retained from Order No. R1-2006-0021 to characterize effluent flows for the calculation of mass to determine compliance with mass-based effluent limitations for BOD_5 and TSS and for calculations of discharge rates into surface water.

6. Order No. R1-2006-0021 required monitoring for copper, cyanide, dichlorobromomethane, and methyl tertiary butyl ether six times per year. Monitoring data collected during the term of Order No. R1-2006-0021 did not indicate reasonable potential to cause or contribute to an exceedance of water quality criteria/objectives for copper, cyanide, dichlorobromomethane, or methyl tertiary butyl ether. Therefore, this Order discontinues the previous monitoring frequency for

these parameters. Monitoring for these pollutants is now required once during the permit term as part of the priority pollutant monitoring.

7. The Regional Water Board is increasingly concerned about the biostimulatory properties of discharges to surface waters in the North Coast Region. Biostimulatory pollutants, such as nitrogen and phosphorus containing compounds, are a common component of domestic wastewater. Due to these concerns, this Order establishes monthly monitoring requirements for ammonia, nitrate, nitrite, organic nitrogen, total nitrogen, and phosphorus.

8. Effluent monitoring for temperature is established in this Order to adjust water quality criteria for ammonia, which are based on pH and temperature.

9. Priority pollutant data for the effluent has been provided by the Discharger over the term of Order No. R1-2006-0021, and was used to conduct an RPA. In accordance with Section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. Therefore, this Order requires monitoring for priority pollutants in the effluent once during the term of the permit.

C. Whole Effluent Toxicity Testing Requirements

1. Acute Toxicity

a. **Rationale.** 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity (Effluent Limitation IV.A.1.c).

b. **Test Frequency.** Consistent with Order No. R1-2006-0021, this Order requires acute toxicity testing twice annually during the discharge season. Because the discharge to surface water is seasonally limited, this monitoring frequency is considered equivalent to USEPA's recommendation for monthly WET testing for facilities listed as "major facilities" and quarterly testing for "minor facilities." (*Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs,* USEPA, 1996).

c. **Sample Location.** Representative effluent samples shall be collected at Monitoring Location EFF-001 when discharging at Discharge Point 001.

d. **Sample Type.** This Order specifies a 96-hour static renewal or static non-renewal test as described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions). Upon request, other methods may be approved by the Regional Water Board's Executive Officer.

e. **Test Species.** This Order requires the Discharger to conduct acute toxicity tests with the water flea, *Ceriodaphnia dubia*, and the rainbow trout, *Oncorhynchus mykiss*, for at least two suites of tests. For the first two suites of acute toxicity tests, the Discharger will determine the most sensitive aquatic species and continue to monitor with the most sensitive species. At least once every 5 years,

the Discharger will rescreen to reconfirm the most sensitive species for the acute toxicity test.

f. **Test Method.** The presence of acute toxicity shall be estimated as specified in effluent limitation IV.A.1.c of the Order and shall be consistent with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions). Upon request, other methods may be approved by the Regional Water Board Executive Officer.

g. **Dilution Water.** Acute toxicity tests shall be conducted using undiluted effluent.

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

i. **Accelerated Monitoring.** This provision requires accelerated acute toxicity testing when routine acute toxicity test results exceed the single sample effluent limitation (70 percent survival). The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a toxicity reduction evaluation (TRE). Under this provision, the Discharger is required to conduct testing on at least two additional samples, one within 14 days, and one within 21 days of receiving the initial sample result. If any of the additional samples do not comply with the three sample median minimum limitation (90 percent survival) using that sample result and the two previous sample results, the Discharger shall initiate a TRE. If any test of a sample is ruled invalid, the Discharger will re-sample within 7 days following notification of test invalidation.

j. **Notification and Reporting.** The MRP includes notification requirements regarding test results that exceed the acute toxicity effluent limitation and require reporting of WET test results in accordance with the acute toxicity manual Chapter 12 (Report Preparation) or in an equivalent format.

2. Chronic Toxicity

a. **Rationale.** Chronic WET testing is required two times per year, during the discharge season, in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

b. **Test Frequency.** USEPA has no fixed guidance on the establishment of monitoring frequency, but recommends monthly WET testing for facilities listed as "major facilities" and quarterly testing for "minor facilities" during the first year of WET testing in order to develop sufficient data to conduct an RPA. USEPA further recommends that a reduction in sampling frequency is appropriate if no individual toxicity test exceeds the WET limit or trigger. Chronic WET testing results conducted in April 2007, November 2008, April 2009, and November 2010 demonstrated chronic toxicity. Because the discharge demonstrated

chronic toxicity and to be inconsistent with USEPA recommendations, this Order increases the chronic WET testing frequency from annually to two times per year.

c. Sample Location. Representative effluent samples shall be collected at Monitoring Location EFF-001 when discharging at Discharge Point 001.

d. Sample Type. The Discharger shall collect 24-hour composite samples of effluent discharged from Discharge Point 001 for critical life stage toxicity testing as indicated in this Order.

e. Test Species. This Order requires the Discharger to conduct short-term tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test), the fathead minnow, *Pimephales promelas* (larval survival and growth test), and the green alga, *Selenastrum capricornutum* (growth test). Initially, the Discharger is required to determine the most sensitive test species and monitor the discharge for chronic toxicity using that species for no more than 5 years, whereupon, the Discharger will repeat the screening procedure to confirm the most sensitive species. If reasonable potential to exceed the narrative water quality objective is found to exist, the Order may be reopened to include a chronic toxicity limitation, as appropriate. The Basin Plan does not allow a mixing zone for this discharge; therefore, reasonable potential will be based on results of chronic toxicity tests from samples collected at the end of the pipe.

f. Test Method. The presence of chronic toxicity shall be estimated as specified in and shall be consistent with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, 4th Edition or subsequent editions).

g. Dilution Water. Control and dilution water should be receiving water at a location immediately upstream and outside the influence of the outfall for all test methods except the short-term chronic *Selenastrum capricornutum* test. For the *Selenastrum capricornutum* test method, synthetic laboratory water with a hardness similar to the receiving water shall be used as a control and diluent. Laboratory water may be substituted for receiving water, as described in the manual, upon approval by the Regional Water Board Executive Officer.

h. Accelerated Monitoring. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-Based Toxics Control*, EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required*." If there is adequate evidence of a pattern of effluent toxicity (i.e., toxicity present exceeding the monitoring trigger 20 percent of the time), the Regional Water Board's Executive Officer will require the Discharger to initiate a TRE. The TRE will include follow-up monitoring requirements to assure toxicity has been mitigated. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

i. Monitoring Trigger. A numeric chronic toxicity monitoring trigger of 1.0 TUc (where TUc = 100/NOEC) is established by the Order, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100 percent effluent.

D. Receiving Water Monitoring

1. Surface Water

a. Upstream receiving water monitoring requirements for pH, dissolved oxygen, electrical conductivity, total dissolved solids, temperature, turbidity, and visual observations is retained from Order No. R1-2006-0021 at Monitoring Location RSW-001 to assess background receiving water quality. This Order establishes daily monitoring for flow, which shall be measured at the Scotia gauging station, to determine compliance with Prohibition III.I. This Order increases the monitoring frequency for hardness from once per permit term to monthly to ensure the water quality criteria/objectives for metals are correctly adjusted for the receiving water when determining reasonable potential. Monitoring for priority pollutants upstream at Monitoring Location RSW-001 is required once during the permit term to collect the necessary data to determine reasonable potential as required in section 1.2 of the SIP. To the extent practicable, the hardness (as $CaCO_3$) and pH of the upstream receiving water shall also be monitored concurrently with the priority pollutants to ensure the water quality criteria/objectives are correctly adjusted for the receiving water when determining reasonable potential as specified in section 1.3 of the SIP.

b. Monitoring requirements for pH, dissolved oxygen, electrical conductivity, total dissolved solids, temperature, turbidity, and visual observations at Monitoring Location RSW-002 are retained from Order No. R1-2006-0021 to assess receiving water quality at the point of discharge and in downstream receiving water.

2. Groundwater

Treated wastewater will be disinfected prior to land discharge location (Discharge Point 003). Hydrologic information assessed during the antidegradation analysis term indicates that discharges at Discharge Point 003 will percolate into the soil and comingle with groundwater. Therefore, discharges at Discharge Point 003 are subject to state requirements of Order No. R1-2011-0054, because the discharge will occur only to land / state waters. Ongoing groundwater monitoring required in accordance with Attachment E will be used to confirm groundwater gradient and quality throughout the term of Order No. R1-2011-0054.

E. Other Monitoring Requirements

1. Land Discharge Monitoring Requirements. This Order establishes monitoring requirements for discharges to the percolation pond and the Irrigation Site at Monitoring Locations EFF-002 and EFF-003 for BOD_5, TSS, settleable solids, pH, and total coliform organisms to determine compliance with applicable land discharge

specifications. This Order establishes flow monitoring requirements to characterize flows to the percolation ponds. This Order also establishes monitoring requirements for total nitrogen, nitrate, and Title 22 pollutants for discharges to the Irrigation Site at Monitoring Location EFF-003 to verify the findings of the Discharger's Antidegradation Analysis. If monitoring data indicates that discharges to the Irrigation Site have the reasonable potential to cause or contribute to an exceedance of applicable water quality objectives in the underlying groundwater, this Order may be reopened to include additional land discharge specifications.

2. **Monitoring Location INT-001.** The MRP requires internal monitoring in the chlorine contact chamber for chlorine residual to ensure that the effluent is adequately disinfected prior to discharges to the Lower Eel River, the percolation pond, and the Irrigation Site.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Discharger must comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

1. 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., section 122.41(j)(5) and (k)(2)).

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

3. Order Provision VI.A.2.c requires the Discharger to petition with, and receive approval from, the State Water Board Division of Water Rights 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. This requirement is mandated by Water Code section 1211.

4. Order Provision VI.A.2.d requires the Discharger to submit design proposals for new wastewater storage ponds to the Regional Water Board Executive Officer for review prior to construction. Construction plans must demonstrate that the pond design will ensure protection of groundwater beneficial uses and complies with the Water Code and title 27 of the California Code of Regulations.

C. Special Provisions

1. Reopener Provisions

a. Standards Revisions (Special Provisions 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 Provisions 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 Discharger governed by this Order 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 Provisions VI.C.1.c). This Order requires the Discharger 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 or a statewide toxicity policy is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective or alternate toxicity monitoring requirements as appropriate.

d. 303(d)-Listed Pollutants (Special Provisions 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 pollutant(s) that are the subject of any future TMDL action.

e. **Special Studies (Special Provisions VI.C.1.e).** The Discharger may elect to study the feasibility of the use of water effect ratios and/or mixing zones to meet water quality objectives and effluent limitations for toxic pollutants. If these or other future water quality studies provide new information and a basis for determining that a permit condition or conditions should be modified, the Regional Water Board may reopen this Order and make appropriate modifications to this Order.

f. **Nutrients (Special Provisions VI.C.1.f).** This reopener allows the Regional Water Board to reopen and modify the Order to include new or revised effluent limitations for nutrients if monitoring data indicates the need for new or revised effluent limitations for ammonia, nitrate, total nitrogen, or other nutrient parameters.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluations (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 chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Special Provision VI.C.2.a.ii requires the Discharger to submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

b. **TRE Guidance.** The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

i. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833B-99/002), August 1999.

ii. *Generalized Methodology for Conducting Industrial TREs* (EPA/600/2-88/070), April 1989.

iii. *Methods for Aquatic Toxicity Identification evaluations: Phase I Toxicity Characterization Procedures*. Second Edition, EPA 600/6-91/005F, February 1991.

iv. *Toxicity Identification evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.

v. *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity,* Second Edition, EPA 600/R-92/080, September 1993.

vi. *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

vii. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,* Fifth Edition, EPA-821-R-02-012, October 2002.

viii. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* Fourth Edition, EPA-821-R-02-013, October 2002.

ix. *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

3. Best Management Practices and Pollution Prevention

a. Pollution Minimization Plan (Special Provision VI.C.3.a). Provision VI.C.3.a is included in this Order as required by section 2.4.5 of the SIP. The Regional Water Board included standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation, and Maintenance Specifications

a. Operation and Maintenance (Special Provisions VI.C.4.a and VI.C.4.b). 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)

The Regional Water Board includes special provisions in all NPDES Orders for municipal wastewater treatment facilities regarding wastewater collection systems, sanitary sewer overflows, source control, sludge handling and disposal, operator certification, and adequate capacity. These provisions assure efficient and satisfactory operation of municipal wastewater collection and treatment systems.

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

i. Statewide General WDRs for Sanitary Sewer Systems (Special Provision VI.C.5.a.i). The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater

than one 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.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating SSOs. Inasmuch as the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VI.C.5. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the Facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges (section 122.41(d)), to report non-compliance (section 122.41(1)(6) and (7)), and to properly operate and maintain facilities (section 122.41(e)). This provision is consistent with these federal requirements.

ii. Sanitary Sewer Overflows (Special Provision VI.C.5.a.ii). The Order also includes reporting provisions (Provision VI.C.5.(a)(2) and Attachment D subsections I.C., I.D., V.E., and V,H.) to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities. In addition, as an Enrollee under General Order No. 2006-0003-DWQ, the Discharger is required to report SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and via telefax when the online SSO database is not available. Detailed notification and reporting requirements for SSOs and sewage spills are specified in section E of the MRP. The goal of these provisions is to ensure appropriate and timely response by the Discharger to SSOs to protect public health and water quality.

The MRP that is part of the Order establishes oral reporting limits for SSOs. The Discharger is required to orally report all spills, SSOs, and unauthorized discharges. If the spill volume is greater than 1,000 gallons or the spill reaches a drainage channel or surface waters, it must be reported within 2 hours of the Discharger becoming aware of the spill. All other spills must be reported within 24 hours. All SSOs, regardless of volume, must be electronically reported pursuant to State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

b. Source Control Provisions (Special Provision VI.C.5.b). Because the permitted flow of the Facility is less than 5.0 mgd, the Order does not require the Discharger to develop a pretreatment program that conforms to federal regulations. The Discharger's source identification and reduction program will need to address only those pollutants that continue to be detected by levels that trigger reasonable potential.

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

c. **Sludge Disposal and Handling (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 section Parts 257, 258, 501, and 503 and the State Water Board promulgated provisions of title 27, Cal. Code of Regs., Division 2. The Discharger will be required to obtain coverage under State Water Board Water Quality 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) or other applicable WDRs issued by the Regional Water Board.

d. **Operator Certification (Special Provision VI.C.5.d).** This provision requires the WWTF to be operated by supervisors and operators who are certified as required by title 23, Cal. Code of Regs., section 3680.

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

   As reported in the ROWD, the Facility's current ADWF and between May and September is 0.36 mgd, while the projected 2040 ADWF between May and September is 0.40 mgd. The current and projected average day annual flow is 0.57 mgd and 0.62 respectively, with a projected average day maximum month flow of 1.25 mgd in 2040.

f. **Statewide General WDRs for Discharge of Biosolids to Land (Special Provision VI.C.5.f).** This provision requires the Discharger 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.

6. Other Special Provisions

a. **Storm Water (Special Provision VI.C.6.a).** This provision requires the Discharger, if applicable, to comply with the State's regulations relating to industrial storm water activities. Currently, the Discharge is exempted from these requirements because the design flow is less than 1.0 mgd.

7. Compliance Schedules

The Order does not contain a compliance schedule. This section is not applicable to the Facility.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the City of Rio Dell, Rio Dell Wastewater Treatment Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through posting on the Regional Water Board's Internet site at: http://www.waterboards.ca.gov/northcoast/public_notices/notice_of_consideration/ and through publication in the Eureka Times Standard on May 16, 2011.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on June 15, 2011

C. Public Hearing

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

Date: September 29, 2011
Time: 8:30 a.m.
Location: Regional Water Board Office, Board Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

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

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information 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 Lisa Bernard at (707) 576-2677 or lbernard@waterboards.ca.gov.

ATTACHMENT G-1 – FINAL AMMONIA AVERAGE MONTHLY EFFLUENT LIMITATIONS

Ammonia (mg N/L)											
Receiving Water	**Receiving Water Temperature, °C**										
pH	**0**	**14**	**15**	**16**	**18**	**20**	**22**	**24**	**26**	**28**	**30**
6.5	6.7	6.7	6.5	6.1	5.3	4.7	4.1	3.6	3.2	2.8	2.5
6.6	6.6	6.6	6.4	6.0	5.2	4.6	4.1	3.6	3.1	2.8	2.4
6.7	6.4	6.4	6.2	5.9	5.1	4.5	4.0	3.5	3.1	2.7	2.4
6.8	6.3	6.3	6.1	5.7	5.0	4.4	3.9	3.4	3.0	2.6	2.3
6.9	6.1	6.1	5.9	5.6	4.9	4.3	3.8	3.3	2.9	2.6	2.3
7.0	5.9	5.9	5.7	5.4	4.7	4.2	3.6	3.2	2.8	2.5	2.2
7.1	5.7	5.7	5.5	5.2	4.5	4.0	3.5	3.1	2.7	2.4	2.1
7.2	5.4	5.4	5.2	4.9	4.3	3.8	3.3	2.9	2.6	2.3	2.0
7.3	5.1	5.1	4.9	4.6	4.1	3.6	3.1	2.8	2.4	2.1	1.9
7.4	4.7	4.7	4.6	4.3	3.8	3.3	2.9	2.6	2.3	2.0	1.7
7.5	4.4	4.4	4.2	4.0	3.5	3.1	2.7	2.4	2.1	1.8	1.6
7.6	4.0	4.0	3.9	3.6	3.2	2.8	2.5	2.2	1.9	1.7	1.5
7.7	3.6	3.6	3.5	3.3	2.9	2.5	2.2	1.9	1.7	1.5	1.3
7.8	3.2	3.2	3.1	2.9	2.5	2.2	2.0	1.7	1.5	1.3	1.2
7.9	2.8	2.8	2.7	2.5	2.2	2.0	1.7	1.5	1.3	1.2	1.0
8.0	2.4	2.4	2.4	2.2	1.9	1.7	1.5	1.3	1.2	1.0	0.90
8.1	2.1	2.1	2.0	1.9	1.7	1.5	1.3	1.1	1.0	0.88	0.77
8.2	1.8	1.8	1.7	1.6	1.4	1.3	1.1	0.97	0.86	0.75	0.66
8.3	1.5	1.5	1.5	1.4	1.2	1.1	0.94	0.83	0.73	0.64	0.56
8.4	1.3	1.3	1.3	1.2	1.0	0.91	0.80	0.70	0.62	0.54	0.48
8.5	1.1	1.1	1.1	0.99	0.87	0.76	0.67	0.59	0.52	0.46	0.40
8.6	0.92	0.92	0.89	0.84	0.73	0.65	0.57	0.50	0.44	0.39	0.34
8.7	0.78	0.78	0.75	0.71	0.62	0.55	0.48	0.42	0.37	0.33	0.29
8.8	0.66	0.66	0.64	0.60	0.53	0.46	0.41	0.36	0.32	0.28	0.24
8.9	0.56	0.56	0.55	0.51	0.45	0.40	0.35	0.31	0.27	0.24	0.21
9.0	0.49	0.49	0.47	0.44	0.39	0.34	0.30	0.26	0.23	0.20	0.18

ATTACHMENT G-2 – FINAL AMMONIA MAXIMUM DAILY EFFLUENT LIMITATIONS

Receiving Water pH	Ammonia mg/L N
6.5	33
6.6	31
6.7	30
6.8	28
6.9	26
7.0	24
7.1	22
7.2	20
7.3	18
7.4	15
7.5	13
7.6	11
7.7	9.6
7.8	8.1
7.9	6.8
8.0	5.6
8.1	4.6
8.2	3.8
8.3	3.1
8.4	2.6
8.5	2.1
8.6	1.8
8.7	1.5
8.8	1.2
8.9	1.0
9.0	0.88