California Regional Water Quality Control Board
North Coast Region
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Arnold Schwarzenegger
Governor

ORDER NO. R1-2009-0033
NPDES NO. CA0024449
WDID NO. 1B82151OHUM

WASTE DISCHARGE REQUIREMENTS
FOR THE
CITY OF EUREKA
GREATER EUREKA AREA ELK RIVER WASTEWATER TREATMENT FACILITY

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

Table 1. Discharger Information

Discharger	City of Eureka
Name of Facility	Greater Eureka Area Elk River Wastewater Treatment Facility (WWTF)
Facility Address	4301 Hilfiker Lane
	Eureka, CA 95503
	Humboldt County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Discharges by the City of Eureka 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	40º 46' 24" N	124º 12' 45" W	Humboldt Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	June 4, 2009
This Order shall become effective on:	July 24, 2009
This Order shall expire on:	July 24, 2014
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:	January 4, 2014

IT IS HEREBY ORDERED, that Order No. R1-2004-0013 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions

contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Catherine Kuhlman, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on June 4, 2009.

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Catherine Kuhlman, Executive Officer

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I. Facility Information

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

Table 4. Facility Information

Discharger	City of Eureka
Name of Facility	Greater Eureka Area, Elk River WWTF
Facility Address	4301 Hilfiker Lane Eureka, CA 95503 Humboldt County
Facility Contact, Title, Phone No.	Clay Yerby, Utilities Operations Manager, (707) 441-4360
Mailing Address	531 K St., Eureka CA 95501
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	5.24 million gallons per day (mgd) (average dry weather treatment capacity) 8.6 mgd (peak dry weather treatment capacity) 12 mgd (peak wet weather treatment capacity) 32 mgd (peak wet weather hydraulic capacity)

II. Findings

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

A. Background. The City of Eureka (hereinafter the Discharger) is currently discharging pursuant to Order No. R1-2004-0013 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024449. The Discharger submitted a Report of Waste Discharge (ROWD), dated September 23, 2008, and applied for an NPDES permit renewal to discharge secondary treated wastewater from the Elk River WWTF. The application was updated December 4, 2008 and deemed complete on February 4, 2009.

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 a wastewater collection, treatment, and disposal facility that serves a population of approximately 44,128 from the City of Eureka and unincorporated areas within the Humboldt Community Services District, and treats domestic, commercial, industrial, and treated groundwater remediation wastewater. The treatment facility has an average dry weather design treatment capacity of 5.24 mgd, a peak dry weather design capacity of 8.6 mgd, and a peak wet weather capacity of 32 mgd. Flows up to 12 mgd receive full secondary treatment, and flows above 12 mgd receive primary treatment and are blended with secondary treated wastewater prior to discharge to Humboldt Bay. Treated wastewater is contained in an effluent holding pond and discharged to Humboldt Bay through Discharge Point 001 via a 3,000 feet outfall line that terminates on the east side of the shipping channel at a depth of 30 feet. The outfall is equipped with a diffuser that provides an initial dilution of 30:1. Discharge only occurs at ebb tide to assure that effluent is conveyed to the Pacific Ocean. Regional Water Board Resolution No. 80-10 concluded that the discharge to Humboldt Bay during ebb tide effectively classifies the discharge as an ocean discharge rather than a discharge to an enclosed bay, and was approved in State Water Board Resolution No. 80-87 as consistent with the requirements of the Water Quality Control Policy for the Enclosed Bays and Estuaries of California.

Treatment at the Elk River WWTF consists of mechanical bar screens and grit removal, primary clarification, trickling filters, secondary clarification, chlorine disinfection and de-chlorination. Solids are treated by anaerobic digestion and stored in two facultative lagoons. The sludge is dredged from the lagoons in the summer and transported to a 98-acre parcel of land owned by the Discharger and land-applied at agronomic rates for nitrogen.

During periods when high influent flow exceeds the hydraulic capacity of the WWTF, excess flow from the effluent holding pond can be directed to a 13-acre freshwater holding marsh (Overflow Marsh) and pumped back to the effluent storage pond once flows subside. The Overflow Marsh is a component of the WWTF, as described in the "Final Environmental Impact Report – Wastewater Management Plan for the Greater Eureka

Area" (July 10, 1980), and as established in Waste Discharge Requirements Order No. 81-1 adopted for the Facility by the Regional Water Board on January 22, 1981.

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 programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E 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 and technology-based limits set in Table A of the Ocean Plan. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

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

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

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

effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter 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. 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. Total dissolved solid concentrations in ocean waters are expected to exceed 3,000 mg/L, and thereby meet an exception to Resolution 88-63. The MUN designation is therefore not applicable to the receiving water for the discharge at Discharge Point 001. Beneficial uses established by the Basin Plan for ocean waters are described in Table 5, below.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	**Existing:** NAV - Navigation REC1 - Water Contact Recreation REC2 - Non-Contact Water Recreation COMM - Commercial and Sport Fishing 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 AQUA – Aquaculture **Potential:** IND – Industrial Service Supply PRO – Industrial Process Supply ASBS – Preservation of Areas of Special Biological Significance

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. California Ocean Plan. The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendments on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below.

Table 6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	• Industrial Water Supply; • Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; • Navigation; • Commercial and Sport Fishing; • Mariculture; • Preservation and Enhancement of Designated Areas of Special Biological Significance (ASBS); • Rare and Endangered Species; • Marine Habitat; • Fish Migration • Fish Spawning; and • Shellfish Harvesting

J. 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.

K. 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 pH, biochemical oxygen demand (BOD_5), total suspended solids (TSS), settleable solids, turbidity, and oil and grease at Discharge Point 001. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements, except for settleable solids, where more stringent limitations are retained from the previous permit. In addition, this Order contains effluent limitations for total residual chlorine, copper, cyanide, ammonia, and fecal coliform bacteria more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

L. 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.

M. 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.

N. 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.

O. 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 establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

P. 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.

Q. 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.

R. 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.

S. 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.

THEREFORE, IT IS HEREBY ORDERED, that this Order supercedes Order No. R1-2004-0013 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. Discharge Prohibitions

A. The discharge of waste to Humboldt Bay is prohibited unless it is done in such a manner to assure that all wastewater is conveyed to the mouth of the Bay and dispersed in the Pacific Ocean during periods of ebb tide.

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

C. Creation of pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code is prohibited.

D. 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).

E. 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. F and Attachment D, Standard Provision G (Bypass).

F. 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.

G. The discharge of waste to the Elk River and its tributaries, and to seasonal and tidal marshes, including discharges from the Overflow Marsh that has received wastewater, is prohibited.

H. The discharge of more than 8.6 mgd as a peak dry weather flow, or 32.0 mgd as a peak wet weather flow, is prohibited.

I. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

J. The discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

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 7. Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Six-Month Median
BOD_5	mg/L	30	45	60	---	---
	lbs/day[2]	2151	3227	4303	---	---
	lbs/day[3]	3002	4503	6005	---	---
TSS	mg/L	30	45	60	---	---
	lbs/day[3]	2151	3227	4303	---	---
	lbs/day[3]	3002	4503	6005	---	---
pH	s.u.	Not less than 6.0 nor greater than 9.0				
Settleable Solids	mL/L/hr	0.1	---	0.2	---	---
Grease and Oil	mg/L	25	40	75	---	---
Turbidity	NTU	75	100	225	---	---
Total Chlorine Residual	µg/L	---	---	248	1860	62
	lbs/day[2]	---	---	17.8	133.4	4.45
	lbs/day[3]	---	---	24.8	186	6.20
Copper	µg/L	---	---	312	870	33
	lbs/day[2]	---	---	22.4	62.4	2.37
	lbs/day[3]	---	---	31.1	87.1	3.30
Cyanide	µg/L	---	---	124	310	31
	lbs/day[2]	---	---	8.89	22.2	2.22
	lbs/day[3]	---	---	12.4	31.0	3.10
Ammonia	mg/L	---	---	74.4	186	18.6
	lbs/day[2]	---	---	5336	13341	1334
	lbs/day[3]	---	---	7446	18615	1861

[2] Mass-based limitations are based on the peak dry weather design flow of the WWTF of 8.6 mgd.

[3] These alternate mass-based limitations apply during periods of high infiltration/inflow when influent flow to the WWTF exceed 8.6 mgd for the limitation period (daily, weekly, or monthly), and are based on the secondary treatment capacity of the WWTF (12.0 mgd).

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 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 fecal coliform bacteria in excess of the following concentrations:

(1) The median value of fecal coliform bacteria shall not exceed an MPN of 14 per 100 milliliters in a calendar month, and

(2) In not more than 10 percent of samples collected in a calendar month shall fecal coliform bacteria exceed an MPN of 43 per 100 milliliters.

B. Land Discharge Specifications

Not Applicable.

C. Reclamation Specifications

Not Applicable.

D. Other Requirements

The Discharger shall maintain compliance with the following requirements at all times:

1. **Marsh Overflow Process Requirements**

a. There shall be no detectable levels of chlorine discharged to the overflow marsh, as measured at INT-001, using a method with a minimum detection limit of 0.1 mg/L.

V. Receiving Water Limitations

A. Surface Water Limitations

Ocean Plan

1. Bacterial Characteristics

a. Body Contact Standards

Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Water Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column:

30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location:

i. Total coliform density shall not exceed 1,000 per 100 mL

ii. Fecal coliform density shall not exceed 200 per 100 mL; and

iii. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample maximum:

i. Total coliform density shall not exceed 10,000 per 100 mL;

ii. Fecal coliform density shall not exceed 400 per 100 mL;

iii. Enterococcus density shall not exceed 104 per 100 mL; and

iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacteriological objectives shall be maintained throughout the water column:

i. The median total coliform density shall not exceed 70 organisms per 100 mL, and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mL.

2. Physical Characteristics

a. Floating particulates and grease and oil shall not be visible.

b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

d. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

3. Chemical Characteristics

    a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally as a result of the discharge of oxygen demanding waste material.

    b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

    c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

    d. The concentration of substances set forth in Chapter IV, Table B of the Ocean Plan in marine sediments shall not be increased to levels that would degrade indigenous biota.

    e. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

    f. Nutrient levels shall not cause objectionable aquatic growths or degrade indigenous biota.

    g. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Table B of the Ocean Plan.

    h. Discharge of radioactive waste shall not degrade marine life.

4. Biological Characteristics

    a. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.

    b. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

    c. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

5. General Standards

    a. The discharge shall not cause a violation of any applicable water quality standard for the receiving waters adopted by the Regional Water Board or the State Water Board as required by the Clean Water Act and regulations adopted thereunder.

    b. The discharge shall be essentially free of:

        i. Material that is floatable or will become floatable upon discharge.

        ii. Settleable material or substances that may form sediments that will degrade benthic communities or other aquatic life.

        iii. Substances that will accumulate to toxic levels in marine waters, sediments or biota.

iv. Substances that significantly decrease natural light to benthic communities and other marine life.

v. Material that results in aesthetically undesirable discoloration of the ocean surface.

c. Waste effluent shall be discharged in a manner that provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

d. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

i. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body contact sports.

ii. Natural water quality conditions are not altered in areas designated as being of special biological significance.

iii. Maximum protection is provided to the marine environment.

iv. The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

B. Groundwater Limitations

Not Applicable. The Discharger has not sought a permit for any discharges to 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 as soon as possible, but no later than two (2) hours after becoming aware of the discharge, orally[4] notify the State Office of Emergency Services, the local health officer or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board.

c. As soon as possible, but no later than twenty-four (24) hours after becoming aware of a discharge to a drainage channel or a surface water, the Discharger shall submit to the Regional Water Board a written certification that the State Office of Emergency Services and the local health officer or directors of environmental health with jurisdiction over the affected water body have been notified of the discharge. Written documentation of the circumstances of the spill event shall be submitted to the Regional Water Board within five (5) days, unless the Regional Water Board waives the confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and to prevent recurrence, including, where applicable, a schedule of implementation. Other types of noncompliance require written notification, as described above, at the time of the normal monitoring report.

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.

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[4] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services at (800) 852-7550 or Regional Water Board spill officer at (707) 576-2220.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

(1) Whole Effluent Toxicity. The Monitoring and Reporting Program (MRP) of this Order requires routine monitoring for chronic toxicity at Discharge Point 001 to determine compliance with the Ocean Plan's water quality objectives for chronic toxicity. As established by the MRP, if chronic toxicity is measured above the water quality objective of 31 TUc in the effluent, 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. TREs 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 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.

(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.

b. Effluent Discharge Study

The Discharger shall complete an Effluent Discharge Study to document that the ebb-tide discharge from the Eureka Elk River WWTP does not adversely impact the beneficial uses of Humboldt Bay. At a minimum, the Study must include an assessment of the transport and fate of pollutants discharged from the Eureka Elk River WWTP and an assessment of the critical beneficial uses potentially impacted by the ebb-tide discharge. The Discharger shall submit for approval a scope of work for the study to the Regional Water Board Executive Officer no later than **December 1, 2009**. A final study report shall be submitted to the Regional Water Board no later than **January 8, 2014**.

c. Feasibility Analysis for Treating Peak Wet Weather Discharges

The Discharger shall complete a comprehensive analysis (utility analysis) to determine whether it is feasible to eliminate anticipated wet weather bypasses of its secondary treatment units. The feasibility analysis shall include:

1. Documentation of the current treatment plant design capacity for all treatment units, the maximum flow that can be processed through those units, and the feasibility of increasing such treatment capacity and related costs;
2. Estimation of the frequency, duration, and volume of current wet weather diversions, and evaluation of alternatives;

3. Estimation of the potential frequency of future peak wet weather diversions based upon information such as predicted weather patterns, population growth, and projected treatment plant and collection system changes (e.g., upgrades, extensions, deterioration) and evaluation of options for reducing diversions based on these variables;
4. Assessment of existing storage within the collection system or on-site and options for enhanced utilization or expansion (taking into account physical and technological considerations) of storage to reduce the frequency, duration, and volume of peak wet weather diversions, and the related costs;
5. Assessment of other ways to reduce peak wet weather flow volumes, such as limiting collection system extensions or slug loadings from indirect dischargers;
6. Evaluation of technologies (such as supplemental biological treatment, physical chemical treatment, ballasted flocculation, deep bed filtration, or membrane technology) that are or could be used to provide additional treatment to peak wet weather flows or peak wet weather diversions at the POTW treatment plant and the costs of implementing those technologies;
7. Evaluation of the extent to which the Discharger is maximizing its ability to reduce I/I throughout the entire collection system (i.e., not only the portions operated by the utility, but also portions operated by any municipal satellite community), including the use of existing legal authorities, potential improvements in the timing or quality of such efforts, and options for obtaining or expanding legal authorities to reduce I/I from satellite collection systems;
8. Evaluation of peak flow reductions obtainable through implementation of existing Capacity, Management, Operations, and Maintenance (C-MOM) programs and potential improvements in the timing or enhancement of those programs and the related costs; or, if no such program exists, reductions obtainable through the development and implementation of a C-MOM program and the related costs;
9. Assessment of the community's ability to fund the peak wet weather flow improvements discussed in the utility analysis, taking into consideration: current sewer rates, planned rate increases, and the costs, schedules, anticipated financial impacts to the community of other planned water and wastewater expenditures, and other relevant factors impacting the utility's rate base, using as a guide EPA's CSO Guidance for Financial Capability Assessment and Schedule Development, EPA 832-B-97-004;
10. Proposal of a protocol for monitoring the recombined flow at least once daily during diversions for all parameters for which the POTW treatment plant has daily effluent limitations or other requirements (e.g., monitoring only requirements) and that ensures appropriate representative monitoring for other monitoring requirements of the permit, the total volume diverted, and the duration of the peak wet weather diversion event; and
11. Projection of the POTW treatment plant effluent improvements and other improvements in collection system and treatment plant performance that

could be expected should the technologies, practices, and/or other measures discussed in the utility analysis be implemented.

A final study report shall be submitted to the Regional Water Board no later than **January 8, 2014**.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program (PMP)

The Discharger shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, 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) The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported Minimum Level (ML); or

(2) The concentration of the pollutant is reported as Not Detected (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

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. The deadline for dischargers to apply for coverage under State Water Board Order No. 2006-0003-DWQ was November 6, 2006. The Discharger shall maintain coverage under, and shall be subject to the requirements of Order No. 2006-0003-DWQ 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) Sanitary Sewer Overflows

Sanitary sewer overflows (SSOs) shall be reported orally[5] to the Regional Water Board staff in accordance with the following:

(a) SSOs in excess of 1,000 gallons or any SSO that results in sewage reaching surface waters, or if it is likely that more than 1,000 gallons has escaped or will escape the collection system, shall be reported immediately by telephone. A written description of the event shall be submitted in conjunction with the monthly monitoring report.

(b) SSOs that result in a sewage spill between 100 gallons and 1,000 gallons that do not reach a surface waterway shall be reported orally within 24 hours. A written description of the event shall be submitted with the next monthly monitoring report.

(c) Information to be provided orally includes:

i. Name and contact information of caller.

ii. Date, time and location of SSO occurrence.

iii. Estimates of spill volume, rate of flow, and spill duration.

iv. Surface water bodies impacted.

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[5] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services at (800) 852-7550 or the Regional Water Board spill officer at (707) 576-2752.

v. Cause of spill.

vi. Cleanup actions taken or repairs made.

vii. Responding agencies.

b. Pretreatment of Industrial Waste

(1) The Discharger shall be responsible for the performance of all pretreatment requirements contained in 40 CFR Part 403 and shall be subject to enforcement actions, penalties, fines and other remedies by the USEPA or other appropriate parties as provided in the CWA, as amended (33 USC 1351 et seq.). The Discharger shall implement and enforce its approved WWTF Pretreatment Program. The Discharger's approved WWTF Pretreatment Program is hereby made an enforceable condition of this Permit. USEPA may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the CWA.

(2) The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(d) of the CWA. The Discharger shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

(3) The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:

(a) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

(b) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and

(d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

c. Sludge Disposal and Handling Requirements

(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. Class B 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 WDRs 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 municipal 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, 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.

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).

7. Compliance Schedules

Not applicable

VII. Compliance Determination

Compliance with the effluent limitations contained in Section IV of this Order that are derived from Ocean Plan Table B water quality objectives shall be determined as specified below:

A. Compliance with Single-Constituent Effluent Limitations.

Dischargers are out of compliance with the effluent limitation if the concentration of the pollutant (see Section c, below) in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

B. Compliance with Effluent Limitations expressed as a Sum of Several Constituents

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

C. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported Minimum* Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC}_{50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

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.

Areas of Special Biological Significance (ASBS): Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

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.

Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Coefficient of Variation (CV): the measure of the data variability that is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix III, Table III-1.

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.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degradation: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

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.

Downstream Ocean Waters: Waters downstream with respect to ocean currents.

Dredged Material: Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

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).

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

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.

Endosulfan: The sum of endosulfan-alpha and -beta and endosulfan sulfate.

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.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an IC25 is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

Initial Dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

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).

Kelp Beds, for or purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera *Macrocystis* and *Nereocystis*. Kelp beds include the total foliage canopy of *Macrocystis* and *Nereocystis* throughout the water column.

Lowest Observed Effect Concentration (LOEC) is the lowest concentration of toxicant to which organisms are exposed in a test, which causes statistically significant adverse effects on the test organisms (i.e., where the values for the observed endpoints are statistically significantly different from the control).

Mariculture: The culture of plants and animals in marine waters independent of any pollution source.

Material: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

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.

Natural Light: Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

No Observed Effect Concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

Not Detected (ND): 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.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

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) chosen by the Discharger 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.

Shellfish: Organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference: Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation: The highest allowable moving median of all daily discharges for any 180-day period.

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.

State Water Quality Protection Areas (SWQPAs): Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

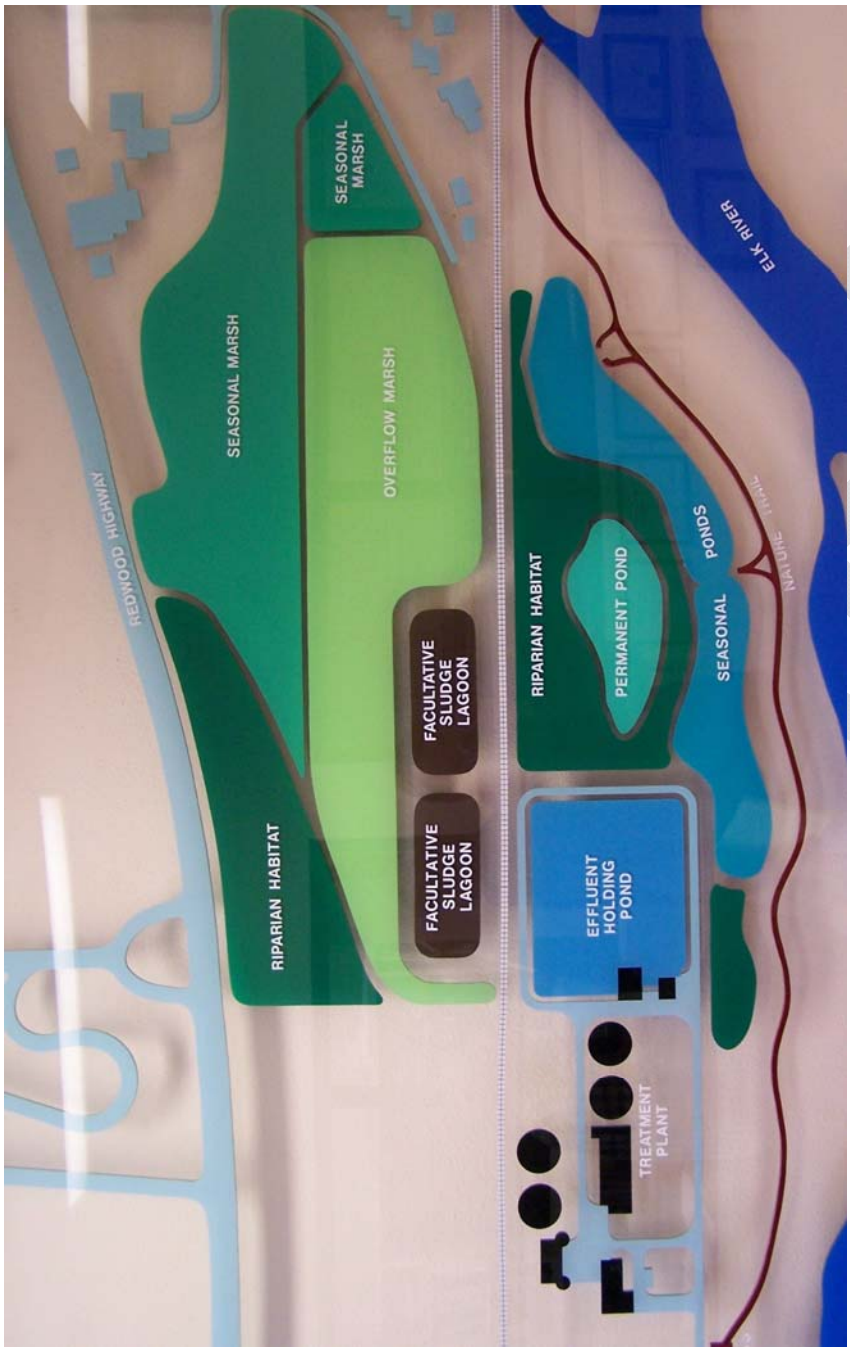
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps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

Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Reclamation: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

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

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

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

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

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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.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point	Monitoring Location	Monitoring Location Description
---	INF-001	Location where representative samples of wastewater can be collected prior to treatment.
---	INT-001	Location where representative samples of treated wastewater can be collected prior to discharge to the Overflow Marsh
001	EFF-001	Location where representative samples of treated wastewater, to be discharged to Humboldt Bay at Discharge Point 001, can be collected at a point after treatment, including chlorination/dechlorination, and before contact with the receiving water.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

Table E-2. Influent Monitoring

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

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater to be discharged to Humboldt Bay during discharge pumping cycles and prior to contact with receiving water at Monitoring Location EFF-001 as follows.

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Flow [3]	mgd	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	Daily	SM 2540 F
Fecal Coliform Bacteria	MPN/100 mL	Grab	Twice Weekly	40 CFR 136
pH	s.u.	Grab	Daily	40 CFR 136
Turbidity	NTU	Grab	Daily	40 CFR 136
Chlorine Residual [4]	mg/L	Grab	Continuous	40 CFR 136

[1] 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.

[2] For each month, the Discharger shall report the maximum daily and mean daily influent flow rates.

[3] For each month, the Discharger shall report the maximum daily and mean daily effluent flow rates.

[4] 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 continuously using a method with a reporting limit as low as

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Oil and Grease	mg/L	Grab	Monthly	40 CFR 136
Acute Toxicity	% Survival	Grab	Quarterly	40 CFR 136
Chronic Toxicity	TUc	Grab	Quarterly	40 CFR 136
Copper	µg/L	24-hr composite	Monthly	40 CFR 136
Cyanide	µg/L	24-hr composite	Monthly	40 CFR 136
Total Ammonia	mg/L N	24-hr composite	Monthly	40 CFR 136
Remaining Ocean Plan Table B Pollutants	µg/L	24-hr composite	Annually	40 CFR 136

2. The Discharger shall conduct monitoring at EFF-001 in accordance with the following schedule in response to blending events, and shall continue this monitoring schedule for the duration of the event.

Table E-4. Blending Events Effluent Monitoring, Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Flow [5]	mgd	Continuous	Continuous	Meter
BOD_5	mg/L	Grab	Daily	SM 5210 B
TSS	mg/L	Grab	Daily	SM 2540 D
Settleable Solids	mL/L/hr	Grab	Daily	SM 2540 F
Fecal Coliform Bacteria	MPN/100 mL	Grab	Daily	40 CFR 136
pH	s.u.	Grab	Daily	40 CFR 136
Turbidity	NTUs	Grab	Daily	40 CFR 136
Total Residual Chlorine [6]	mg/L	Grab	Daily	40 CFR 136
Oil and Grease	mg/L	Grab	Monthly	40 CFR 136
Copper	µg/L	Grab	Monthly	40 CFR 136
Cyanide	µg/L	Grab	Monthly	40 CFR 136
Ammonia	mg/L	Grab	Daily	40 CFR 136

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Testing

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.

5 The Discharger shall also report the frequency and volume of blended effluent.

6 Samples shall be collected at points immediately prior to dechlorination and immediately following dechlorination. All chlorine measurements shall be reported as total chlorine residual. The Discharger shall monitor total residual chlorine in the effluent continuously using a method with a reporting limit as low as technically feasible.

The Discharger shall conduct chronic toxicity testing to demonstrate compliance with the chronic toxicity water quality objective established in Table B of the Ocean Plan. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Test Frequency**. The Discharger shall conduct quarterly chronic toxicity testing at Discharge Point 001.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, effluent samples from Monitoring Locations EFF-001 shall be grab samples that are representative of the volume and quality of the discharge from the facility. For toxicity tests requiring renewals, grab samples collected on consecutive days are required.

3. **Test Species.** Critical life stage bioassay testing shall be conducted using an approved test, and test species, as described by Table III-1 of the Ocean Plan and presented below. Initial testing for the first two suites of tests, shall be conducted with a vertebrate, an invertebrate, and a plant species, and thereafter, monitoring can be reduced to the most sensitive species. At least once every five years, the Discharger shall rescreen once with the three species listed above, and continue to monitor with the most sensitive species.

Table E-5. Approved Tests – Chronic Toxicity

Species	Test	Tier [1]	Reference [2]
Giant kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
Red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
Oyster, *Crassostrea gigas*; mussels, *Mytilus spp*.	abnormal shell development; percent survival	1	a, c
Urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
Urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
Shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
Shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
Topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silverside, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Regional Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast

Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136.

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

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 West Coast Marine and Estuarine Organisms* (USEPA Report No. EPA/600/R-95/136, or subsequent editions), *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms* (USEPA Report No. EPA-821-R-02-014 or subsequent editions), or other methods approved by the Executive Officer.

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: 1.25, 2.5, 5, 10, and 12.5 percent, and a control. Control and dilution water shall be receiving water collected at an appropriate location beyond the influence of the discharge. 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 7 days following notification of test failure.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results, which indicate the exceedance of the effluent limitation for chronic toxicity.

9. **Accelerated Monitoring Requirements**. If the result of any chronic toxicity test exceeds the chronic toxicity water quality objective of 31 TUc, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring.

Accelerated monitoring shall consist of four additional effluent samples, one test conducted approximately every week over a four week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity effluent limitation. If the discharge will cease before the additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the chronic toxicity effluent limitation.

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 water quality objective, 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 chronic toxicity effluent limitation. Upon confirmation that the chronic toxicity has been removed, the Discharger may cease accelerated monitoring and resume routine chronic toxicity monitoring.

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

(1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

(2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(3) A schedule for these actions.

C. Chronic Toxicity Reporting

1. **Routine Reporting**. Test results for chronic toxicity monitoring shall be reported according to the appropriate chronic guidance manuals and this Monitoring and Reporting Program, and shall be attached to the self-monitoring report. Test results shall include, at a minimum, for each test:

   a. sample date(s)

   b. test initiation date

c. test species

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

e. NOEC value(s) in percent effluent

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

g. TUc values (100/NOEC)

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

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

j. IC50 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, if appropriate, which includes the calculation of percent minimum significant difference (PMSD.)

2. **Quality Assurance Reporting.** Because the permit requires sublethal hypothesis testing endpoints from methods 1006.0 and 1007.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA-821-R-02-014, 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 10.2.8.2.4.1 through 10.2.8.2.4.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

3. **Compliance Summary**: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table organized by test species, type of test (survival, growth or reproduction) and monitoring frequency (routine, accelerated or TRE) of toxicity data from at least three of the most recent samples. The final 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 Eureka Elk River WWTF.

VII. RECLAMATION MONITORING REQUIREMENTS

This section is not applicable to the Eureka Elk River WWTF.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

This section is not applicable to the Eureka Elk River WWTF.

IX. OTHER MONITORING REQUIREMENTS

A. Monitoring Location INT-001

1. The Discharger shall monitor treated wastewater to be discharged to the Overflow Marsh at Monitoring Location INT-001 as follows.

Table E-6. Overflow Marsh Discharge Monitoring, Monitoring Location INT-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Total Residual Chlorine [7]	mg/L	Grab	Daily	40 CFR 136

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date

[7] Samples shall be collected at a point immediately prior discharge to the Overflow Marsh. All chlorine measurements shall be reported as total chlorine residual. The Discharger shall monitor total residual chlorine in the effluent at least daily using a method with a minimum detection limit of 0.1 mg/L.

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	July 24, 2009	All	First day of second calendar month following month of sampling
Daily	July 24, 2009	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling
Weekly	July 26, 2009	Sunday through Saturday	First day of second calendar month following month of sampling
Twice per Week	July 26, 2009	Sunday through Saturday	First day of second calendar month following month of sampling
Monthly	August 1, 2009	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Twice per Month	August 1, 2009	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	October 1, 2009	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	First day of second calendar month following month of sampling
Annually	July 24, 2009	January 1 through December 31	March 1 each year
Once per Permit Term	July 24, 2009	January 1 through December 31	January 4, 2014
Once per Discharge Event	July 24, 2009	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) 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.

5. The Discharger shall submit 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 violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   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)

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

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

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

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and 3 of this Order. The Discharger shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – VI.C.7 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B. above.

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

   a. 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. 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.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1B82151OHUM
Discharger	City of Eureka
Name of Facility	Greater Eureka Area Elk River Wastewater Treatment Facility (WWTF)
Facility Address	4301 Hilfiker Lane Eureka, CA 95503 Humboldt County
Facility Contact, Title and Phone	Clay Yerby, Utilities Operations Manager, (707)441-4360
Authorized Person to Sign and Submit Reports	Michael Knight, Assistant City Manager - Operations, (707)441-4207
Mailing Address	531 K Street, Eureka, CA 95503
Billing Address	Same as above
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	N/A
Facility Permitted Flow	5.24 million gallons per day (mgd) (average daily dry weather flow)
Facility Design Flow	5.24 mgd (average dry weather treatment capacity) 8.6 mgd (peak dry weather treatment capacity) 12 mgd (peak wet weather treatment capacity) 32 mgd (peak hydraulic capacity)
Watershed	Eureka Plain Hydrologic Unit
Receiving Water	Humboldt Bay and Freshwater Marsh
Receiving Water Type	Pacific Ocean and freshwater

A. The City of Eureka (hereinafter Discharger) owns and operates the Greater Eureka Area Elk River 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 the Pacific Ocean, via Humboldt Bay, and to freshwater wetlands adjacent to the treatment facility, both waters of the United States, and is currently regulated by Regional Water Board Order No. R1-2004-0013, which was adopted on March 24, 2004 and expires on March 24, 2009.

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 dated September 23, 2008, and submitted supplemental documentation December 4, 2008.

II. FACILITY DESCRIPTION

The City of Eureka owns and operates the wastewater collection, treatment, and disposal facilities that serve approximately 44,128 people in the City of Eureka and unincorporated areas within the Humboldt Community Services District. The WWTF is located at 4301 Hilfiker Lane in Eureka, Humboldt County, California.

A. Description of Wastewater Treatment or Controls

The WWTF treats domestic, commercial, industrial, and treated groundwater remediation project wastewater. The treatment facility has an average dry weather treatment capacity of 5.24 mgd, a peak dry weather treatment capacity of 8.6 mgd, and a hydraulic capacity of 32 mgd.

Wastewater treatment includes primary treatment with mechanical bar screens, grit removal, and primary clarification. Secondary treatment is accomplished using two trickling filters, followed by secondary clarification and chlorination. The effluent is then stored in an effluent holding pond until ebb tide occurs when the flow is dechlorinated and discharged at Discharge Point 001 to Humboldt Bay. Discharge at ebb tide ensures the wastewater is conveyed to the Pacific Ocean. Regional Water Board Resolution No. 80-10 concluded that the discharge to Humboldt Bay during ebb tide effectively classifies the discharge as an ocean discharge, rather than a discharge to an enclosed bay. The Resolution was approved by State Water Board Resolution No. 80-87 as consistent with the requirements of the Water Quality Control Policy for the Enclosed Bays and Estuaries of California.

Flows up to 12 mgd receive full secondary treatment, and flows above 12 mgd receive primary treatment and are blended with secondary treated wastewater prior to discharge to Humboldt Bay.

During periods when high influent flow exceeds the hydraulic capacity of the WWTF, excess flow from the effluent holding pond can be directed to a 13-acre freshwater holding marsh (Overflow Marsh) and pumped back to the effluent storage pond once flows subside. The Overflow Marsh is a component of the WWTF, as described in the "Final Environmental Impact Report – Wastewater Management Plan for the Greater Eureka

Area" (July 10, 1980), and as established in Waste Discharge Requirements Order No. 81-1 adopted for the Facility by the Regional Water Board on January 22, 1981.

B. Discharge Points and Receiving Waters

The treatment facility's point of discharge at Discharge Point 001 to Humboldt Bay is located within the Eureka Plain Hydrologic Unit at 40º 46′ 24″ N latitude and 124º 12′ 45″ W longitude. The outfall structure is a 48-inch diameter pipe, 4,100 feet in length, and provides an initial dilution of 30 to1 (parts seawater: parts effluent). For the Elk River WWTF, discharge to Humboldt Bay only occurs at ebb tide, which effectively conveys the discharge to the Pacific Ocean. Regional Water Board Resolution No. 80-10 concluded that the discharge during ebb tide assures that the discharge is effectively an ocean discharge, which complies with the requirements of *Water Quality Control Policy for Enclosed Bays and Estuaries* (State Water Board Resolution 74-43). State Water Board Resolution No. 80-87 also found that the discharge to Humboldt Bay at ebb tide at a point near the mouth of Humboldt Bay is consistent with the intent of State Water Board Resolution 74-43, based on a minimum of secondary treatment of the effluent.

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 Locations 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. Ocean Plan Table B toxic pollutant effluent limitations and monitoring data are discussed in section IV.C of the Fact Sheet.

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

Parameter	Units	Effluent Limitation			Monitoring Data (From 3/2004– To 12/2007)	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
BOD_5	mg/L	30	45	60	---	25
Percent Removal, BOD	%	≥85	---	---	Minimum - 87.5	---
TSS	mg/L	30	45	60	---	24
Percent Removal, TSS	%	≥85	---	---	Minimum - 88	---
Settleable Solids	mL/L	0.1	---	0.2	---	0.10
Fecal Coliform Bacteria	MPN/100 mL	14[1]	---	43[2]	17[1]	500[2]
pH	s.u.	6.0 - 9.0 at all times			Minimum - 6.0 Maximum – 7.4	
Acute Toxicity	TUa	---	---	1.2	---	1.0

1 Expressed as a 30-day median.
2 Not more than 10 percent of samples collected in a 30-day period shall exceed 43 MPN/100 mL.

Parameter	Units	Effluent Limitation			Monitoring Data (From 3/2004– To 12/2007)	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Chronic Toxicity	TUc	---	---	31	---	3.1

D. Compliance Summary

The Discharger has been subject to two Adminstrative Civil Liability Orders during the term of the previous permit. ACL Order No. R1-2007-0021 assessed civil liability for 22 sanitary sewer overflows (SSOs) that resulted in 15 discharges to receiving water from October 1, 2004 through March 31, 2006. ACL Order No. R1-2008-0049 assessed civil liability for ten effluent limitation violations from April 1, 2004 through June 30, 2007; seven prohibited discharges including 5 SSOs and 2 discharges to Humboldt Bay outside of ebb tide from April 1 through June 30, 2007; and 5 more SSOs from July 1, 2007 through January 31, 2008.

E. Planned Changes

There are no planned changes at the Eureka Elk River WWTF.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as 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 Quality Control Board (Regional Water Board) adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan

implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Total dissolved solids concentrations in ocean waters are expected to exceed 3,000 mg/L, and thereby meet an exception to Resolution 88-63. The MUN designation is therefore not applicable to the receiving water for discharges at Discharge Point 001. Beneficial uses applicable to the receiving waters for discharges from the Elk River WWTF are as follows.

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	**Existing:** NAV - Navigation REC1 - Water Contact Recreation REC2 - Non-Contact Water Recreation COMM - Commercial and Sport Fishing 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 AQUA – Aquaculture **Potential:** IND – Industrial Service Supply PRO – Industrial Process Supply ASBS – Preservation of Areas of Special Biological Significance

Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below.

Table F-4. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	• Industrial Water Supply; • Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; • Navigation; • Commercial and Sport Fishing; • Mariculture; • Preservation and Enhancement of Designated Areas of Special Biological Significance (ASBS); • Rare and Endangered Species; • Marine Habitat;

		• Fish Migration • Fish Spawning; and • Shellfish Harvesting

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (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.

6. **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.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[3] 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.

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 (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

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

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. 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. As described above in Section II.B., the WWTF discharge into Humboldt Bat at ebb tide is considered to be an ocean discharge, and not a discharge into Humboldt Bay. In addition, the discharge does not have the reasonable potential to contain dioxin.

The Pacific Ocean and the freshwater marsh are not identified as impaired on the most recent 303 (d) list of impaired water bodies.

E. Other Plans, Polices and Regulations

1. 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). Storm water falling within the wastewater treatment facility is routed to the facility headworks.

2. On May 2, 2006, the State Water Board adopted State Water Board Order 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 greater than one mile in length that collect and convey untreated or partially treated wastewater to a POTW apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage was November 2, 2006. The Discharger applied for coverage and is subject the requirements of Order No. 2006-0003-DWQ and any future revisions thereto for operation of its wastewater collection system.

3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Order requires the Discharger to obtain coverage under Order No. 2004-0012-DWQ prior to removal of biosolids from the sludge lagoons for land application.

4. On May 16, 1974, the State Water Board adopted State Water Board Resolution 74-43, *Water Quality Control Policy for Enclosed Bays and Estuaries*. Under State Water Board Resolution 74-43, the discharge of municipal wastewater to enclosed bays should be phased out as early as possible, and exceptions to this only allowed when the discharge enhances the quality of the receiving water above that which would occur in the absence of the discharge. Regional Water Board Resolution No. 80-10 and State Water Board Resolution No. 80-87 concluded that the discharge to Humboldt Bay at ebb tide at a point near the mouth of Humboldt Bay is consistent with the intent of State Water Board Resolution 74-43.

5. The discharge of waste other than hazardous waste to land for treatment, storage and disposal in waste management units is regulated pursuant to Title 27, California Code of Regulations, except when expressly exempted. With respect to domestic sewage, Section 20090 of title 27 specifies the available exemption as follows:

   > Exemptions. (C15: §2511): The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed: (a) Sewage—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater

treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

The applicable provisions of division 2 (Solid Waste) include prescriptive waste containment unit siting criteria, waste unit construction standards, and liner requirements. The waste containment units for digested sludge at the WWTF have been permitted for use since the commencement of the operation of the WWTF in 1984, but are, nevertheless, not compliant with the provisions of title 27. The Regional Water Board is in the process of taking enforcement action to require the Discharger to take corrective action to bring its solids handling and storage program into compliance with applicable state regulations.

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.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of all waste to Humboldt Bay is prohibited unless it is done in such a manner to ensure that all wastewater is conveyed to the mouth of the Bay and dispersed in the Pacific Ocean during periods of ebb tide.

   This prohibition is retained from the previous Order (Order No. R1-2004-0013) and maintains consistency with the Water Quality Control Policy for Enclosed Bays and Estuaries of California, adopted by the State Water Board in 1974.

   Regional Water Board Resolution No. 80-10 recognized discharge at ebb tide as a viable alternative to an ocean outfall as a means of implementing the Water Quality Control Policy for the Enclosed Bays and Estuaries of California. With adoption of State Water Board Resolution No. 80-87, the State Water Board also found the concept of discharging at ebb tide to be consistent with the Enclosed Bays and Estuaries Policy. Consistent with these resolutions, the discharge at Discharge Point 001 is classified as an ocean discharge rather than a dicharge to an enclosed bay.

2. **Discharge Prohibition III.B.** 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. R1-2004-0013) 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 to the Ordering 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…, whether spills or otherwise,…" [Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 268 F. 3d 255, 268.] Thus the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the 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.C.** 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. R1-2004-0013) and is based on section 13050 of the Water Code.

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

   This prohibition is is retained from the previous Order (Order No. R1-2004-0013) and is based in restrictions on 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.E.** 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. R1-2004-0013) and is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to section 122.41(m). However, in accordance with EPA's draft Blending Policy [*National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Peak Wet Weather Discharges from Publicly Owned Treatment Plants Serving Separate Sanitary Sewer Collection Systems*, 70 Fed. Reg. 76013 (December 22, 2005)], an exception to the bypass provision may be permissible, as long as criteria of section 122.41(m)(4)(i)(A)-(C) are satisfied. Since 1987, the Regional Water Board has viewed the practice of blending at the City's WWTF as a permissible exception to the bypass prohibition. This Order continues the exception granting bypass of peak wet weather flows above 12 mgd when recombined with secondary treatment flows and discharged in accordance with the conditions at section 122.41(m)(4)(i)(A)-(C). Because the EPA strongly discourages reliance on peak wet weather flow diversions around secondary treatment units as a long-term wet weather management approach at a POTW serving separate sanitary sewer conveyance systems and encourages such diversions to be minimized to the maximum extent feasible, this Order is requiring the Discharger to complete a study during the term of the Order to determine the feasibility of alternatives to blending.

5. **Discharge Prohibition III.F.** 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, and 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.G.** The discharge of waste to the Elk River and its tributaries, and to seasonal and tidal marshes, including discharges from the Overflow Marsh that has received wastewater, is prohibited.

   This prohibition is retained from the previous Order. It is based in the Water Quality Control Policy for the Enclosed Bays and Estuaries of Califonia. The Policy prohibits discharges to enclosed bays, with certain exceptions. As the Elk River is directly tributary to Humboldt Bay, discharges to the Elk River are prohibited. This prohibition also expressly prohibits any discharge of waste to the seasonal or tidal marshes located adjacent to the WWTF.

7. **Discharge Prohibition III.H.** Discharge of more than 8.6 mgd as a peak dry weather flow or 32.0 mgd as a peak wet weather flow, is prohibited.

   This prohibition is retained from the previous permit. The WWTF is rated at 8.6 mgd as a peak dry weather flow, and has a hydraulic capacity of 32.0 mgd. Exceedance of the treatment plant's average dry weather flow design capacity may result in lowering the reliability of achieving compliance with water quality requirements.

8. **Discharge Prohibition III.I.** Discharge of any radiological, chemical, or biological warfare warfare agent, or high-level radioactive waste into the ocean is prohibited.

   This prohibition is established by this Order and is based on the requirements of the Ocean Plan.

9. **Discharge Prohibition III.J.** Discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

   This prohibition is newly established by the Order and is based on the Ocean Plan.

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-5. 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	

Table A of the Ocean Plan includes technology-based effluent limitations for suspended solids, settleable solids, turbidity, pH, and grease and oil. Table A effluent limitations apply only to POTWs and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the federal CWA. Table A effluent limitations are as follows;

Table F-6. Table A Effluent Limitations from the Ocean Plan

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Grease and Oil	mg/L	25	40	75
Settleable Solids	mL/L/hr	1.5	1.5	3.0
Turbidity	NTU	75	100	225
pH	s.u.	6.0 – 9.0 at all times		
Suspended Solids	Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean*, except that the effluent limitation to be met shall not be lower than 60 mg/l. Regional Boards may recommend that the SWRCB (Chapter IIIJ), with the concurrence of the Environmental Protection Agency, adjust the lower effluent concentration limit (the 60 mg/l above) to suit the environmental and effluent characteristics of the discharge. As a further consideration in making such recommendation for adjustment, Regional Boards should evaluate effects on existing and potential water* reclamation projects. If the lower effluent concentration limit is adjusted, the discharger shall remove 75% of suspended solids from the influent stream at any time the influent concentration exceeds four times such adjusted effluent limit.			

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 are based on the facility peak dry weather design flow of 8.6 mgd and the peak secondary treatment capacity of 12 mgd.

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-7. 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	2151	3227	4303
	lbs/day	3002	4503	6005
TSS	mg/L	30	45	60
	lbs/day	2151	3227	4303
	lbs/day	3002	4503	6005
BOD_5 and TSS	% Removal	85	---	---
pH	s.u.	6.0 – 9.0 at all times		
Settleable Solids	mL/L/hr	0.1	---	0.2
Grease and Oil	mg/L	25	40	75
Turbidity	NTU	75	100	225

a. Discharge Point 001.

(1) Numeric effluent limitations for BOD_5, TSS, including the percent removal requirement, and for pH are retained from the previous permit and reflect secondary treatment standards at Part 133. Mass based limits 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 limitations in the permit. Mass-based effluent limitations are based on the facility's peak dry weather design capacity for flows up to 8.6 mgd, and are based on the facility's peak secondary treatment capacity of 12.0 mgd for flows exceeding 8.6 mgd.

(2) Numeric effluent limitations for oil and grease and turbidity are established by this Order, and are based in Table A of the Ocean Plan. Ocean Plan Table A effluent limitations reflect the minimum level of treatment acceptable under the Plan, and define reasonable treatment and waste control technology. The effluent limitations for settleable solids are retained from the previous permit, and are more stringent that the levels set forth in the Ocean Plan Table A.

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 Elk River WWTF to cause or contribute to exceedances of applicable water quality criteria for copper, cyanide, and ammonia at Discharge Point 001. In addition, reasonable potential was determined for fecal coliform bacteria because the Facility is a POTW treating domestic waste, and for total residual chlorine, because the Discharger uses chlorine for effluent disinfection.

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 Elk River WWTF are discussed in Finding II. H and I of the Order and section III.C.1 and 2 of this Fact Sheet.

b. California Ocean Plan. Water quality objectives applicable to discharges at Discharge Point 001 include the water quality objectives established in the Ocean Plan.

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-Table B Ocean Plan Water Quality Objectives

i. Fecal Coliform Bacteria.

The disinfected effluent discharged through Discharge Point 001 shall not contain concentrations of fecal coliform bacteria exceeding the following limitations:

(1) The median concentration shall not exceed a Most Probable Number (MPN) of 14 per 100 millilitres for a calendar month.

(2) Not more than 10 percent of samples collected in a calendar month shall exceed an MPN of 43 per millilitres.

These effluent limitations for fecal coliform were first established in waste discharge requirements for the Discharger in 1987 (WDR Order No. 87-124) and reflect standards at the time for shellfish growing areas by the California Department of Health Services. The effluent limitations are consistent with the National Shellfish Sanitation Program's Fecal Coliform Standard for Adverse Pollution Conditions in the 2003 Guide for the Control of Molluscan Shellfish, Model Ordinance for Shellstock Growing Areas. (U. S. Department of Health and Human Services, Public Health Service, Food and Drug Administration)

b. Ocean Plan Table B Water Quality Objectives

Procedures for performing a Reasonable Potential Analysis (RPA) for toxic material in ocean dischargers are described in Section III. C. and Appendix VI of the Ocean Plan. In general, the procedure is a statistical method that projects an effluent data set while taking into account the averaging period of water quality objectives, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set, and compares the 95th percentile concentration at 95 percent confidence of each Table B pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints:

Endpoint 1 – There is "reasonable potential," and a WQBEL and monitoring are required.

Endpoint 2 - There is no "reasonable potential." WQBELs are not required, and monitoring is required at the discretion of the Regional Water Board.

Endpoint 3 - The RPA is inconclusive. Existing WQBELs are retained, and monitoring is required.

The State Water Resources Control Board has developed a reasonable potential calculator, which is available at http://www.waterboards.ca.gov/plnspols/docs/oplans/rpcalc.zip. The calculator (RPcalc 2.0) was used in conducting the RPA and considers several pathways in the determination of reasonable potential.

1. First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of available information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303 (d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

2. Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

3. Third Path

If the effluent data contains 3 or more detected and quantified values (i.e., values that are at or above the Minimum Level (ML)), and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95^{th} percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed lognormally. If the 95^{th} percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

4. Fourth Path

If the effluent data contains 3 or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps.

(1) If the number of censored values (those expressed as a “less than” value) account for less than 80 percent of the total number of effluent values, calculate the M_L (the mean of the natural log of transformed data) and S_L (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.

(2) If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data is limited, and no assumptions can be made regarding its possible distribution.)

5. Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than 3 detected and quantified values, or when the effluent data set contains 3 or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective, and accounting for ties. The sample number is reduced by one for each tie, when the dilution-adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limits in the expiring permit are retained.

The following table presents results of the RPA, performed in accordance with procedures described by the Ocean Plan and summarized above, for the Eureka City Elk River WWTF. Here, the RPA was conducted using effluent monitoring data generated during monitoring events in 2004 through 2007.

The RPA endpoint for each Table B pollutant is identified. As shown in the following table, the RPA commonly leads to Endpoint 3, meaning that the RPA is inconclusive, when a majority of the effluent data is reported as ND (not detected). In these circumstances, the Regional Water Board views the "inconclusive" result as an indication of no concern for a particular pollutant; however, additional monitoring will be required for those pollutants during the term of the reissued permit.

The RPA showed "reasonable potential" for copper, cyanide and ammonia; and therefore effluent limitations for these pollutants are required for Discharge Point 001. In addition, reasonable potential was determined for total residual chlorine, as the Discharger uses chlorine for effluent disinfection.

Table F-8. RPA Results – Discharge Point 001[4]

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Objectives for Protection of Marine Aquatic Life					
Ammonia (as N)	600	4	0	3500	Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.
Arsenic	8	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Cadmium	1	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorinated Phenolics	1	2	2	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (VI)	2	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Copper	3	4	0	28	Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.
Cyanide	1	4	2	200	Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.
Endosulfan (total)	0.009	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Endrin	0.002	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
HCH	0.004	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Lead	2	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Mercury	0.04	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nickel	5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

[4] Notes to Table F- 7:
ND indicates that the pollutant was not detected.
Minimum probable initial dilution for this Discharger is 30:1.
Effluent data used for this RPA are from 2004 to 2007.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Non-chlorinated Phenolics	30	2	2	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Silver	0.7	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Zinc	20	4	0	53	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Objectives for Protection of Human Health – Noncarcinogens					
1,1,1-Trichloroethane	540000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4-Dinitrophenol	4.0	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2-Methyl-4,6-Dinitrophenol	220	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Acrolein	220	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Antimony	1200	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroethoxy)Methane	4.4	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroisopropyl)Ether	1200	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorobenzene	570	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (III)	190000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dichlorobenzenes	5100	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Diethyl Phthalate	33000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Dimethyl Phthalate	820000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Di-n-Butyl Phthalate	3500	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Ethylbenzene	4100	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Fluoranthene	15	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorocyclo-pentadiene	58	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nitrobenzene	4.9	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Thallium	2	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Toluene	85000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Tributylin	0.0088	3	1	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Objectives for Protection of Human Health – Carcinogens					
1,1,2,2-Tetrachloroethane	2.3	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,1,2-Trichloroethane	9.4	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,1-Dichloroethylene	0.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,2-Dichloroethane	28	4	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,2-Diphenylhydrazine	0.16	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,3-Dichloropropylene	8.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,4 Dichlorobenzene	18	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
TCDD Equivalents	3.9E-9	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4,6-Trichlorophenol	0.29	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4-Dinitrotoluene	2.6	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
3,3'-Dichlorobenzidine	0.0081	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Acrylonitrile	0.10	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Aldrin	2.2E-5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Benzene	5.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Benzidine	6.9E-5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Beryllium	0.033	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroethyl)Ether	0.045	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Ethylhexyl)Phthalate	3.5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Carbon Tetrachloride	0.90	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlordane	2.3E-5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorodibromomethane	8.6	2	1	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chloroform	130	4	0	4.8	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
DDT (total)	0.00017	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Dichlorobromomethane	6.2	4	0	2.9	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Dieldrin	0.00004	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Halomethanes	130	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Heptachlor	0.00005	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Heptachlor Epoxide	0.00002	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorobenzene	0.00021	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorobutadiene	14	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachloroethane	2.5	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Isophorone	730	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Methylene Chloride	450	2	2	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodimethylamine	7.3	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodi-n-Propylamine	0.38	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodiphenylamine	2.5	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
PAHs (total)	0.0088	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
PCBs	1.9E-5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Tetrachloroethylene	2.0	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Toxaphene	0.00021	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Trichloroethylene	27	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Vinyl Chloride	36	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

4. WQBEL Calculations

a. Discharge Point 001 – Ocean Discharge. Based on results of the RPA, performed in accordance with methods of the Ocean Plan for discharges to the Pacific Ocean and other available information pertaining to the discharge, the Regional Water Board is establishing WQBELs for copper, cyanide, total residual chlorine, fecal coliform bacteria and ammonia.

As described by Section III. C of the Ocean Plan, effluent limits for Table B pollutants are calculated according to the following equation.

$$Ce = Co + Dm (Co - Cs)$$

Where …

Ce = the effluent limitation (µg/L)

Co = the concentration (the water quality objective) to be met at the completion of initial dilution (µg/L).

Cs = background seawater concentration (µg/L)

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater (here, Dm = 30)

For the Eureka City Elk River WWTF, the Dm (30) is unchanged from the previous Order (No. R1-2004-0013). Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. As site-specific water quality data is not available, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following:

Table F-9. Background Concentrations—Ocean Plan

Pollutant	Background Seawater Concentration (ug/L)
Arsenic	3
Copper	2

Pollutant	Background Seawater Concentration (ug/L)
Mercury	0.0005
Silver	0.16
Zinc	8

Applicable water quality objectives from Table B of the Ocean Plan are as follows:

Table F-10. Water Quality Objectives–Ocean Plan

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Copper	µg/L	3	12	30	---
Cyanide	µg/L	1	4	10	---
Ammonia	mg/L	0.60	2.4	6.0	---
Total Residual Chlorine	µg/L	2	8	60	---

Using the equation, Ce = Co + Dm (Co – Cs), effluent limitations are calculated as follows. Here, Dm is equal to 30 for each effluent limitation calculation

Copper

Ce = 3 + 30 (3 – 2) = 33 µg/L (6-Month Median)
Ce = 12 + 30 (12 – 2) = 312 µg/L (Daily Maximum)
Ce = 30 + 30 (30 – 2) = 870 µg/L (Instantaneous Maximum)

Cyanide

Ce = 1 + 30 (1 – 0) = 31 µg/L (6-Month Median)
Ce = 4 + 30 (4 – 0) = 124 µg/L (Daily Maximum)
Ce = 10 + 30 (10 – 0) = 310 µg/L (Instantaneous Maximum)

Ammonia

Ce = 0.60 + 30 (0.60 – 0) = 19 mg/L (6-Month Median)
Ce = 2.4 + 30 (2.4 – 0) = 74 mg/L (Daily Maximum)
Ce = 6.0 + 30 (6.0 – 0) = 186 mg/L (Instantaneous Maximum)

Total Chlorine Residual

Ce = 2 + 30 (2 – 0) = 62 µg/L (6-Month Median)
Ce = 8 + 30 (8 – 0) = 248 µg/L (Daily Maximum)
Ce = 60 + 30 (60 – 0) = 1860 µg/L (Instantaneous Maximum)

Mass-based effluent limitations have also been established for copper, cyanide, total chlorine residual, and ammonia pursuant to 40 CFR 122.45(f), which

requires that pollutants limited in permits be expressed in terms of mass. Like mass-based limitations for BOD_5 and TSS, mass-based limitations for WQBELs for Discharge Point 001 are based on the facility's peak dry weather design capacity for flows up to 8.6 mgd, and are based on the facility's peak secondary treatment capacity of 12.0 mgd for flows exceeding 8.6 mgd. WQBELs established by the Order are summarized in the following tables and text.

Table F-11. Final WQBELs for Ocean Plan Table B Pollutants

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Copper	µg/L	33	312	870	---
	lbs/day[5]	2.37	22.4	62.4	---
	lbs/day[6]	3.30	31.1	87.1	---
Cyanide	µg/L	31	124	310	---
	lbs/day[5]	2.22	8.89	22.2	---
	lbs/day[6]	3.10	12.4	31.0	---
Ammonia	mg/L	18.6	74.4	186	---
	lbs/day[5]	1,334	5,336	13,341	---
	lbs/day[6]	1,861	7,446	18,615	---
Total Residual Chlorine[7]	µg/L	60	248	1860	---
	lbs/day[5]	4.45	17.8	133.4	---
	lbs/day[6]	6.20	24.8	186	---

Table F-12. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Maximum Daily	Average Monthly	Instantaneous Maximum	Six-Month Median
Copper	µg/L	312	---	870	33
	lbs/day	22.4	---	62.4	2.37
	lbs/day	31.1	---	87.1	3.30
Cyanide	µg/L	124	---	310	31
	lbs/day	8.89	---	22.2	2.22
	lbs/day	12.4	---	31.0	3.10
Ammonia	mg/L	74.4	---	186	18.6
	lbs/day	5,336	---	13,341	1,334
	lbs/day	7,446	---	18,615	1,861
Total Residual Chlorine	µg/L	248	---	1,860	60
	lbs/day[5]	17.8	---	133.4	4.45

[5] based on the peak dry weather design flow of the WWTF of 8.6 mgd.
[6] based on the secondary treatment capacity of the WWTF (12.0 mgd).

[7] All chlorine measurements shall be reported as total residual chlorine. The Discharger shall monitor total residual chlorine in the effluent continuously using a method with a reporting limit as low as technically feasible.

Parameter	Units	Effluent Limitations			
		Maximum Daily	Average Monthly	Instantaneous Maximum	Six-Month Median
	lbs/day[6]	24.8	---	186	6.20

WQBELs for fecal coliform bacteria consist of the following:

The disinfected effluent discharged through Discharge Point 001 shall not contain concentrations of fecal coliform bacteria exceeding the following limitations:

(1) The median concentration shall not exceed a Most Probable Number (MPN) of 14 per 100 millilitres for a calendar month.

(2) Not more than 10 percent of samples collected in a calendar month shall exceed an MPN of 43 per millilitres.

5. Whole Effluent Toxicity (WET)

Federal regulations (40 CFR 122.44(d)) require that effluent limitations be established for pollutants, including whole effluent toxicity, when a discharge has the reasonable potential to cause or contribute to an exceedance of a State water quality standard, including State narrative objectives for water quality. The Ocean Plan contains numeric water quality objectives for acute and chronic toxicity established in Table B. Effluent limitations for acute and chronic toxicity are based on the minimum initial dilution of the effluent discharge, expressed as parts seawater per parts wastewater. In accordance with the Ocean Plan, where the minimum initial dilution of the effluent is less than 100:1 at the edge of the mixing zone, dischargers are required to conduct only chronic toxicity monitoring. Acute toxicity testing is required only for discharges having a minimum initial dilution of greater than 1000:1. As the Discharger's calculated minimum initial dilution is 30:1, Regional Water Board staff have determined only short-term chronic toxicity tests on the treated effluent are required. The State Water Board has determined that replacing technology-based effluent limitations for acute toxicity based on best professional judgment with, assuming reasonable potential, water quality-based effluent limitations is not subject to federal anti-backsliding restrictions. (Draft Final Functional Equivalent Document Amendment of the Water Quality Control Plan for Oceans Waters of California, 2000)

During the previous permit term, the Discharger conducted quarterly acute toxicity static bioassays on rainbow trout (*O. mykiss*) using 100 percent dechlorinated final effluent. The Discharger's monitoring data for the term of the previous permit indicate that the minimum percent survival for all acute toxicity bioassays conducted was 100% survival.

The Discharger also performed quarterly chronic toxicity static bioassays on red abalone (*H. rufescens*) using dechlorinated final effluent at dilutions of 100%, 56%, 32%, 18%, and 10% as percent effluent, with added sea salts. The Discharger's chronic toxicity testing results collected during the term of the previous permit show

that the chronic toxicity bioassay results ranged from 1.8 TUc to 3.1 TUc. Because the observed effluent chronic toxicity is less than the water quality objective, WQBELs for chronic toxicity are not established in this Order.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order with the following exceptions: 1) Most effluent limitations for toxic pollutants are not retained by this Order at Discharge Point 001. The Ocean Plan was amended in 2005 to include a procedure for determining reasonable potential and establishing effluent limitations. Eliminating the effluent limitations from the previous permit that do not demonstrate reasonable potential meets the exception established at CWA 402(o)(2)(B)(i) to antibacksliding requirements. This exception states that a less stringent effluent limitation may be included in a reissued permit when information is available which was not available at the time of permit issuance. 2) The effluent limitation at Discharge Point 001 for total chlorine residual, expressed as non-detect in the previous permit, is replaced with effluent limitations that are calculated based on procedures contained in the 2005 Ocean Plan (section III, Implementation Provisions for Table B). The "non-detect" limitation was first established in the original permit, WDR Order No. 81-1 to ensure that the treated wastewater discharged to the Wildlife Management Area for the purpose of enhancing wetland and riparian habitat and for temporary storage of treated effluent would not contain concentrations of residual chlorine that could impair the function of the area. The limitation was mistakenly applied to the ocean discharge (Discharge Point 001) in the previous permit, R1-2004-0013 for the purpose, as stated in the permit Fact Sheet, of maintaining the water quality objective of the Ocean Plan for total chlorine residual. As previously stated, effluent limitations for Table B pollutants, including total chlorine residual, are properly calculated in accordance with procedures contained in the Ocean Plan. Eliminating this effluent limitation for total chlorine residual contained in the previous permit for discharges to the ocean meets the exception criteria in section 122.44(l)(2) whereby less stringent effluent limitations can be established where technical mistakes or mistaken interpretations of law were made in issuing the permit under CWA section 402(a)(1)(b). The effluent limitation for total chlorine residual for discharges to the Overflow Marsh is retained in this Order, only expressed as an internal discharge specification.

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, TSS, pH, settleable solids, oil and grease and turbidity 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 are not more stringent than the minimum, applicable federal technology-based requirements, with the exception of settleable solids.

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.

In addition, Water Code section 13263 requires that waste discharge requirements "implement any relevant water quality control plans that have been adopted and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance and the provisions of section 13241." These requirements apply to those portions of the permit that exceed the requirements of the federal Clean Water Act, including those requirements that are necessary to meet the technology-based effluent limits or the water quality-based effluent limits necessary to protect water quality objectives for surface waters set out in the Water Quality Control Plan for the North Coast Region (Basin Plan). (City of Burbank v. State Water Resources Control Board, 35 Cal. 4th 613, 627.) Here no portions of the permit exceed the requirements of the federal Clean Water Act.

E. Interim Effluent Limitations

This section of the standardized permit is not applicable to the Elk River WWTF.

F. Land Discharge Specifications

This section of the standardized permit is not applicable to the Elk River WWTF.

G. Reclamation Specifications

This section of the standardized permit is not applicable to the Elk River WWTF.

H. Other Requirements

This Order contains discharge specifications for total chlorine residual that apply to treated wastewater discharged from the effluent storage pond to the Overflow Marsh. In accordance with this provision, discharges of treated wastewater to the Overflow Marsh must have no detectable chlorine residual. Compliance with this discharge specification shall be determined using a total chlorine detection method with a minimum detection level of 0.1 mg/L. This provision is consistent with the effluent daily maximum effluent limit of 0.1 mg/L for total chlorine residual contained in all previous permits for discharges to the Wildlife Management Area. The purpose of the limitation was to ensure that the treated wastewater discharged to the Wildlife Management Area for the purpose of enhancing wetland and riparian habitat and for temporary storage of treated effluent would not contain concentrations of residual chlorine that could impair the function of the Wildlife Management Area.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. 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 also generally retains the ocean water receiving water limitations of the previous Order; however, these limitations have been supplemented and modified to reflect all applicable, general water quality objectives of the Ocean Plan (2005).

B. Groundwater

This section of the standardized permit is not applicable to the Elk River WWTF.

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 flow, 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, fecal coliform bacteria, oil and grease, copper, Ocean Plan Table B pollutants, 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 cyanide, total ammonia, and turbidity is established by the MRP to determine compliance with effluent limitations for these pollutants.

- The required method detection limit of 0.1 mg/L for total residual chlorine for ocean discharges has been removed from the MRP. The MRP now requires the discharger to use a method with a detection limit as low as feasible.

- The MRP requires monitoring of parameters with maximum daily effluent limitations during blending events, in addition to retaining the requirement to record the date and volume of blended discharges.

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. This Order includes monitoring requirements for chronic toxicity at Discharge Point 001 as an Ocean Plan Table B pollutant.

D. Receiving Water Monitoring

1. Surface Water.

The MRP does not establish surface water monitoring requirements.

2. Groundwater.

The MRP does not establish groundwater monitoring requirements.

E. Other Monitoring Requirements

During periods when high influent flow exceeds the hydraulic capacity of the WWTF, excess flow from the effluent holding pond can be directed to a 13-acre freshwater holding marsh (Overflow Marsh) and pumped back to the effluent storage pond once flows subside. Although, the Overflow Marsh is a component of the WWTF, monitoring of the discharge of treated wastewater from the effluent storage pond to the Overflow Marsh is required to ensure that the discharge does not contain concentrations of residual chlorine that could impair the biological function of the marsh, which provides beneficial wildlife habitat. The requirement that the discharge to this area contains no detectable level of chlorine, using a minimum detection limit of 0.1 mg/L, is retained from the previous Order.

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.c requires the Discharger to provide written certification that it has notified the State Office of Emergency Services and the local health officer or directors of environmental health within 24 hours after becoming aware of a discharge to a drainage channel or a surface water. The Discharge is also required to provide written documentation of the circumstances of the spill event within five (5) days, unless the Regional Water Board waives the confirmation.

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 limitation for a specific toxicant identified in the TRE.

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

b. Effluent Discharge Study

On April 24, 1980, the Regional Water Board adopted Resolution No. 80-10. The Resolution concluded that the City of Eureka's ebb-tide discharge to Humboldt Bay implements the Basin Plan, the State's Water Quality Control Policy for Enclosed Bays and Estuaries of California, and State Water Board Order No. WQ-79-20. The State Water Board later confirmed this conclusion in State Water Resources Control Board Resolution No. 80-87, adopted on November 20, 1980. Mathematical modeling to support the findings was completed by consultants for the Discharger and published in the Greater Eureka Area Draft Facilities Plan and Environmental Impact Report. Staff from the Regional Water Board verified the results of the modeling with tidal monitoring and a dye study completed in 1979.

To update and reconfirm that the ebb-tide discharge conveys waste only out of the Bay, the Discharger is required to complete an Effluent Discharge Study to assess the transport and fate of pollutants discharged from the Eureka Elk River WWTP. The Discharger shall submit for approval a scope of work for the study to the Regional Water Board Executive Officer no later than **December 1, 2009**. A final study report shall be submitted to the Regional Water Board no later than **January 8, 2014**.

c. Feasibility Analysis for Treating Peak Wet Weather Discharges

Section 402 of the CWA prohibits wastewater dischargers from "bypassing" untreated or partially treated sewage (wastewater) prior to treatment at a POTW facility. In accordance with federal regulations at 40 CFR 122.41(m) bypasses

are prohibited by the Clean Water Act unless a NPDES permittee can meet all of the following criteria:

- The bypass was “unavoidable to prevent loss of life, personal injury or severe property damage”;

- 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 backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance”; and

- The permittee must have submitted notice of the bypass to the director of the permitting authority (normally the authorized State, an authorized Tribal authority or the applicable EPA Region).

In 2003, in an attempt to interpret provisions of 40 CFR 122.41(m)(4) as they apply to diversions of peak wet weather flow around secondary treatment units, USEPA proposed for public comment a new policy for addressing very high or "peak" flow events at municipal wastewater treatment plants that are a result of significant storm events (“blending policy”). In response to significant public comment on the 2003 draft policy, USEPA withdrew the proposal for further consideration. A revised policy was proposed in 2005 and follows the joint recommendations of the Natural Resources Defense Council (NRDC) and the National Association of Clean Water Agencies (NACWA). The proposed policy describes limited circumstances when certain management techniques may be used by the operator of a municipal wastewater treatment facility to address very high flows that result from storm events. The policy also indicates how the management of peak flows must be documented in NPDES permits.

The proposed policy requires that discharges must still meet all the requirements of NPDES permits and that operators demonstrate that all feasible measures are used to minimize wet weather problems. It also prohibits the use of these peak flow management techniques in systems where high peak flows are due to poor system maintenance or a lack of investment in upgrades to improve treatment capacity. The policy is designed to provide greater national consistency while still incorporating flexibility to recognize site-specific issues. The policy envisions that a combination of feasible approaches can be used to achieve the goals of the policy. These approaches include:

- ensuring full utilization of available secondary treatment capacity;
- reducing infiltration and inflow (I/I);
- maximizing the use of the collection system for storage; providing off-line storage; and
- providing sufficient secondary treatment capacity.

The permit requires the Discharger to assess whether its wet weather treatment practices meet the goals of the USEPA blending policy and to demonstrate that there are no feasible alternatives to the diversion currently authorized by the Order.

3. Best Management Practices and Pollution Prevention

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

4. Construction, Operation, and Maintenance Specifications

a., b. Section 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of the Order, is an integral part of a well-operated and maintained facility.

5. Special Provisions for Municipal Facilities (POTWs Only)

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

a. Wastewater Collection 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**. Order No. 2006-0003-DWQ includes a Reporting Program that requires the Discharger, beginning on May 2, 2007, to reports SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and telefax reporting when the online SSO database is not available. The goal of these provisions is to ensure appropriate and timely response by the Discharger to sanitary sewer overflows to protect public health and water quality.

   The Order also includes provisions (Provision VI.C.5.(a)(ii), 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. The Order established oral reporting limits for SSOs. The Discharger is not required to orally report SSOs less than 100 gallons, while SSOs greater than or equal to 100 gallons must be reported orally to the Regional Water Board. The minimum volume threshold for oral reporting is based on the fact that minor amounts of untreated or partially treated wastewater inevitably may escape during carefully executed routine operation and maintenance activities. Experience of Regional Water Board staff is that SSOs to land that are less than 100 gallons are not likely to have a material effect on the environment or public health. Larger volumes are indications of a lack of proper maintenance and due care, and pose more of a threat to the environment and public health. Regardless of the volume, all SSOs must be electronically reported pursuant to State Water Board Order No. 2006-0002-DWQ.

b. Pretreatment of Industrial Waste (Provisions VI.C.5.b).

This provision is based on Part 403, (General Pretreatment Regulations for Existing and New Sources of Pollution.)

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 Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27, California Code of Regulations. On September 19, 2008, the Discharger obtained coverage to apply treated sludge during 2008 to a dedicated sludge disposal area in compliance with 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. Unless renewed, the Discharger's coverage under the General Order will terminate by June 1, 2009.

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. 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). 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.

7. Compliance Schedules

This section of the standardized permit is not applicable to the Elk River 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 City of Eureka Elk River 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 and through publication in the Press Democrat on March 23, 2009.

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 23, 2009.**

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 4, 2009
Time: 8:30 AM, or as soon as possible thereafter as noticed in the final agenda
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 Charles Reed at 707-576-2752.