California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

Linda S. Adams
Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

ORDER NO. R1-2010-0003
NPDES NO. CA0006700
WDID NO. 1B80121OHUM

WASTE DISCHARGE REQUIREMENTS
FOR THE
COLLEGE OF THE REDWOODS
WASTEWATER TREATMENT FACILITY

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

Table 1. Discharger Information

Discharger	College of the Redwoods
Name of Facility	College of the Redwoods Wastewater Treatment Facility (WWTF)
Facility Address	7351 Tompkins Hill Road
	Eureka, CA 95501
	Humboldt County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

Discharges by the College of the Redwoods from the discharge point identified below are 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°41'56.20"N	124°12'11.77"W	White Slough, tributary to Humboldt Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	June 10, 2010
This Order shall become effective on:	August 1, 2010
This Order shall expire on:	August 1, 2015
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:	February 1, 2015

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order No. R1-2002-0003 upon the effective date specified in Table 3. This action in no way prevents the Regional Water Quality Control Board from taking any enforcement action for past violations of the previous permit. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Discharger shall comply with the analogous portions of Order No. R1-2002-0003, which shall remain in effect for all purposes during the pendency of the stay.

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 June 10, 2010

_____
Catherine Kuhlman, Executive Officer

Table of Contents

I. Facility Information 4
II. Findings 4
III. Discharge Prohibitions 9
IV. Effluent Limitations and Discharge Specifications 10
A. Final Effluent Limitations 10
B. Land Discharge Specifications 12
C. Reclamation Specifications 12
D. Other Requirements 12
V. Receiving Water Limitations 13
A. Surface Water Limitations 13
B. Groundwater Limitations 15
VI. Provisions 15
A. Standard Provisions 15
B. Monitoring and Reporting Program (MRP) Requirements 16
C. Special Provisions 16
1. Reopener Provisions 16
2. Special Studies, Technical Reports and Additional Monitoring Requirements 17
3. Best Management Practices and Pollution Prevention 19
4. Construction, Operation and Maintenance Specifications 20
5. Special Provisions for Municipal Facilities (POTWs Only) 21
6. Other Special Provisions 25
VII. Compliance Determination 25

List of Tables

Table 1. Discharger Information 1
Table 2. Discharge Location 1
Table 3. Administrative Information 1
Table 4. Facility Information 4
Table 5. Basin Plan Beneficial Uses 6
Table 6. Effluent Limitations for Discharge Point 001 10

List of Attachments

Attachment A – Definitions A-1
Attachment B – Map B-1
Attachment C – Flow Schematic C-1
Attachment D –Standard Provisions D-1
Attachment E – Monitoring and Reporting Program E-1
Attachment F – Fact Sheet F-1

I. Facility Information

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

Table 4. Facility Information

Discharger	College of the Redwoods
Name of Facility	College of the Redwoods WWTF
Facility Address	7351 Tompkins Hill Road
	Eureka, CA 95501
	Humboldt County
Facility Contact, Title, Phone No.	Tim Flanagan, Facilities and Operations Supervisor (707) 476-4387
Mailing Address	P.O. Box 309 Eureka CA 95501
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	0.1 million gallons per day (MGD)

II. Findings

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

A. Background. The College of the Redwoods (hereinafter the Discharger) is currently discharging pursuant to Order No. R1-2002-0003 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0006700. The Discharger submitted a Report of Waste Discharge (ROWD), dated December 15, 2005, and applied for an NPDES permit renewal to discharge secondary treated wastewater from the College of the Redwoods wastewater treatment facility (WWTF).

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 wastewater collection, treatment, and disposal facility serving a population of approximately 5,700 on the College of the Redwoods campus complex by treating approximately 0.1 million gallons per day (MGD) of domestic and commercial wastewater. Wastewater is treated in a package plant by activated sludge and clarification processes, then disinfected with sodium hypochlorite, and dechlorinated with sodium metabisulfate prior to discharge. Treated wastewater travels overland to White Slough, a tidally influenced an estuarine tributary of Humboldt Bay.

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) 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 data, 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 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.

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 and/or Best Professional Judgment (BPJ) in accordance with Part 125, 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 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).

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

H. 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 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for White Slough, but does identify present and potential uses for Humboldt Bay, to which White Slough is tributary. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses established by the Basin Plan for the receiving water for discharges from the College of the Redwoods WWTF are described in Table 5, below.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	White Slough/Humboldt Bay	**Existing:** MUN – Municipal and Domestic Supply AGR – Agricultural Supply IND – Industrial Service Supply NAV - Navigation FRSH – Freshwater Replenishment REC1 - Water Contact Recreation REC2 - Non-Contact Water Recreation COMM - Commercial and Sport Fishing COLD – Cold Freshwater Habitat MAR - Marine Habitat WILD - Wildlife Habitat RARE - Preservation of Rare, Threatened, or Endangered Species MIGR - Migration of Aquatic Organisms SPWN - Spawning, Reproduction, and/or Early Development SHELL - Shellfish Harvesting EST – Estuarine Habitat AQUA – Aquaculture CUL – Native American Culture **Potential:** PRO – Industrial Process Supply POW – Hydropower Generation

Requirements of this Order implement the Basin Plan.

The State Water Board adopted the *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 waters. Requirements of this Order implement the Thermal Plan.

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 Implementations Policy. On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxic 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. No compliance schedule or interim effluent limitations are provided in this Order.

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. [40 C.F.R. § 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 and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (BOD_5), and total suspended solids (TSS). This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements, except for pH, where more stringent limitations are retained from the

previous permit. In addition, this Order contains effluent limitations for settleable solids, oil and grease, total coliform bacteria, total residual chlorine, copper, lead, nickel, silver, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

Water quality-based effluent limitations 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 water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations 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.

The Regional Water Board has considered all of the relevant information submitted by the Discharger in considering the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

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 provisions 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 title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent that those in the previous Order.

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 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP 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 subsection 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 process 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 of untreated or partially treated waste (receiving a lower level of treatment than described in Findings II.B of the Order) from anywhere within the collection, treatment, or disposal systems 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 Water Code section 13050 (m) is prohibited.

F. The daily mean flow rate shall not exceed 0.1 MGD averaged over a calendar month.

G. 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.

IV. Effluent Limitations and Discharge Specifications

A. Final Effluent Limitations

1. Final Effluent Limitations – Discharge Point 001

a. The Discharger shall maintain compliance with the following final effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP.

Table 6. Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
BOD_5	mg/L	30	45	60	---	---
	lbs/day[2]	25	37.5	50	---	---

[2] Mass-based limitations are based on the mean daily dry weather flow of 0.1 MGD. The mass discharge in pounds per day is obtained from the following calculation for any calendar week or month:

$$\frac{8.34}{N}\sum_{i}^{N} QiCi$$

in which N is the number of samples analyzed in any calendar week or month. Qi and Ci are

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
TSS	mg/L	30	45	60	---	---
	lbs/day[2]	25	37.5	50	---	---
pH	s.u.	---	---	---	8.5	7.0
Settleable Solids	ml/L	0.1	---	0.2	---	---
Grease and Oil	mg/L	15	---	20	---	---
Total Chlorine Residual	mg/L	0.01	---	0.02	---	---
Copper[3]	µg/L	2.2	---	4.4	---	---
Lead[3]	µg/L	0.54	---	1.1	---	---
Nickel[3,4]	µg/L	6.8	---	14	---	---
Silver[3]	µg/L	0.24	---	0.48	---	---
Carbon tetrachloride	µg/L	0.25	---	0.50	---	---
Chlorodibromo-methane	µg/L	0.40	---	0.80	---	---
Dichlorobromo-methane	µg/L	0.56	---	1.1	---	---
Bis(2-ethylhexyl) phthalate	µg/L	1.8	---	3.6	---	---
2,3,7,8-TCDD Equivalents[5]	µg/L	1.3×10^{-8}	---	2.6×10^{-8}	---	---

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 by comparing the average monthly influent concentration to the average monthly

---

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, Ci is the concentration measured in the composite sample; and Qi is the average flow rate occurring during the period over which the samples are composited.

[3] Final effluent limitations for this metal are dependent on the hardness of the receiving water and shall be determined at each time that effluent is monitored in accordance with Appendix E-1 contained in Attachment E of the Order.

[4] Above a receiving water hardness of 12 mg/L, the saltwater aquatic life criteria for nickel are limiting. When receiving water hardness is greater than 12 mg/L, therefore, effluent limitations of 6.8 µg/L and 14 µg/L (AMEL and MDEL, respectively), are established for all circumstances. When receiving water hardness is at or below 12 mg/L, the water quality criteria for nickel for protection of freshwater aquatic life are limiting; and in these circumstances, effluent limitations based on hardness (see Appendix E-1 to Attachment E) are established by the permit.

[5] Equivalents, also known as the TEQ, is a calculated value which reflects the combined effect of dioxin and furan compounds (congeners).

effluent concentration for the same constituent over the same time period, as measured at Monitoring Locations INF-001 and EFF-001.

c. Bacteria: Disinfected effluent discharged from the WWTF at Discharge Point 001 shall not contain total coliform bacteria in excess of the following concentrations:

(1) The median value of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in a calendar month, and

(2) The maximum value of total coliform bacteria for any one sample shall not exceed an MPN of 230 per 100 milliliters.

d. Acute Toxicity: There shall be no acute toxicity in the effluent. 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 for any one bioassay: 70 percent survival

(2) Median for any three or more consecutive bioassays[6]: at least 90 percent survival

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

B. Land Discharge Specifications
Not Applicable.

C. Reclamation Specifications
Not Applicable.

D. Other Requirements

1. Residual Chlorine. The minimum chlorine residual shall be a minimum of 1.5 mg/L maintained at the end of the disinfection process.

[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.

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 MRP (Attachment E). Discharges from the College of the Redwoods WWTF shall not cause the following.

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to violate the following objectives established for Humboldt Bay and its tributary, White Slough by Table 3-1of the Basin Plan.

    - 6.0 mg/L, minimum in any sample
    - 6.2 mg/L, 90 percent lower limit (90 percent or more of the monthly mean dissolved oxygen concentrations in a calendar year shall be greater than or equal to 6.2 mg/L)
    - 7.0 mg/L, 50 percent lower limit (50 percent or more of the monthly mean dissolved oxygen concentrations in a calendar year shall be greater than or equal to 7.0 mg/L)

2. As established by Table 3-1 of the Basin Plan, the discharge shall not cause the pH of receiving waters to be depressed below 7.0[7] nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.

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

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

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

[7] If natural background levels are below a pH of 7.0, the discharge shall not cause levels to be further depressed.

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

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

8. 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.

9. 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.

10. The natural receiving water temperature shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

11. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge must not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels which are harmful to human health.

12. 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.

13. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with the more stringent standards.

14. 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 Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, California Code of Regulations, Division 4, Chapter 15, Articles 4 and 5.5.

15. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Federal 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.

B. Groundwater Limitations

1. The collection, storage, and use of wastewater shall not cause or contribute to a statistically significant degradation of groundwater quality, cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.

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 Regional Water Board standard 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., 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 change. (Water Code §1211).

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, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.

c. Whole Effluent Toxicity. As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a limitation for a specific toxicant identified in the TRE.

d. 303(d)-Listed Pollutants. If an applicable 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 this TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program.

e. Water Effects Ratios (WER) and Metal Translators. A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper, lead, nickel and silver. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

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

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

(1) Whole Effluent Toxicity. 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)[8] 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 Toxicity Reduction Evaluation (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.(2) of this Order, below.

(2) 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 that meets the criteria contained in this section. This plan shall be reviewed and updated 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 above effluent limitations, and should include at least the following items:

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

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

[8] 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.

(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).

(3) Toxicity Reduction Evaluations (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 acute and 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. Pollutant Minimization Program (PMP)

      The Discharger shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, not quantified (DNQ) when the effluent limitation is less than the minimum detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

      (1) A sample result is reported as detected, not quantified (DNQ) and the effluent limitation is less than the reporting limit (RL); or

      (2) A sample result is reported as Not Detected (ND) and the effluent limitation is less than the method detection limit (MDL), using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

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

      (1) 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;

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

      (3) 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;

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

      (5) An annual status report that shall be sent to the Regional Water Board including:

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

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

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

(d) 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 of 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. [40 CFR 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 with 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:

(1) 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.

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

(3) Description of laboratory and quality assurance procedures.

(4) Process and equipment inspection and maintenance schedules.

(5) 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.

(6) 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

(1) Statewide General WDRs for 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. 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.

In addition to the coverage obtained under Order No. 2006-0003-DWQ, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR 122.41(d)].

(2) Spills and 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. In addition to the following requirements, spill notification and reporting shall be conducted in accordance with the Monitoring and Reporting Program.

(i) Spills equal to or greater than 1,000 gallons and spills which reach surface drainage or surface water, shall be reported orally to Regional Water Board staff within 2 hours of the Discharge becoming aware of the spill.

(ii) All other spills shall be reported orally to Regional Water Board staff within 24 hours of the Discharge becoming aware of the spill.

b. Source Control Provisions

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

(1) Implement monitoring and enforcement of source control standards, restrict discharges of toxic materials to the collection system, and inspect facilities connected to the system.

(2) Conduct a waste survey every five years, or more frequently if required by the Executive Officer, to identify all facilities located on the campus 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 [40 CFR403.3(n)] the WWTF or interfere [40 CFR 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:

i. Pollutants that create a fire or explosion hazard in the WWTF;

ii. 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;

iii. Solid or viscous pollutants in amounts that will cause obstruction to the flow in the WWTF resulting in interference;

iv. 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;

v. 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;

vi. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

vii. 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

viii. Any trucked or hauled pollutant, except at discharge points designated by the permittee.

(3) Perform ongoing inspections and monitoring, as necessary, to ensure adequate source control.

(4) Perform public outreach to educate users of the collection system about the importance of preventing discharges of toxic wastes to the treatment plant.

c. Sludge Disposal and Handling

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

(2) 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.

(3) The use and disposal of biosolids shall comply with all the requirements in 40 CFR 503, which are enforceable by the USEPA, not the Regional Water Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, the Regional Water Board may also initiate enforcement where appropriate.

(4) Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Discharger shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.

(5) 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.

(6) The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood of adversely affecting human health or the environment.

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

(8) 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.

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

d. Operator Certification

Supervisors and operators of wastewater treatment plants shall possess a certificate of appropriate grade in accordance with Title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified WWTP operator, the State Water Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Public Health where water reclamation is involved.

e. Adequate Capacity

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

f. Statewide General WDRs for Discharge of Biosolids to Land

For the discharge of biosolids from the wastewater treatment plant, within **180 days of 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 wastewater treatment plant, if applicable, the Discharger shall obtain 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).

VII. Compliance Determination

Compliance with the effluent limitations contained in Section IV of this Order shall 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 and Attachment A 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 an effluent limitation 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) associated with the minimum level (ML) specified in the MRP (Attachment E.) See Attachment A for definitions of ML and RL.

B. 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.

C. Average Monthly Effluent Limitation (AMEL)

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

D. 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.

E. 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).

F. 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).

ATTACHMENT A – DEFINITIONS

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

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

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

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

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

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

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 are 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) means 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 is 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) 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, Attachment B, revised as of July 3, 1999.

Minimum Level (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 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) are those sample results less than the laboratory's MDL.

Ocean Waters are 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 are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (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 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) 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 is 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 is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) 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;

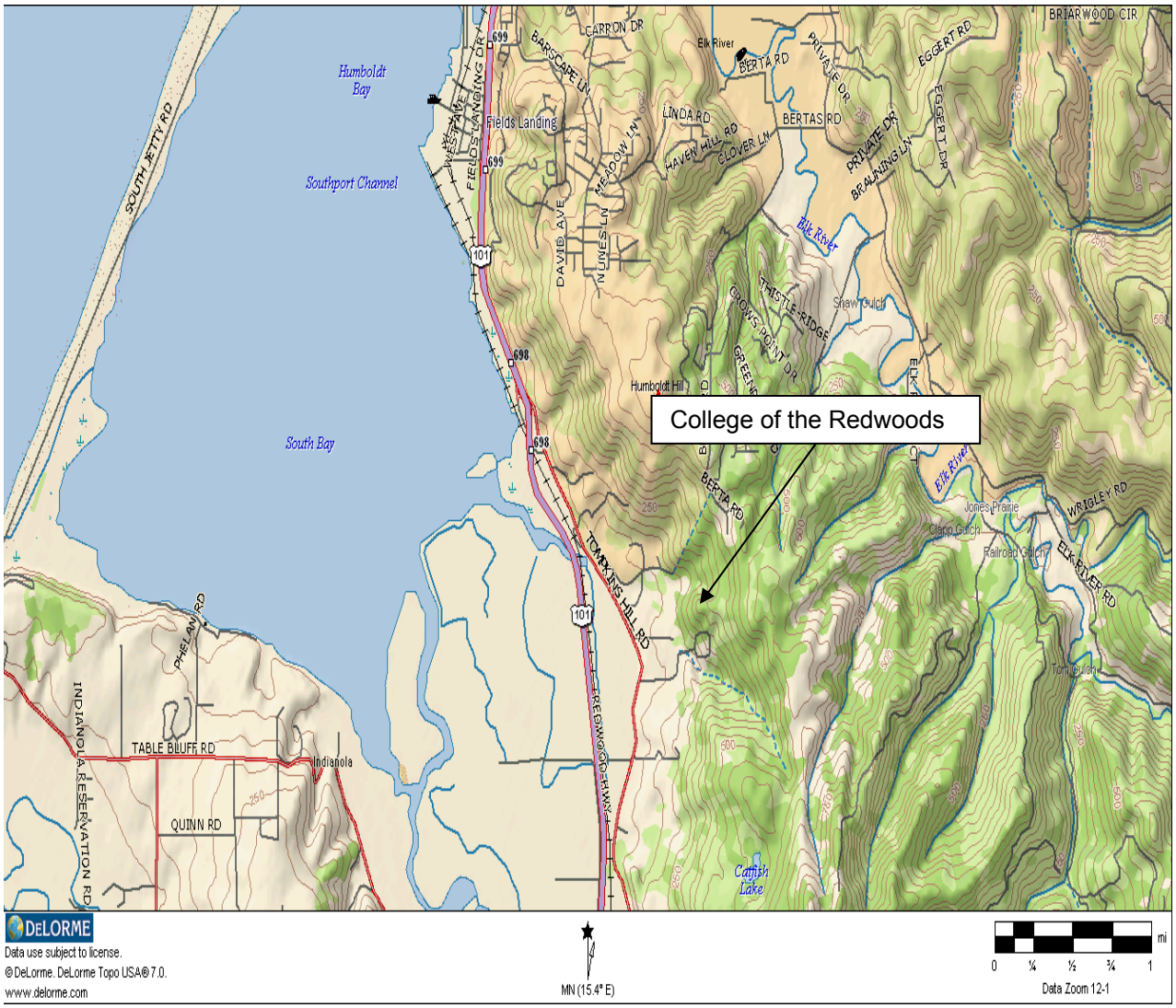
μ is the arithmetic mean of the observed values; and

n is the number of samples.

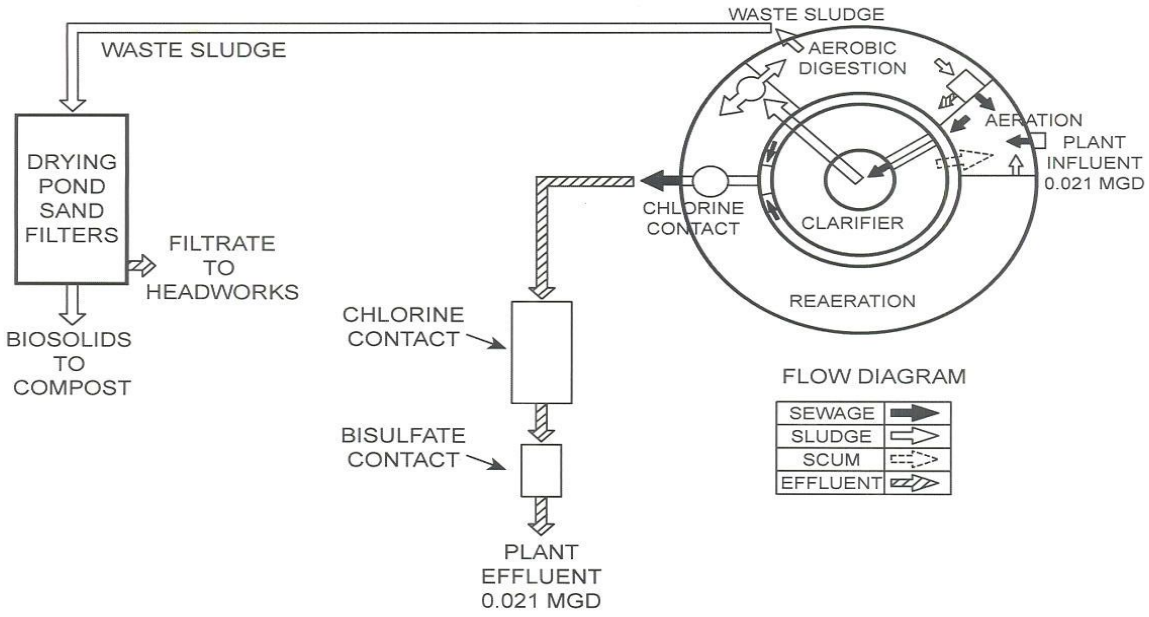
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps 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



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. (40 C.F.R. § 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. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a 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. (40 C.F.R. § 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. (40 C.F.R. § 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. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The 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 C.F.R. § 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 (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The 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. (40 C.F.R. § 122.41(m)(2).)

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

    a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

    b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

    c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

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. (40 C.F.R. § 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). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the 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. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No

determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the 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. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other

requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

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

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the 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 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. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The 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. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or 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. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or 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 (40 C.F.R. § 122.22(b)(1));

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

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

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

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

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(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. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in 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. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 2 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. (40 C.F.R. § 122.41(l)(6)(i).)

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

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

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

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

F. Planned Changes

The 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 (40 C.F.R. § 122.41(l)(1)):

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

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

3. The alteration or addition results in a significant change in the 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. (40 C.F.R.§ 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. (40 C.F.R. § 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. (40 C.F.R. § 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. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP) E-2
I. General Monitoring Provisions E-2
II. Monitoring Locations E-3
III. Influent Monitoring Requirements E-3
A. Monitoring Location INF-001 ..... E-3
IV. Effluent Monitoring Requirements E-4
A. Monitoring Location EFF-001 ..... E-4
V. Whole Effluent Toxicity Testing Requirements E-5
VI. Land Discharge Monitoring Requirements E-11
VII. Reclamation Monitoring Requirements E-11
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater E-11
A. Monitoring Location RSW-001 and RSW-002 ..... E-11
IX. Other Monitoring Requirements E-11
X. Reporting Requirements E-11
A. General Monitoring and Reporting Requirements E-11
B. Self Monitoring Reports (SMRs) E-12
C. Discharge Monitoring Reports (DMRs) E-14
D. Other Reports E-14

List of Tables

Table E-1. Test Methods and Minimum Levels for Priority Pollutants E-2
Table E-2. Monitoring Station Locations E-3
Table E-3. Influent Monitoring – Monitoring Location INF-001 ..... E-3
Table E-4. Effluent Monitoring - Monitoring Location EFF-001 ..... E-4
Table E-5. Receiving Water Monitoring Requirements – RSW-001 and RSW-002 .. E-11
Table E-6. Monitoring Periods and Reporting Schedule E-12
Appendix E-1. Final Effluent Limitations for Hardness Dependent Metals E-18

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. 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. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

B. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.

C. Laboratories analyzing monitoring samples shall be certified by the Department of Public Health, in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical 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 ML value is below the effluent limitation, the lowest ML shall be selected as the RL. Table E-1 lists the test methods the Discharger may use for compliance and reasonable potential monitoring to analyze priority pollutants with effluent limitations.

Table E-1. Test Methods and Minimum Levels for Priority Pollutants

CTR#	Constituent Types of Analytical Methods Minimum Levels (µg/L)	Types of Analytical Methods Minimum Levels (µg/L)			
		Gas Chromatography (GC)	Gas Chromatography/Mass Spectroscopy (GCMS)	Inductively Coupled Plasma/ Mass Spectroscopy(ICPMS)	Stabilized Platform Graphite Furnace Atomic Absorption
6	Copper	---	---	0.5	2
7	Lead	---	---	0.5	2
9	Nickel	---	---	1	5
11	Silver	---	---	0.25	2
21	Carbon tetrachloride	0.5	2	---	---
23	Chlorodibromomethane	0.5	2	---	---
27	Dichlorobromomethane	0.5	2	---	---
68	Bis(2-ethylhexyl)phthalate	10	5	---	---
--	TCDD-Equivalents	The Discharger shall use USEPA Method 1613 and achieve MLs equal to ½ the MLs specified in Table 2 of USEPA Method 1613			

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-2. Monitoring Station Locations

Discharge Point	Monitoring Location	Monitoring Location Description
---	INF-001	Location where representative samples of wastewater can be collected prior to treatment.
001	EFF-001	Location where representative samples of treated wastewater, to be discharged to White Slough at Discharge Point 001, can be collected at a point after treatment, including chlorination/dechlorination, and before contact with the receiving water.
---	RSW-001	Location where representative ambient background samples can be collected upstream from the point of discharge.
---	RSW-002	Location where representative samples of White Slough water quality can be collected on the outgoing tide immediately downstream of the discharge.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the wastewater treatment plant at Monitoring Location INF-001 as follows.

Table E-3. Influent Monitoring – Monitoring Location INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method[1]
BOD_5	mg/L	24-hr composite	Weekly[2]	SM 5210 B
TSS	mg/L	24-hr composite	Weekly	SM 2540 D

[1] In accordance with the current edition of Standard Methods for the Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR 136.

[2] Monitoring of BOD_5 and TSS in influent shall coincide with monitoring of these parameters in effluent. For compliance determination, weekly and monthly averages will be based on the calendar weeks (Sunday through Saturday) and months.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater to be discharged to White Slough prior to contact with receiving water at Monitoring Location EFF-001 as follows.

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method[3]
Flow [4]	gpd	Continuous	Continuous	Meter
BOD_5	mg/L	24-hr composite	Weekly	SM 5210 B
TSS	mg/L	24-hr composite	Weekly	SM 2540 D
Settleable Solids	mL/L/hr	Grab	Weekly	SM 2540 F
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly	SM 9221
pH	s.u.	Grab	Daily	40 CFR 136
Chlorine Residual[5]	mg/L	Grab	Daily	40 CFR 136
Oil and Grease	mg/L	Grab	Monthly	40 CFR 136
Ammonia[6]	mg/L N	Grab	Quarterly	40 CFR 136
Nitrate	mg/L N	Grab	Quarterly	40 CFR 136
Acute Toxicity	% Survival	24-hr composite	Annually	MRP section V
Chronic Toxicity	TUc	24-hr composite	Annually	MRP section V
Copper[7]	µg/L	24-hr composite	Quarterly	ICPMS
Lead[7]	µg/L	24-hr composite	Quarterly	ICPMS
Nickel[7]	µg/L	24-hr composite	Quarterly	ICPMS
Silver[7]	µg/L	24-hr composite	Quarterly	ICPMS
Carbon Tetrachloride	µg/L	Grab	2X/Year	GC
Chlorodibromomethane	µg/L	Grab	2X/Year	GC
Dichlorobromomethane	µg/L	Grab	2X/Year	GC
Bis(2-ethylhexyl)phthalate	µg/L	Grab	2X/Year	GCMS
TCDD equivalents	µg/L	Grab	Annually	EPA Method 1613

[3] Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP; and in accordance with Section 2.4.1 of the SIP, the Discharger shall report the Reporting Level (RL) and the Method Detection Limit (MDL) with each sample result.

[4] The Discharger shall report the maximum daily and mean daily effluent flow rates.

[5] Samples shall be collected at points immediately prior to dechlorination and immediately following dechlorination. All chlorine measurements shall be reported as total residual chlorine. The Discharger shall monitor total residual chlorine in the effluent daily using a method with a reporting limit as low as technically feasible. Benchtop measurements of effluent chlorine residual shall also be performed at least weekly using the spectrophotometric DPD method 4500-CL G, or equivalent, as a routine check of daily monitoring results.

[6] The receiving water shall be sampled concurrently for temperature and pH for calculation of the unionized fraction of total ammonia.

[7] The receiving water shall be sampled concurrently for hardness for determination of compliance with effluent limitations for this metal.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method[3]
CTR Pollutants[8]	µg/L	24-hr composite	2X/Permit Term	40 CFR 136

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct acute whole effluent toxicity testing (WET) to determine compliance with the effluent limitation for acute toxicity established by section IV.A.1 of the Order.

1. Test Frequency. The Discharger shall conduct acute WET testing in accordance with the schedule established by this MRP, as summarized in Table E-4, above.

2. Sample Type. For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be 24-hour composite samples collected at monitoring Location EFF-001.

3. Test Species. The Discharger shall conduct two suites of acute WET testing using an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, rainbow trout, *Oncorhynchus mykiss*. After the initial screening period, monitoring shall be conducted using the most sensitive species. If the sensitivity of both species is equal, acute WET testing shall be conducted using the rainbow trout, *Oncorhynchus mykiss* for the remaining term of this Order.

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. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

[8] Monitoring for CTR pollutants shall occur once during the wet season and once during the dry season; CTR monitoring may occur concurrently with routine monthly testing for the CTR pollutants listed individually in Table E-4 to avoid duplicate analytical cost for these pollutants.

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 (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 following receipt of the initial sample result. If any one of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section VI.C.2.a.ii of the Order. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all test acceptability criteria, then a TRE will not be required. If the discharge stops before additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.

8. Notification. The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding the acute toxicity effluent limitation. 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.

B. Chronic Toxicity Testing

The Discharger shall conduct chronic toxicity testing to demonstrate compliance with the Basin Plan's 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-4, above.

2. Sample Type. Effluent samples from Monitoring Location EFF-001 shall be 24-hour composite samples. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

3. Test Species. Test species for chronic WET testing shall be shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green algae, *Selanastrum capricornutum* (growth test). The Discharger shall conduct two suites of chronic WET testing using the three species listed above. After this screening period, monitoring shall be conducted using the most sensitive species.

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, 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. The control of pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the effluent measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. Test Dilutions. The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. Control and dilution water shall be receiving water collected at an appropriate location upstream of the discharge point. Laboratory water may be substituted for receiving water, as described in the USEPA test methods manual, upon approval by the Executive Officer. 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 the chronic toxicity monitoring trigger of 1.0 TUc as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples and dilution series (specified in number 5. above)– with one test for each test species showing toxicity results exceeding the 1TUc trigger. Accelerated monitoring tests shall be conducted approximately every week over a 4 week period.

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

   a. If the results of four consecutive accelerated monitoring tests do not exceed the chronic toxicity trigger of 1.0 TUc, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the 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 (4) consecutive accelerated tests do not exceed the monitoring "trigger." Upon confirmation that the chronic 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 an effluent limitation or monitoring trigger, the Discharger shall cease accelerated monitoring and, within thirty (30) days of the date of completion of the accelerated monitoring test, initiate the TRE Workplan developed in accordance with Section VI.C.2.a.(2) of the Order to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity. Within thirty (30) days of completing the TRE Workplan implementation, the Discharger shall submit a report to the Regional Water Board including, at a 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.

C. Chronic Toxicity Reporting

1. Routine Reporting. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals and this Monitoring and Reporting Program. Chronic toxicity test results shall be submitted with the self-monitoring report.

The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:

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

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

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

d. Identification of any reference toxicant testing performed;

e. Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of NOEC, TU_c and IC_{25};

f. Identification of any anomalies or nuances in the test procedures or results;

g. Summary and Conclusions section.

Test results shall include, at a minimum, for each test:

a. Sample date(s);

b. Test initiation date;

c. Test species;

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

e. NOEC value(s) in percent effluent;

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

g. TUc values (100/NOEC);

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

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

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

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

l. Statistical methods used to calculate endpoints;

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

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

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. Each monthly self-monitoring report 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 annual report shall clearly demonstrate that the Discharger is in compliance with effluent limitations and other permit requirements.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

This section is not applicable to the College of the Redwoods WWTF.

VII. RECLAMATION MONITORING REQUIREMENTS

This section is not applicable to the College of the Redwoods WWTF.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor upstream and downstream conditions in the receiving water during the outgoing tidal cycle at Monitoring Locations RSW-001 and RSW-002 as follows.

Table E-5. Receiving Water Monitoring Requirements – RSW-001 and RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Dissolved Oxygen	mg/L	Grab	Monthly	40 CFR 136
pH[9]	s.u.	Grab	Monthly	Standard Methods
Temperature[9]	°C	Grab	Quarterly	Standard Methods
Hardness[10]	mg/L as $CaCO_3$	Grab	Quarterly	Standard Methods
Salinity	ppt	Grab	Quarterly	Standard Methods
CTR Pollutants[11]	µg/L	Grab	2X/Permit Term	Standard Methods

IX. OTHER MONITORING REQUIREMENTS

This section is not applicable to the College of the Redwoods WWTF.

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.

---

[9] Monitoring for pH and temperature at RSW-001 shall coincide with effluent monitoring for ammonia.
[10] Hardness monitoring is only required at RSW-002 and shall coincide with effluent monitoring for metals.
[11] CTR monitoring is only required at RSW-001 and shall occur once during the dry season and once during the wet season.

2. Schedules of Compliance. If applicable, the Discharger shall submit all reports and documentation required by compliance schedules that are established by this Order. Such reports and documentation shall be submitted to the Regional Water Board on or before each compliance date established by this Order. If noncompliance is reported, the Discharger shall describe the reasons for noncompliance and a specific date when compliance will be achieved. The Discharger shall notify the Regional Water Board when it returns to compliance with applicable compliance dates established by schedules of compliance.

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-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
Continuous	August 1, 2010	All
Daily	August 1, 2010	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
Weekly	August 1, 2010	Sunday through Saturday
Monthly	August 1, 2010	1st day of calendar month through last day of calendar month
Quarterly	October 1, 2010	January 1 through March 31 April 1 through June 30

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
		July 1 through September 30 October 1 through December 31
Semi-Annually	July 1, 2010	January 1 through June 30 July 1 through December 31
Annually	January 1, 2010	January 1 through December 31
Twice per Permit Term	August 1, 2010	August 1, 2010 through July 30, 2013

5. Reporting Protocols. The Discharger shall report with each sample result the applicable Minimum Level (ML), the reporting level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 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)

This section is not applicable to the College of the Redwoods WWTF.

D. Other Reports

1. Special Study Submittals. The Discharger shall report the results of any special studies required by Special Provision VI.C.2.a of the 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 January 30th 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 title 40, section 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and a report of the data submitted with 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 during the previous twelve months. The report shall contain:

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

(2) A summary of the SSOs that occurred in the past year. The summary shall include the date, location of the 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.

(3) A summary of the 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.

(4) 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 previous year, as required by Provision VI.C.5.b in the Order, including the following.

(1) A copy of the source control standards.

(2) A summary of any waste survey results.

(3) A summary of any inspections or monitoring conducted during the previous year.

(4) A summary of public participation activities to involve and inform the campus population.

e. Sludge 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 twelve months. At a minimum, the report shall contain the following.

(1) Annual sludge production, in dry tons and percent solids;

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

(3) Methods of final disposal of sludge:

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

(b) For any portion of sludge discharged through land application, the Discharger shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WRDs 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.

3. Compliance Schedule Reports. This section is not applicable to the College of the Redwoods WWTF.

E. Spills and Overflows Notification

(a) All spills, unauthorized discharges and sanitary sewer overflows (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 State Office of Emergency Services (OES), the local health officer or directors of environmental health with

jurisdiction over affected water bodies or land areas, and the Regional Water Board[12].

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

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 the State Office of Emergency Services 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 an OES 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.

Information to be provided in writing includes:

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 monthly monitoring report, 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.

(b) 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:

[12] The contact number for spill reporting for the Office of Emergency Services 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.

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 specified in requirement 1.A of this section.

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

Appendix E-1. Final Effluent Limitations for Hardness Dependent Metals

Hardness (mg/L as CaCO3)	Copper		Lead		Nickel		Silver	
	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
5 – 9	0.41	0.83	0.057	0.12	3.4	6.8	0.01	0.02
10 - 14	0.80	1.6	0.14	0.28	6.1	12	0.04	0.08
15 - 19	1.2	2.3	0.23	0.47	6.8	14	0.08	0.16
20 - 24	1.5	3.1	0.33	0.67	6.8	14	0.13	0.25
25 - 29	1.9	3.8	0.45	0.89	6.8	14	0.19	0.37
30 - 34	2.2	4.5	0.56	1.1	6.8	14	0.25	0.51
35 - 39	2.6	5.2	0.68	1.4	6.8	14	0.33	0.67
40 - 44	2.9	5.9	0.81	1.6	6.8	14	0.42	0.84
45 - 49	3.3	6.6	0.94	1.9	6.8	14	0.51	1.0
50 - 54	3.6	7.3	1.1	2.2	6.8	14	0.61	1.2
55 - 59	4.0	8.0	1.2	2.4	6.8	14	0.72	1.4
60 - 64	4.3	8.6	1.4	2.7	6.8	14	0.84	1.7
65 - 69	4.6	9.3	1.5	3.0	6.8	14	0.96	1.9
70 - 74	5.0	10	1.7	3.3	6.8	14	1.1	2.2
75 - 79	5.3	11	1.8	3.6	6.8	14	1.2	2.5
80 - 84	5.6	11	2.0	3.9	6.8	14	1.4	2.8
85 - 89	6.0	12	2.1	4.2	6.8	14	1.5	3.1
90 - 94	6.3	13	2.3	4.6	6.8	14	1.7	3.4
95 - 99	6.6	13	2.4	4.9	6.8	14	1.8	3.7
100 - 104	7.0	14	2.6	5.2	6.8	14	2.0	4.1
105 - 109	7.3	15	2.8	5.5	6.8	14	2.2	4.4
110 - 114	7.6	15	2.9	5.9	6.8	14	2.4	4.8
115 - 119	7.9	16	3.1	6.2	6.8	14	2.6	5.2
120 - 124	8.3	17	3.3	6.6	6.8	14	2.8	5.5
125 - 129	8.6	17	3.5	6.9	6.8	14	3.0	5.9
130 - 134	8.9	18	3.6	7.3	6.8	14	3.2	6.4
135 - 139	9.2	19	3.8	7.6	6.8	14	3.4	6.8
140 - 144	9.6	19	4.0	8.0	6.8	14	3.6	7.2
145 - 149	9.9	20	4.2	8.4	6.8	14	3.8	7.7
150 - 154	10	20	4.4	8.7	6.8	14	4.1	8.1

Appendix E-1. Final Effluent Limitations for Hardness Dependent Metals

Hardness (mg/L as CaCO3)	Copper		Lead		Nickel		Silver	
	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
155 - 159	11	21	4.5	9.1	6.8	14	4.3	8.6
160 - 164	11	22	4.7	9.5	6.8	14	4.5	9.1
165 - 169	11	22	4.9	9.9	6.8	14	4.8	9.6
170 - 174	11	23	5.1	10	6.8	14	5.0	10
175 - 179	12	24	5.3	11	6.8	14	5.3	11
180 - 184	12	24	5.5	11	6.8	14	5.6	11
185 - 189	12	25	5.7	11	6.8	14	5.8	12
190 - 194	13	26	5.9	12	6.8	14	6.1	12
195 - 199	13	26	6.1	12	6.8	14	6.4	13
200 - 204	13	27	6.3	13	6.8	14	6.7	13
205 - 209	14	27	6.5	13	6.8	14	6.9	14
210 - 214	14	28	6.7	13	6.8	14	7.2	15
215 - 219	14	29	6.9	14	6.8	14	7.5	15
220 - 224	15	29	7.1	14	6.8	14	7.8	16
225 - 229	15	30	7.3	15	6.8	14	8.1	16
230 - 234	15	31	7.5	15	6.8	14	8.5	17
235 - 239	16	31	7.7	15	6.8	14	8.8	18
240 - 244	16	32	7.9	16	6.8	14	9.1	18
245 - 249	16	33	8.1	16	6.8	14	9.4	19
250 - 254	17	33	8.3	17	6.8	14	9.8	20
255 - 259	17	34	8.6	17	6.8	14	10	20
260 - 264	17	34	8.8	18	6.8	14	10	21
265 - 269	17	35	9.0	18	6.8	14	11	22
270 - 274	18	36	9.2	18	6.8	14	11	22
275 - 279	18	36	9.4	19	6.8	14	12	23
280 - 284	18	37	9.6	19	6.8	14	12	24
285 - 289	19	37	9.9	20	6.8	14	12	25
290 - 294	19	38	10	20	6.8	14	13	25
295 - 299	19	39	10	21	6.8	14	13	26
300 - 309	19	39	11	21	6.8	14	13	27
310 - 319	20	40	11	22	6.8	14	14	28
320 - 329	21	41	11	23	6.8	14	15	30
330 - 339	21	42	12	24	6.8	14	16	32
340 - 349	22	44	12	25	6.8	14	17	33
350 - 359	22	45	13	26	6.8	14	17	35
360 - 369	23	46	13	27	6.8	14	18	37
370 - 379	23	47	14	28	6.8	14	19	38
380 - 389	24	48	14	29	6.8	14	20	40

Appendix E-1. Final Effluent Limitations for Hardness Dependent Metals

Hardness (mg/L as CaCO3)	Copper		Lead		Nickel		Silver	
	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
390 - 399	24	49	15	29	6.8	14	21	42
>400	25	50	15	30	6.8	14	22	44

ATTACHMENT F – FACT SHEET

Table of Contents

Attachment F – Fact Sheet F-3
I. Permit Information F-3
II. Facility Description F-4
A. Description of Wastewater Treatment or Controls F-4
B. Discharge Points and Receiving Waters F-4
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-5
D. Compliance Summary F-5
E. Planned Changes F-6
III. Applicable Plans, Policies, and Regulations F-6
A. Legal Authorities F-6
B. California Environmental Quality Act (CEQA) F-6
C. State and Federal Regulations, Policies, and Plans F-6
D. Impaired Water Bodies on CWA 303(d) List F-9
E. Other Plans, Polices and Regulations F-10
IV. Rationale For Effluent Limitations and Discharge Specifications F-11
A. Discharge Prohibitions F-12
B. Technology-Based Effluent Limitations F-14
1. Scope and Authority F-14
2. Applicable Technology-Based Effluent Limitations F-15
C. Water Quality-Based Effluent Limitations (WQBELs) F-16
1. Scope and Authority F-16
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-17
3. Determining the Need for WQBELs F-17
4. WQBEL Calculations F-21
5. Whole Effluent Toxicity (WET) F-24
D. Final Effluent Limitations F-25
3. Stringency of Requirements for Individual Pollutants F-25
E. Interim Effluent Limitations F-28
F. Land Discharge Specifications F-28
G. Reclamation Specifications F-28
V. Rationale for Receiving Water Limitations F-28
A. Surface Water F-28
B. Groundwater F-29
VI. Rationale for Monitoring and Reporting Requirements F-29
A. Influent Monitoring F-29
B. Effluent Monitoring F-29
C. Whole Effluent Toxicity Testing Requirements F-30
D. Receiving Water Monitoring F-30
E. Other Monitoring Requirements F-31
VII. Rationale for Provisions F-31

A. Standard Provisions F-31
B. Regional Water Board Standard Provisions F-32
C. Special Provisions F-32
1. Reopener Provisions F-32
2. Special Studies and Additional Monitoring Requirements F-33
3. Best Management Practices and Pollution Prevention F-34
4. Construction, Operation, and Maintenance Specifications F-35
5. Special Provisions for Municipal Facilities (POTWs Only) F-35
6. Other Special Provisions F-37
7. Compliance Schedules F-37
VIII. Public Participation F-37
A. Notification of Interested Parties F-38
B. Written Comments F-38
C. Public Hearing F-38
D. Waste Discharge Requirements Petitions F-39
E. Information and Copying F-39
F. Register of Interested Persons F-39
G. Additional Information F-39

List of Tables

Table F-1. Facility Information F-3
Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001 .. F-5
Table F-3. Basin Plan Beneficial Uses F-7
Table F-4. Secondary Treatment Standards from the Federal Regulations F-14
Table F-5. Effluent Limitations for Discharge Point 001 ..... F-15
Table F-7. Determination of Long Term Averages F-22
Table F-8. Determination of Final WQBELs Based on Aquatic Life Criteria F-22
Table F-9. Determination Final WQBELs Based on Human Health Criteria F-23
Table F-10. Summary of Water Quality-Based Effluent Limitations F-23
Table F-11. Final Effluent Limitations - Discharge Point 001 ..... F-26

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	1B80121OHUM
Discharger	College of the Redwoods
Name of Facility	College of the Redwoods Wastewater Treatment Facility (WWTF)
Facility Address	7351 Tomkins Hill Road
	Eureka, CA 95501
	Humboldt County
Facility Contact, Title and Phone	Tim Flanagan, Facilities and Operations Supervisor, 707-476-4387
Authorized Person to Sign and Submit Reports	Mike Mendoza, Maintenance Specialist – Wastewater, 707-476-4380
Mailing Address	P.O. Box 309, Eureka CA 95501
Billing Address	Same as above
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	N
Reclamation Requirements	N/A
Facility Permitted Flow	0.1 million gallons per day (MGD) (design treatment flow)
Facility Design Flow	0.1 MGD (design treatment capacity)
Watershed	Eureka Plain Hydrologic Unit
Receiving Water	White Slough
Receiving Water Type	Estuarine

A. The College of the Redwoods (hereinafter Discharger) owns and operates the College of the Redwoods WWTF, 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 treatment facility discharges treated wastewater to White Slough, a tributary of Humboldt Bay, and is currently regulated by Regional Water Board Order No. R1-2002-0003, which was adopted on January 24, 2002 and expired on January 26, 2006. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on December 15, 2005. . A site visit was conducted on June 17, 2009 to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The College of the Redwoods owns and operates the wastewater collection, treatment, and disposal facilities that serve the Eureka campus of the College of the Redwoods. The College of the Redwoods is a public, 2-year community college with a student enrollment of approximately 5,700. The WWTF is located at 7351 Tomkins Hill Road in Eureka, Humboldt County, California.

A. Description of Wastewater Treatment or Controls

The WWTF treats domestic wastewater, with a design treatment capacity of 0.1 MGD.

Wastewater treatment consists of secondary treatment through the activated sludge process and clarification, disinfection with sodium hypochlorite generated onsite, and dechlorination with sodium metabisulfate prior to discharge.

B. Discharge Points and Receiving Waters

The treatment facility's point of discharge at Discharge Point 001 to White Slough is located within the Eureka Plain Hydrologic Unit at 40°41'56.20"N latitude and 124°12'11.77"W longitude. The effluent flows overland through a transitional wetland area into an unnamed creek that flows from the storm water collection reservoir on the college campus then comingles with White Slough, a tributary to Humboldt Bay. In accordance with Chapter 1, Paragraph A of the Bays and Estuaries Policy, Resolution No. 82-12, adopted by the Regional Water Board on December 2, 1982 waives the discharge prohibition established in the Bays and Estuaries Policy allowing College of the Redwoods to discharge to White Slough.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point 001 (Monitoring Location EFF-001) for conventional and non-conventional pollutants and representative monitoring data retrieved from monthly Self-Monitoring Reports from the term of the previous Order are summarized as follows.

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

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2002– To August 2009)	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
BOD_5	mg/L	30	45	60	13	13
Percent Removal, BOD	%	≥85	---	---	94.3	---
TSS	mg/L	30	45	60	70	70
Percent Removal, TSS	%	≥85	---	---	70	---
Settleable Solids	mL/L	0.1	---	0.2	<0.1	<0.1
Total Coliform Bacteria	MPN/100 mL	23[21]	---	230	>1600	94
pH	s.u.	6.0 – 8.5 at all times			4.25 - 7.25	
Chlorine Residual	mg/L	<0.1 at all times			---	2.8
Acute Toxicity[22]	Percent Survival	No Acute Toxicity			---	40

D. Compliance Summary

Under Administrative Civil Liability (ACL) Order No. R1-2008-0062, the Regional Water Board assessed Mandatory Minumum Penalties (MMPs) for violations of effluent limitations for pH, chlorine residual, suspended solids, and total coliform, which occurred from January 24, 2002 through November 30, 2007. In addition, a penalty was assessed for late submittal of a monthly monitoring report, resulting in MMPs that totalled $72,000. To saitisfy MMPs, the Discharger elected to perform a

[21] Expressed as a 30-day median.
[22] Compliance with this effluent limitation was determined as a at least 90 percent survival 70 percent of the time based on any monthly median, and at least 70 percent survival 100 percent of the time.

compliance project to reduce excess infiltration and inflow within a portion of its collection system. This project was deemed complete January 1, 2010.

E. Planned Changes

There are no planned changes at the College of the Redwoods WWTF scheduled to occur during the term of this Order. In the future College of the Redwoods may connect to the Elk River regional waste water treatment facility in Eureka.

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 an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

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

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 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for White Slough, but does identify present and potential uses for Humboldt Bay, to which White Slough is tributary. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

Beneficial uses established by the Basin Plan for the receiving water for discharges from the College of the Redwoods WWTF are described in Table F-3, below.

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Humboldt Bay	**Existing:** MUN – Municipal and Domestic Supply AGR – Agricultural Supply IND – Industrial Service Supply NAV - Navigation FRSH – Freshwater Replenishment REC1 - Water Contact Recreation REC2 - Non-Contact Water Recreation COMM - Commercial and Sport Fishing COLD – Cold Freshwater Habitat MAR - Marine Habitat WILD - Wildlife Habitat RARE - Preservation of Rare, Threatened, or Endangered Species MIGR - Migration of Aquatic Organisms SPWN - Spawning, Reproduction, and/or Early Development SHELL - Shellfish Harvesting EST – Estuarine Habitat AQUA – Aquaculture CUL – Native American Culture **Potential:** PRO – Industrial Process Supply POW – Hydropower Generation

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

Requirements of this Order implement the Basin Plan.

The State Water Board adopted the *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 the Discharger.

2. 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 and are applicable to this discharge.

3. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the 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.

4. 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 (40 C.F.R. § 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.

5. 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 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 the Order satisfy the Antidegradation Policy.

6. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[23] 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 the Fact Sheet provides a discussion of how the requirements of the 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. The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303

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

(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.

In June 2007, the USEPA provided final approval of the 303 (d) list of impaired water bodies prepared by the State. White Slough is not identified on the list; however, the list identifies Humboldt Bay as impaired by dioxin toxic equivalents and polychlorinated biphenyls (PCBs). Pursuant to CWA section 303 (d), the Regional Water Board will 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. The Regional Water Board expects to adopt TMDLs for dioxin toxic equivalents and PCBs by 2019. Discharges from the WWTF have shown reasonable potential to discharge dioxin toxic equivalents. This Order establishes new effluent limitations for dioxin toxic equivalents at levels protective of beneficial uses.

E. Other Plans, Polices and Regulations

1. Stormwater. On April 17, 1997, the State Water Board adopted State Water Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. The Discharger does not have storm water discharges associated with industrial activities, category “ix” as defined in 40 CFR 122.26(b)(14). Pursuant to title 40 section 403, coverage under the general permit is not required for wastewater treatment facilities that treat domestic sewage with a design flow less than 1.0 MGD. The College of the Redwoods WWTF design flow is 0.1 MGD, and therefore coverage under the general permit is not required. The College of the Redwoods has been indentified as a Phase II municipality and is required to obtain a municipal storm water permit.

2. Sanitary Sewer Systems. On May 2, 2006, the State Water Board adopted State Water Board Order 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 coverage under Order No. 2006-0003-DWQ, if applicable, 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 general WDRs require coverage under Order No. 2004-0012-DWQ by December 30, 2007. Section VI.C.5.f of the Order requires the Discharger to obtain 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 in the Code of Federal Regulations: 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 to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where the discharge has 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 title 40, 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. Discharge 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 retained from the previous Order (Order No. R1-2002-0003) and is based on the Basin Plan, and State Water Board Order WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in Orders, but should be interpreted to apply only to constituents that are either not disclosed by the 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 … and … can be reasonably contemplated." [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24] In that Order, the State Water Board cited a case which held the 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) 268 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 and (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 be reasonably contemplated by the Regional Water Board at the time of Order adoption.

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

   This prohibition is retained from the previous Order (Order No. R1-2002-0003) and is based on section 13050 of the Water Code.

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

This prohibition is is retained from the previous Order (Order No. R1-2002-0003) and is based on restrictions of the disposal of sewage sludge found in federal regulations [40 CFR Part 503 (Biosolids), Part 527 and Part 258] and Title 27 of the California Code of Regulations (CCR).

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

   This prohibition has been retained from the previous Order (Order No. R1-2002-0003) and is based on the Basin Plan objective to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued waste discharge requirements. This prohibition applies to spills 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 title 40, section 122.41(m), or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by this Order.

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

   This prohibition is established by this Order. The 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 Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

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

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

6. Discharge Prohibition III.F. Discharge of a mean daily dry weather flow rate greater than 0.1 MGD, averaged over a calendar month, is prohibited.

   This prohibition is retained from the previous permit. The WWTF design capacity is rated at 0.1 MGD, and exceedance of the treatment plant's design capacity may result in lowering the reliability of achieving compliance with water quality requirements.

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 Part 133 and/ or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

   At section 133.102 the Secondary Treatment Standards establish the following minimum level of effluent quality attainable by secondary treatment, which the Regional Water Board must include as effluent limitations in permits issued to POTWs.

Table F-4. Secondary Treatment Standards from the Federal Regulations

Parameter	Effluent Quality	
	30 Day Average	**7 Day Average**
BOD_5	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
BOD_5 and TSS	The 30 day average percent removal for BOD_5 and TSS shall not be less than 85 percent.	
pH	6.0 – 9.0 at all times[24]	

[24] The effluent limitation range for pH of 7.0 to 8.5 required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan Table 3-1.

In addition, section 122.45 (f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except, 1) for pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass, and (2) when applicable standards and limitations are expressed in terms of other units of measure. Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement. Mass-based limitations contained in the Order are based on the facility design flow of 0.1 MGD, and are necessary to prevent dilution as being used as a method of achieving concentration-based limits.

2. Applicable Technology-Based Effluent Limitations

Technology-based limitations established by the Order for Discharge Point 001 are summarized in the following tables.

Table F-5. Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
BOD_5	mg/L	30	45	60
	lbs/day	25	37.5	50
TSS	mg/L	30	45	60
	lbs/day	25	37.5	50
BOD_5 and TSS	% Removal	85	---	---

Numeric effluent limitations for BOD_5 and TSS, including the percent removal requirement are retained from the previous permit and reflect secondary treatment standards at Part 133. Mass-based limits are retained from the previous permit and are required pursuant to section 122.45(f) for the purpose of assuring that dilution is not used as a method of achieving the concentration-based limitations in the permit. Mass-based effluent limitations are based on the facility's design capacity of 0.1 MGD.

Although pH limits are generally considered technology-based limits, here more stringent limits for pH have been established to meet Basin Plan objectives.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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. This Order contains requirements more stringent than secondary treatment requirements that are necessary to meet 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. A reasonable potential analysis (RPA) demonstrated reasonable potential for discharges from the College of the Redwoods WWTF to cause or contribute to exceedances of applicable water quality criteria for copper, lead, nickel, silver, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents. In addition, reasonable potential was determined for pH, total coliform bacteria, because the facility treats domestic wastewater, and for chlorine residual, because the facility uses chlorine in the disinfection process.

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).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

   a. Beneficial Uses. Beneficial use designations for receiving waters for discharges from the College of the Redwoods WWTF 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 the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including White Slough, which is an estuarine tributary of Humboldt Bay. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by the Department of Public Health for the protection of public water supplies at Title 22 of the California Code of Regulations section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).

      Water quality criteria contained in the Basin Plan, including Title 22 MCLs, are applicable to discharges to White Slough and Humboldt Bay.

   c. State Implementation Plan (SIP), CTR and NTR. Water quality criteria and objectives applicable to this receiving water are established by the California Toxics Rule (CTR), established by the UPEPA at section 131.38; and the National Toxics Rule (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. Both White Slough and Humboldt Bay are estuarine environments, and therefore the more stringent of fresh and marine water quality criteria are applicable to the discharge.

3. Determining the Need for WQBELs

   NPDES regulations at section 122.44 (d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

   a. Non-Priority Pollutants

      (1) pH. The Order includes an effluent limitation for pH of 7.0 to 8.5. This limitation is based on the water quality objective for all surface waters of the North Coast Region established by Chapter 3 of the Basin Plan.

The water quality-based effluent limitation for pH is more stringent than required by secondary treatment standards, reflecting applicable water quality standards for pH for Humboldt Bay.

(2) Total Coliform Bacteria. Effluent limitations for total coliform bacteria are retained from the previous permit, as follows.

- The median concentration shall not exceed an MPN of 23 organisms per 100 mL in a calendar month, and
- In no single sample shall the concentration of total coliform bacteria exceed 230 organisms per 100 mL.

(3) Settleable Solids. Effluent limitations for settleable solids are retained from the previous Order and reflect levels of treatment attainable by secondary treatment facilities, which will be protective of the Basin Plan's narrative water quality objective for settleable material in inland surface waters, enclosed bays, and estuaries of the North Coast Region.

(4) 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.

(5) Grease and Oil. Effluent limitations for grease and oil are retained from the previous Order and reflect levels of treatment attainable by secondary treatment facilities, which will be protective of the Basin Plan's narrative water quality objective for floatable material in inland surface waters, enclosed bays, and estuaries of the North Coast Region

USEPA has established the following criteria for chlorine-produced oxidants for protection of fresh water 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

The water quality criteria recommended by USEPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual in the Order.

b. Priority Pollutants

The SIP, statewide policy that became effective on May 22, 2000, establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential for pollutants to cause or contribute to excursions above State water quality standards and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.

The SIP Section 1.3 requires the Regional Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis (RPA). For this Order, the Regional Water Board has conducted an RPA using effluent and receiving water data generated during monitoring events in February, March, and July, 2002.

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 of 29 mg/L was used, which was the minimum hardness value measured by the Discharger in two receiving water samples.

To conduct the RPAs, Regional Water Board staff identified the maximum observed effluent (MEC) and background (B) concentrations for each priority, toxic 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 from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

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

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

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

The RPA for discharges from the College of the Redwoods WWTF demonstrated reasonable potential to cause or contribute to exceedances of applicable water quality criteria for copper, lead, nickel, silver, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents.

The CTR includes criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), however, there are numerous dioxin congeners which exhibit toxic effects similar to 2,3,7,8-TCDD. The SIP includes toxic equivalency factors (TEFs) which express the relative toxicities of each of the congeners, and are used to calculate the TCDD equivalent toxicity. Reasonable potential was determined for TCDD equivalents because the MEC for TCDD equivalents exceeded the CTR criteria for 2,3,7,8-TCDD.

The following table summarizes the RPA for each priority, toxic pollutant that has been measured in effluent in samples collected in February, March, and July, 2002. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan (which includes the Title 22 MCLs for protection of drinking water supplies) were measured above non-detect (ND) concentrations.

Table F-6. Summary of RPA Results

Pollutant	C (µg/L)	MEC (µg/L)	B (µg/L)	RPA Result
Antimony	6 – Title 22 MCL	0.15	0.08	No
Arsenic	36 – chronic, saltwater aquatic life criteria from the CTR	1.9	1.1	No
Cadmium	0.9 – chronic, freshwater aquatic life criteria from the CTR	0.51	0.04	No
Chromium (III)	75 – chronic, freshwater aquatic life criteria from the CTR	1.0	3.6	No
Copper	3.2 – chronic, freshwater aquatic life criteria from the CTR	10.3	3.3	Yes (Trigger 1)
Lead	0.7 – chronic, freshwater aquatic life criteria from the CTR	1.0	0.7	Yes (Trigger 1)
Mercury	0.050 – human health criterion from the CTR for consumption of water and organisms	0.045	0.005	No

Pollutant	C (µg/L)	MEC (µg/L)	B (µg/L)	RPA Result
Nickel	8.3 – chronic, saltwater aquatic life criteria from the CTR	3.0	9.0	Yes (Trigger 2)
Selenium	5.0 – chronic, freshwater aquatic life criteria from the CTR	0.7	0.8	No
Silver	0.48 – acute, freshwater aquatic life criteria from the CTR	0.49	ND at 0.8	Yes (Trigger 1)
Zinc	42 – acute and chronic, freshwater aquatic life criteria from the CTR	41	28	No
Carbon Tetrachloride	0.25 – human health criterion from the CTR for consumption of water and organisms	1.1	ND at 0.5	Yes (Trigger 1)
Chlorodibromomethane	0.40 – human health criterion from the CTR for consumption of water and organisms	2.5	ND at 0.5	Yes (Trigger 1)
Chloroform	No Criteria	43.5	ND at 0.5	Undetermined
Dichlorobromomethane	0.56 – human health criterion from the CTR for consumption of water and organisms	15.7	ND at 0.5	Yes (Trigger 1)
Bis(2-Ethylhexyl)Phthalate	1.8 – human health criterion from the CTR for consumption of water and organisms	3.0	ND at 2.0	Yes (Trigger 1)
TCDD Equivalents	1.3×10^{-8} – human health criterion from the CTR for consumption of water and organisms	6.0×10^{-8}	ND at 6.8×10^{-7}	Yes (Trigger 1)

4. WQBEL Calculations

Final WQBELs for copper, lead, nickel, silver, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents have been determined using the methods described in Section 1.4 of the SIP.

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

ECA = C + D (C – B), where

C = the applicable water quality criterion (adjusted for receiving water hardness and expressed as the total recoverable metal, if necessary)
D = dilution credit (here D= 0, as the discharge does not qualify for a dilution credit)
B = background concentration

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

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

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 Averages

Pollutant	ECA		ECA Multiplier		LTA (µg/L)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Copper	4.4	3.2	0.321	0.527	1.40	1.71
Lead	17	0.66	0.321	0.527	5.42	0.347
Nickel	75	8.3	0.321	0.527	24.0	4.37
Silver	0.48	---	0.321	0.527	0.155	---

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 copper, lead, nickel and silver are determined as follows.

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

Pollutant	LTA (µg/L)	MDEL Multiplier	AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Copper	1.41	3.11	1.55	4.4	2.2
Lead	0.348	3.11	1.55	1.1	0.54
Nickel	4.37	3.11	1.55	14	6.8
Silver	0.154	3.11	1.55	0.48	0.24

Final effluent limits presented above for copper, lead, nickel and silver are based on a receiving water hardness of 29 mg/L. Because receiving water hardness can vary, actual effluent limitations for these pollutants will be determined based on receiving water hardness measured at the time that compliance monitoring is performed. Effluent limitations for copper, lead, nickel and silver at varying levels of receiving water hardness are presented in Appendix E-1 to Attachment E of this Order.

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective (as for carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents), 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. Final WQBELs for carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents are determined as follows.

Table F-9. Determination Final WQBELs Based on Human Health Criteria

Pollutant	ECA (µg/L)	MDEL/AMEL	MDEL (µg/L)	AMEL (µg/L)
Carbon Tetrachloride	0.25	2.01	0.50	0.25
Chlorodibromomethane	0.40	2.01	0.80	0.40
Dichlorobromomethane	0.56	2.01	1.1	0.56
Bis(2-ethylhexyl)phthalate	1.8	2.01	3.6	1.8
TCDD Equivalents	1.3×10^{-8}	2.01	2.6×10^{-8}	1.3×10^{-8}

A summary of WQBELs established by the Order is given in the table below.

Table F-10. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Copper[25]	µg/L	2.2	4.4
Lead[4]	µg/L	0.54	1.1
Nickel[4,26]	µg/L	6.8	14

[25] Aquatic life criteria for this metal are hardness-dependent, and therefore effluent limitations are dependent on the hardness of the receiving water. The limitations in Table F-10 are based on a receiving water hardness of 29 mg/L. See Appendix E-1 to Attachment E for the full table of hardness-dependent final effluent limitations, which are determined based on the hardness of the receiving water at the time the discharge is sampled.

[26] Above a receiving water hardness of 12 mg/L, the saltwater aquatic life criteria for nickel are limiting. When receiving water hardness is greater than 12 mg/L, therefore, effluent limitations of 6.8 µg/L and 14 µg/L (AMEL and MDEL, respectively), are established for all circumstances. When receiving water hardness is at or below 12 mg/L, the water quality criteria for nickel for protection of freshwater aquatic life are limiting; and in these

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Silver[4]	µg/L	0.24	0.48
Carbon Tetrachloride	µg/L	0.25	0.50
Chlorodibromomethane	µg/L	0.40	0.80
Dichlorobromomethane	µg/L	0.56	1.1
Bis(2-ethylhexyl)phthalate	µg/L	1.8	3.6
TCDD Equivalents	µg/L	1.3×10^{-8}	2.6×10^{-8}

5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent acute and chronic toxicity protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and 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 populations, community ecology, or receiving water biota.

The previous Order included an effluent limitation for acute toxicity in accordance with the Basin Plan. The previous permit limit required a minimum of 90 percent survival 70 percent of the time based on the monthly median, and a minimum of 70 percent survival in any single test. This Order establishes acute toxicity limitations that require that the median survival of test organisms in undiluted effluent for any three consecutive 96-hour bioassays tests be at least 90 percent, with no single test having less than 70 percent survival in accordance with the Basin Plan.

In addition to the Basin Plan requirements, section 4 of the SIP states that chronic toxicity limitations are required in permits 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, accelerated chronic WET monitoring is required when a trigger of 1.0 TUc has been exceeded. Limitations may be established if monitoring results demonstrate that discharges from the WWTF are causing or contributing to chronic toxicity in the receiving water.

circumstances, effluent limitations based on hardness (see Appendix E-1 to Attachment E) are established by the permit.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

Except as provided in title 40, section 122.44(l)(2), federal backsliding regulations require effluent limitations, standards, and conditions contained in reissued permits to be as least as stringent as the effluent limitations, standards, and conditions contained in the previous permit. All effluent limitations contained in this Order are as stringent as those contained in the previous Order, and therefore anti-backsliding requirements are satisfied.

New effluent limitations are established for chlorine residual. 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.

2. Satisfaction of Antidegradation Policy

This Order is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and TSS at Discharge Point 001. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet. This Order’s technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements applicable to the WWTF. In addition, this Order contains effluent limitations for chlorine residual, pH, total coliform bacteria, settleable solids, oil and grease, and several toxic pollutants more stringent than the minimum, federal technology-based requirements but that are necessary to meet water quality standards. These requirements are discussed in section IV.C of the Fact Sheet.

Water quality-based effluent limitations 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 water quality-based limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Any beneficial uses and water quality objectives 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.

4. Summary of Final Effluent Limitations

a. Summary of Final Effluent Limitations at Discharge Point 001

Final effluent limitations for Discharge Point 001 are summarized below.

Table F-11. Final Effluent Limitations - Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
BOD_5	mg/L	30	45	60	---	---
	lbs/day[27]	25	37.5	50	---	---
TSS	mg/L	30	45	60	---	---
	lbs/day[6]	25	37.5	50	---	---
pH	s.u.	---	---	---	8.5	7.0
Settleable Solids	mL/L	0.1	---	0.2	---	---

[27] Mass-based limitations are based on the mean daily dry weather flow of 0.1 MGD. The mass discharge in pounds per day is obtained from the following calculation for any calendar week or month:

$$\frac{8.34}{N}\sum_{i}^{N} QiCi$$

in which N is the number of samples analyzed in any calendar week or month. Qi and Ci 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, Ci is the concentration measured in the composite sample; and Qi is the average flow rate occurring during the period over which the samples are composited.

Table F-11. Final Effluent Limitations - Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
Grease and Oil	mg/L	15	---	20	---	---
Total Chlorine Residual[28]	mg/L	0.01	---	0.02	---	---
Copper[29]	µg/L	2.2	---	4.4	---	---
Lead[8]	µg/L	0.54	---	1.1	---	---
Nickel[8]	µg/L	6.8	---	14	---	---
Silver[8]	µg/L	0.24	---	0.48	---	---
Carbon tetrachloride	µg/L	0.25	---	0.50	---	---
Chlorodibromo-methane	µg/L	0.40	---	0.80	---	---
Dichlorobromo-methane	µg/L	0.56	---	1.1	---	---
Bis(2-ethylhexyl) phthalate	µg/L	1.8	---	3.6	---	---
TCDD equivalents	µg/L	1.3×10^{-8}	---	2.6×10^{-8}	---	---

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

- Bacteria: Disinfected effluent discharged from the WWTF at Discharge Point 001 shall not contain total coliform bacteria in excess of the following concentrations:

  (1) The median value of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in a calendar month, and

  (2) The maximum value of total coliform bacteria for any one sample shall not exceed an MPN of 230 per 100 milliliters.

[28] A minimum chlorine residual of 1.5 mg/L shall be maintained at the end of the disinfection process.
[29] Final effluent limitations for this metal are dependent on the hardness of the receiving water and shall be determined at each time that effluent is monitored in accordance with Appendix E-1 contained in Attachment E of the Order.

- Acute Toxicity: There shall be no acute toxicity in the effluent. 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 for any one bioassay: 70 percent survival

  (2) Median for any three or more consecutive bioassays[30]: at least 90 percent survival.

E. Interim Effluent Limitations

This section of the standardized permit is not applicable to the College of the Redwoods WWTF.

F. Land Discharge Specifications

This section of the standardized permit is not applicable to the College of the Redwoods WWTF.

G. Reclamation Specifications

This section of the standardized permit is not applicable to the College of the Redwoods WWTF.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

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

[30] 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.

settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters. 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. This Order does not allow degradation of groundwater.

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 this facility.

A. Influent Monitoring

Influent monitoring requirements for BOD_5 and TSS are retained from the previous permit and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.

B. Effluent Monitoring

Effluent monitoring requirements for Discharge Point 001 from the previous permit are retained for flow, BOD_5, TSS, settleable solids, pH, total coliform bacteria, chlorine residual, acute toxicity and chronic toxicity. These monitoring requirements are necessary to detemine compliance with prohibitions and/or effluent limitations established by the Order. The following effluent monitoring requirements are newly established by the Monitoring and Reporting Program (Attachment E of this Order).

- Routine monitoring for oil and grease is established in the MRP to determine compliance with the effluent limitations for this parameter.

- Routine effluent monitoring is established for copper, lead, nickel, silver, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, and TCDD equivalents as these parameters demonstrated reasonable potential and have effluent limitations established in this Order.

- Routine monitoring for total ammonia and nitrate is established by the MRP for future reasonable potential analysis for these nutrient parameters.

- The previous permit included a special study for monitoring of CTR pollutants in the effluent. The MRP establishes routine monitoring requirements for these pollutants for future reasonable potential analysis.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Monitoring requirements and monitoring frequencies for acute and chronic toxicity are retained from the previous permit. The MRP retains the requirements for rainbow trout for use in acute toxicity testing from the previous permit. The MRP also clarifies that freshwater species shall be used for chronic toxicity monitoring. For chronic WET testing a comparison of toxicity shall be conducted for both the water flea and rainbow trout. The most sensitive species shall be used. The US Environmental Protection Agency's Technical Support Document for Water Quality-Based Toxics Control (TSD) states that for a freshwater discharge to a saltwater or estuarine environment, a freshwater organism may be used as an alternative to using a marine organism, if the test is being conducted on a 100 percent effluent sample, because the use of a marine species in a freshwater effluent sample may exhibit toxic effects due to the lack of dissolved salts in the effluent.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring requirements for dissolved oxygen and pH are retained from the previous permit and are required for determination of compliance with receiving water objectives for these parameters.

Monitoring requirements for temperature are established in the MRP for determination of the unionized fraction of ammonia in the effluent (the calculation of which also requires receiving water temperature and pH

measurements.) Monitoring requirements for hardness are established for determination of the appropriate effluent limitations and effluent compliance for the metals with effluent limitations that are hardness dependent (i.e., copper, lead, nickel, and silver.)

Monitoring requirements for salinity are established by the permit to better characterize the extent of tidal influence on the receiving water for this discharge.

The previous permit included a special study for monitoring of the receiving water for CTR pollutants; the MRP establishes routine monitoring for the CTR pollutants in the receiving water twice per the term of the permit. The water quality criteria of the CTR are applicable to the receiving water for this discharge, and therefore characterization of background conditions is necessary to assess impacts of the discharge.

2. Groundwater

The MRP does not establish groundwater monitoring requirements.

E. Other Monitoring Requirements

This section is not applicable to the College of the Redwoods WWTF.

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 sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Discharger shall 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. 40 CFR sections 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. This provision requires the Discharger to make direct contact with a Regional Water Board staff person.

3. Order Provision VI.A.2.d requires the Discharger to file a 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.

C. Special Provisions

1. Reopener Provisions

a. Standard 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:

(1) When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. If revisions of applicable water quality standards are therefore 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.

(2) 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 Permit is causing or contributing to excursions above any

applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

c. Whole Effluent Toxicity (Special 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 and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

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

e. Water Effects Ratios (WER) and Metal Translators (Special Provision VI.C.1.e)**.** This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Discharger provide new information and justification for applying a water effects ration or metal translator to a water quality objective for one or more priority pollutants.

f. Nutrients (Special Provision VI.C.1.f). This provision allows the Regional Water Board to reopen this Order if monitoring data indicates a need for effluent limitations for these or other nutrient parameters, or if new water quality objectives for nutrients are established.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Evaluations (Special Provisions VI.C.2.a).

In addition to routine monitoring at Discharge Point 001 for chronic toxicity, this provision 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.

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:

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

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

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

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

5. *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.

6. *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.

7. *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.

8. *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.

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

3. Best Management Practices and Pollution Prevention

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

4. Construction, Operation, and Maintenance Specifications

   Title 40, 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 Systems

      1. Statewide General WDRs for Sanitary Sewer Systems. 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 sanitary sewer overflows (SSOs), among other requirements and prohibitions.

         Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch as that 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 of the Order. 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 [40 CFR 122.41(d)], to report non-compliance [40 CFR 122.41(1), (6), and (7)], and to properly operate and maintain facilities [40 CFR 122.41(e)]. This provision is consistent with these federal requirements.

2. Sanitary Sewer Overflows and Sewage Spills. The Order includes 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 case of sewage spills. 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.

b. Source Control Provisions (Provisions VI.C.5.b).

Because the average dry weather design flow of the WWTF is less than 5.0 MGD, the Order does not require the Discharger to develop a pretreatment program that conforms to federal regulations. The reasonable potential analysis, however, identified several toxic pollutants in discharges from this primarily domestic facility, the Order requires the Discharger to implement a source identification and reduction program. The Discharger's source identification and reduction program will need to address only those pollutants that continue to be detected at 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 Facilities' staff, and to ensure that pollutants do not pass through the treatment facility to impair the beneficial uses of the receiving water. The Order includes prohibitions against the discharge of pollutants that may interfere, pass through, or be incompatible with treatment operations, interfere with the use or disposal of sludge, or pose a health hazard to personnel.

c. Sludge Disposal and Handling Requirements (Provisions VI.C.5.c).

The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27, California Code of Regulations.

d. Operator Certification (Provisions VI.C.5.d).

This provision requires the WWTF to be operated by supervisors and operators who are certified as required by title 23, California Code of Regulations, section 3680 and is retained from the previous permit.

e. Adequate Capacity (Provisions 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. This provision is retained from the previous permit.

f. Statewide General WDRs for Discharge of Biosolids to Land (Provisions VI.C.5.f).

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

6. Other Special Provisions

a. Storm Water. For the control of storm water discharged from the site of the wastewater treatment plant, the Discharge shall seek coverage under the State Water Board's Water Quality Order 97-03-DWQ, if applicable. Currently, the Discharger is exempt from these requirements based on the WWTF design flow of less than 1.0 MGD.

7. Compliance Schedules

This section of the standardized permit is not applicable to the College of the Redwoods WWTF.

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 College of the Redwoods 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/public_hearings/npdes_permits_and_wdrs.shtml on March 24, 2010.

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 April 14, 2010.

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:	June 10, 2010
Time:	8:30 AM
Location:	North Coast Regional Water Quality Control Board 5550 Skylane Boulevard, Suite A Santa Rosa, California 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.com