California Regional Water Quality Control Board
North Coast Region
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Acting Secretary for Environmental Protection

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Edmund G. Brown Jr.
Governor

ORDER NO. R1-2011-0019
NPDES NO. CA0022756
WDID NO. 1A84006ODN

WASTE DISCHARGE REQUIREMENTS
FOR THE
CITY OF CRESCENT CITY 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 Crescent City
Name of Facility	Crescent City Wastewater Treatment Facility (WWTF)
Facility Address	210 Battery Street
	Crescent City CA 95531
	Del Norte 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 Crescent City WWTF from the discharge points 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	41º 44' 38" N	124º 12' 10" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	June 22, 2011
This Order shall become effective on:	June 30, 2011
This Order shall expire on:	June 29, 2016
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	January 2, 2015

IT IS HEREBY ORDERED, that Order No. R1-2006-0001 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the California Water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 22, 2011.

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Catherine Kuhlman, Executive Officer

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I. Facility Information

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

Table 4. Facility Information

Discharger	City of Crescent City
Name of Facility	Crescent City Wastewater Treatment Facility (WWTF)
Facility Address	210 Battery Street
	Crescent City, CA 95531
	Del Norte County
Facility Contact, Title, Phone No.	Jim Barnts, Public Works Director/City Engineer, (707) 464-9506
Mailing Address	377 J Street, Crescent City, CA 95531
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	1.86 million gallons per day (mgd) (average dry weather flow rate) 6.12 mgd (peak wet weather flow rate)

II. Findings

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

A. Background. The City of Crescent City (hereinafter the Discharger) is currently discharging pursuant to Order No. R1-2006-0001 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022756. The Discharger submitted a Report of Waste Discharge (ROWD), dated July 28, 2010, and applied to renew NPDES and waste discharge requirements to discharge secondary treated wastewater and disinfected tertiary recycled water from the Crescent City WWTF. The application was deemed complete on October 6, 2010.

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 with a design average dry weather treatment capacity of 1.86 mgd for treating domestic, commercial, and industrial wastewater. The collection system service area includes the City of Crescent City and the County Service Area, which includes a total population of 15,573.

Treatment processes at the Crescent City WWTF consist of headworks, including a mechanically cleaned screen, a Parshall flume, and a wet well; primary treatment, including two grit removal tanks and two clarifiers; and secondary treatment. Secondary treatment is provided by operating rotating biological contactors and a membrane

bioreactor in parallel. Flows from the rotating biological contactors and any flow from the membrane bioreactor that is not used for recycled water use are commingled and disinfected and dechlorinated. Flow from the membrane bioreactor that is used for recycled water is UV disinfected.

The Discharger has proposed to use tertiary-treated recycled water to irrigate Beach Front Park, which is located northeast of the WWTF. For the recycled water discharge, the Discharger has applied to the State Water Resources Control Board for coverage under the State Water Board Water Quality Order No. 2009-0006 WQ (General Permit for Landscape Irrigation Uses of Municipal Recycled Water) and submitted an Engineering Report on the Production and Use of Reclaimed Water to the California Department of Public Health for a determination of compliance with Water Recycling Criteria in title 22 of the California Code of Regulations. The Discharger's application for coverage under the General Permit for Landscape Irrigation Uses of Municipal Recycled Water and the Discharger's Engineering Report are currently under review. This Order does not authorize the discharge of recycled water to the water reclamation system but does require that all reclaimed water be treated to meet the standards in title 22 for disinfected tertiary recycled water. The Discharger must obtain coverage under the General Permit of Landscape Irrigation and approval for the water reclamation system by the California Department of Public Health. If coverage is not obtained, Discharger may seek an amendment of this Order in order to include this discharge, subject to notice and public hearing.

The capacity of the reclamation system is 1.2 mgd; however, the membrane bioreactor can treat up to 1.6 mgd. Effluent that is not recycled is discharged to the Pacific Ocean. The 24-inch diameter ductile iron pipe outfall discharges into a rocky slot in the surf zone adjacent to Battery Point Lighthouse, and has an effluent conveyance capacity up to 13 mgd.

Solids handling consists of gravity thickening of primary sludge, rotary drum thickening of secondary sludge, and anaerobic digestion of thickened sludge. Dewatered solids are placed in a landfill.

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 CWA and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as 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 at Discharge Point 001 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. The recycled water discharge must meet treatment requirements for disinfected tertiary recycled water, as defined in title 22 of the California Code of Regulations. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

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

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter 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

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

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. With total dissolved solid concentrations much greater than 3,000 mg/L, ocean waters meet an exception to Resolution 88-63; and therefore, the "municipal or domestic supply" (MUN) designation is not applicable to the ocean 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:** • Navigation (NAV) • Water Contact Recreation (REC1) • Non-Contact Water Recreation (REC2) • Commercial and Sport Fishing (COMM) • Marine Habitat (MAR) • Wildlife Habitat (WILD) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA) **Potential:** • Industrial Service Supply (IND) • Industrial Process Supply (PRO) • Preservation of Areas of Special Biological Significance (ASBS)

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, 2005, and 2009. The State Water Board adopted the latest amendments on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific 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

In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

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; and on pH, BOD_5,TSS, total coliform, and turbidity for discharges to the reclamation water system. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations for ammonia, copper, zinc, TCDD equivalents, bis(2-ethylhexyl)phthalate, tetrachloroethylene, and total residual chlorine 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. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State

law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. Antidegradation Policy. Section 131.12 requires that 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 section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as those in the previous Order, but other permit conditions are potentially less stringent than in the previous Order.

Water contact standards for Enterococcus in this Order are numerically higher than in the previous Order. Water quality standards for coliform bacteria (total and fecal) and Enterococcus, expressed as surface water limitations in the previous Order, were based on requirements from the 1997 Ocean Plan. While the standards for coliform bacteria are unchanged from the previous Order, the water quality standards for Enterococcus have been relaxed to be consistent with the updated 2009 Ocean Plan.

The method for determining compliance with the Ocean Plan's physical and chemical water quality objectives has been revised in this Order to require a comprehensive assessment of conditions in the vicinity of the outfall once in the term of this Order. The previous Order required a monthly comparison of receiving water turbidity, dissolved oxygen, and pH from an area within the waste field where initial dilution is complete and a reference beach approximately 3½ miles from the outfall. The revised monitoring requirements, although less frequent than in the previous, require the Discharger to conduct a chemical and biological survey in the vicinity of the ocean outfall and compare the results to a reference site unaffected by the waste discharge that is acceptable to the Regional Water Board Executive Officer. The comparative survey will provide a more comprehensive assessment of compliance with all of the Ocean Plan's physical and chemical water quality objectives than was possible under requirements 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 (MRP) 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 IV.B, IV.C., and V.B of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

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.

III. Discharge Prohibitions

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

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

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

D. The discharge or reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in Findings II.B of the Order) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Prohibition III. E and Attachment D, Standard Provision G (Bypass).

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

F. The discharge at Discharge Point 001 shall not exceed 1.86 mgd as an average dry weather flow rate determined from the lowest average daily flow measured over 30 consecutive days.

G. The discharge of waste to land that is not owned by or subject to an agreement for use by the Discharger is prohibited.

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

I. 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 (Attachment E).

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	---	---	---
	lbs/day[2]	700	1,050	---	---	---
TSS	mg/L	30	45	---	---	---
	lbs/day[2]	465	700	---	---	---
Settleable Solids	mL/L/hr	0.1	---	0.2	3.0	---
Oil and Grease	mg/L	25	40	---	75	---
	lbs/day[2]	390	620	---	1,200	---
Turbidity	NTU	75	100	---	225	---
pH	s.u.	6.0 to 9.0 at all times				
Ammonia	mg/L	---	---	72	180	18
	lbs/day	---	---	1,100	2,800	280
Copper	µg/L	---	---	300	840	32
	lbs/day	---	---	4.7	13	0.50
Zinc	µg/L	---	---	2,200	5,800	370
	lbs/day	---	---	34	89	5.7
TCDD Equivalents	µg/L	1.2 E-7	---	---	---	---
	lbs/day	1.8 E-9	---	---	---	---
Bis(2-ethylhexyl) phthalate	µg/L	110	---	---	---	---
	lbs/day	1.6		---	---	---
Tetrachloroethylene	µg/L	60	---	---	---	---
	lbs/day[2]	0.93	---	---	---	---
Total Chlorine Residual	µg/L	---	---	240	1,800	60
	lbs/day[2]	---	---	3.7	28	0.93

b. **BOD_5 Percent Removal**: The average monthly percent removal of BOD_5 shall not be less than 75 percent, determined by comparing the average monthly influent concentration to the average monthly effluent concentration, as measured at Monitoring Locations INF-001 and EFF-001.

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

[2] Mass-based effluent limitations for TSS and oil and grease are based on the permitted flow rate of 1.86 mgd. Mass-based effluent limitations for BOD_5 are performance-based, as explained in the Fact Sheet.

d. **Fecal Coliform Bacteria:** Disinfected effluent discharged at Discharge Point 001 shall not contain fecal coliform bacteria in excess of the following limitations:

(1) The monthly median value of fecal coliform bacteria shall not exceed a Most Probable Number (MPN) of 14 per 100 milliliters (mL);

(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 mL.

B. Land Discharge Specifications – *Not Applicable*

C. Reclamation Specifications and Requirements

1. Reclamation Requirements

a. The Discharger has submitted a Notice of Intent for coverage under the State Water Board Water Quality Order No. 2009-0006-DWQ (General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water) and additionally shall comply with applicable State and local requirements regarding the production and use of reclaimed wastewater, including requirements of California Water Code sections 13500 – 13577 (Water Reclamation) and California Department of Public Health regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria).

b. The Discharger shall implement all operational procedures and best management practices for the protection of water quality during operation of the reclamation system identified in the "Engineering Report on Production and Use of Reclaimed Water" prepared for the City of Crescent City and shall comply with all conditions set out by the California Department of Public Health for its approval of the engineering report.

2. Reclamation Specifications

a. When discharging reclaimed water to the irrigation system, the Discharger shall maintain compliance with the following final reclamation specifications, with compliance measured at Monitoring Location REC-001, as described in the attached MRP (Attachment E).

b. **Total Coliform Bacteria:** Disinfected effluent discharged to the water reclamation system shall not contain total coliform bacteria in excess of the following limitations, with compliance measured at Monitoring Location REC-001, as described in the attached MRP:

(1) The median value of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (mL) using the bacteriological results of the last seven days for which analyses have been completed;

(2) In not more than one of sample in any 30-day period shall total coliform bacteria exceed an MPN of 23 per 100 mL.

(3) No single sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

D. Other Requirements

1. Filtration Process Requirements

a. **Turbidity**. The effluent from the filtration system shall at all times be filtered such that the filtered effluent does not exceed any of the following specifications prior to discharge to the disinfection unit, with compliance measured at Monitoring Location REC-001, as described in the attached MRP:

(1) 0.2 Nephelometric Turbidity Units (NTU) more than 5 percent of the time within a 24-hour period; and

(2) 0.5 NTU at any time.

b. Filtered effluent in excess of the turbidity specifications shall not enter the reclamation distribution system. Filtered effluent in excess of turbidity specification shall be automatically diverted to an upstream treatment process unit or to emergency storage as soon as the Discharger is aware of the exceedance. The Discharger shall provide notification of the non-compliance with the filtration process requirements as required in section VI.A.2.b of this Order.

2. Disinfection Process Requirements for the UV Disinfection System.

The Discharger shall operate the UV disinfection system in accordance with the following operating protocol and technical and administrative requirements in order to demonstrate compliance with Effluent Limitations IV.C.2 of this Order.

a. Since a membrane filter is used upstream, the UV system must be operated to deliver a minimum UV dose of 80 millijoules per square centimeter (mJ/cm^2) at all times.

b. The equations below must be used as part of the automatic UV disinfection control system for calculating UV dose.

RED = 10(1.49425 - 0.38577 * log (Q) -0.51275 * log (UVA) +0.40133*log (sensor))

And

Sensor Intensity High power = 10.465 (UVT) - 412.2

OR

Sensor Intensity Low power = 7.8655 (UVT) - 302.29

Where:

RED = Delivered UV dose per Reactor (mJ/cm^2);
Q = flow in gpm [gallons per minute],
UVA = UV absorbance at 254 nm (%);
UVT = % UV transmittance at 254 nm (%);.

c. Until adequate redundancy and reliability is provided and demonstrated, the discharge from the UV disinfection system to the recycled water system (REC-001) is limited to a flow 0.6 MGD.

d. The UV disinfection system is limited to UVTs at or above 65 percent.

e. The WWTF should be operated in accordance with an approved operations plan, which specifies clearly the operational limits and responses required for critical alarms. The operations plan should be submitted and approved prior to issuance of the operating permit. A copy of the approved operations plan should be maintained at the WWTF and be readily available to operations personnel and regulatory agencies. The following should be described:

i. Control system
ii. Alarm functions
iii. Alarm setpoints
iv. Records
v. Reports
vi. Procedures and frequency of lamp replacement
vii. Procedures and frequency of calibration of all monitoring equipment
viii. Location, access, and quantity of backup supply of lamps and other critical components
ix. frequency of the membrane integrity test

f. A quick reference plant operations data sheet should be posted at the WWTF and include the following information:

   i. The alarm set points for tertiary turbidity, high and low flow, UV dose and transmittance.

   ii. The values of high turbidity, high flow, and low UV dose, when flow must be diverted to waste.

   iii. The required frequency of calibration for all monitoring equipment measuring turbidity, flow, UV intensity, and UVT.

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

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

g. The WWTF shall be provided with a sufficient number of qualified personnel to operate the facility effectively so as to achieve the required level of treatment at all times.

h. A preventive maintenance program shall be provided to ensure that all equipment is kept in a reliable operating condition.

i. There shall be no bypassing of untreated or partially treated wastewater from the plant or any intermediate unit processes to the point of use.

j. Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, shall be reported immediately by telephone to the Regional Water Board, CDPH, and the local health officer.

k. UV intensity sensors, flow meters and UVT monitors must be properly calibrated to ensure proper disinfection.

l. The Discharger shall have a minimum of one reference UV intensity sensor on site at all times. Measurements made by each duty UV intensity sensor shall be checked at least monthly using a reference UV intensity sensor. For all UV intensity sensors in use, the ratio of the duty UV sensor intensity to the reference UV sensor intensity must be less than or equal to 1.2. If the calibration ratio is >1.2, the failed duty UV sensor must be replaced by a properly calibrated sensor and recalibrated by a qualified facility. The reference UV intensity sensors shall be recalibrated at least annually by a qualified facility using a National Institute of Standards and Technology (NIST) traceable standard.

m. The UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy. If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2% or more, the on-line

UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.

n. Flow meters measuring the flow through a UV reactor must be verified to determine accuracy at least monthly via checking the flow reading against other flow determination methods.

o. The UV system must be operated with a built-in automatic reliability feature that must be triggered when the system is below the target UV dose. Conditions that should shut plant down and divert flow include: inability to meet the minimum UV dose, high flow, low UV sensor level, low UVT, or reactor failure.

p. Equivalent or substitutions of equipment are not acceptable without an adequate demonstration of equivalent disinfection performance.

q. Prior to initial discharge to REC-001, the Discharger shall submit to the Regional Water Board Executive Officer a copy of a letter from CDPH stating that all the UV disinfection system pre-operation acceptance conditions specified by CDPH have been satisfied.

V. Receiving Water Limitations

A. Surface Water Limitations

The following receiving water conditions are based on water quality objectives established by the Ocean Plan and are a required part of this Order. The discharge of waste shall not cause the following water quality objectives to be violated upon completion of final dilution.

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*

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[3] 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 an unauthorized 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

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[3] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After normal business hours, oral contact must be made by calling the State Office of Emergency Services (OES) at (800) 852-7550. After normal business hours, spill reporting to OES will satisfy the 2 hour notification requirement for the Regional Water Board.

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.

d. **Effluent Limitations for BOD_5**. Mass-based effluent limitations and percent removal limitations for BOD_5 in this Order are performance based. This Order may be reopened to establish numerically lower limitations commensurate with improved performance demonstrated over the term of this Order.

e. **Priority Pollutants Monitoring**. This Order may be reopened for modification to include monitoring requirements for priority pollutants developed as part of a Salt/Nutrient Management Plan.

f. **Septage Receiving.** This Order may be reopened for modification to include septage reporting and monitoring requirements upon receipt of a Septage Management Plan acceptable to the Regional Water Board Executive Officer.

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 at Discharge Point 001 for chronic toxicity to determine compliance with the Ocean Plan's water quality objective for chronic toxicity, implemented as an effluent limitation in IV, above. As established by the MRP, if chronic toxicity is measured in the effluent above 30 TUc, the Discharger shall conduct accelerated monitoring as specified in section V. of the MRP.

Results of accelerated toxicity monitoring will indicate a need to conduct a TRE, if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. 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) 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, by **December 28, 2011**. 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 the effluent limitation, 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) Accelerated Toxicity Testing and TRE/TIE Process.

(a.) If a chronic WET permit limit or trigger is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the Discharger shall conduct one additional toxicity test using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding a chronic WET permit limit or trigger. If the additional toxicity test does not exceed a chronic WET permit limit or

trigger, then the Discharger may return to their regular testing frequency.

(b.) If a chronic WET permit limit or trigger is exceeded and the source of toxicity is not known, then the Discharger shall conduct four additional toxicity tests using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding a chronic WET permit limit or trigger. If none of the additional toxicity tests exceed a chronic WET permit limit or trigger, then the Discharger may return to their regular testing frequency.

(c.) If one of the additional toxicity tests (in paragraphs 3.a or 3.b) exceeds a chronic WET permit limit or trigger, then, within 14 days of receipt of this test result, the Discharger shall initiate a TRE using as guidance, based on the type of treatment facility, EPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/ 833/B-99/002, 1999) or EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). In conjunction, the Discharger shall develop and implement a Detailed TRE Workplan which shall include: further actions undertaken by the Discharger to investigate, identify, and correct the causes of toxicity; actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and a schedule for these actions.

(d.) The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA test method manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996).

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. Operation and Maintenance (O&M) Manual.

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) Spills and Sanitary Sewer Overflows

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

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

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 (WWTPs) shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations, 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 influent flows are projected to reach the WWTF's treatment 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. [Title 23, California Code of Regulations, section 2232]

6. Other Special Provisions

a. **Storm Water**

For the control of storm water discharged from the site of the wastewater treatment plant, if Regional Water Board staff determine that permit coverage for storm water discharges from the WWTF is required, 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 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 ML.

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 ML). 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.

D. Mass-Based Effluent Limitations

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

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

   lbs/day = 0.00834 * Ce * Q, where

   Ce = rolling 180-day median of effluent concentrations (µg/L)
   Q = average flow rate over that same 180-day period (mgd)

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

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

   lbs/day = 0.00834 * Ce * Q, where

   Ce = daily maximum effluent concentration (µg/L)
   Q = instantaneous flow rate at the time of sample collection for a grab sample, or a daily average flow rate for a 24-hour composite sample (mgd)

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

   lbs/day = 0.00834 * Ce * Q, where

   Ce = daily maximum effluent concentration (µg/L)
   Q = instantaneous flow rate at the time of sample collection for a grab sample, or a daily average flow rate for a 24-hour composite sample (mgd)

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

   lbs/day = 0.00834 * Ce * Q, where

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

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

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

   lbs/day = 8.34 * Ce * Q, where

   Ce = average of effluent concentrations collected during the calendar month (mg/L)
   Q = average flow rate averaged over the same calendar monthly (mgd)

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

   lbs/day = 8.34 * Ce * Q, where

   Ce = average of effluent concentrations collected during the calendar week (mg/L)
   Q = average flow rate averaged over the same calendar week (mgd)

E. Bacteriological Limitations

1. **Geometric Mean.** The geometric mean used for determining compliance with bacteriological standards is calculated using the following formula:

   Geometric Mean = $(C1 * C2 * \ldots * Cn)^{1/n}$, where

   n = number of days samples were collected during the period, and
   C= the concentration (MPN) of bacteria in the sample

   For example, to calculate a 5-sample geometric mean, the equation would be: $(C1*C2*C3*C4*C5)^{1/5}$

2. **Median.** The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, DNQ determinations next, followed by quantified values. The order of the individual ND and DNQ determinations is not important. The median value is determined based on the number of data points in the set. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, the median is the average of the two values around the middle, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the data points. DNQ is lower than a detected value, and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

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.

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. For concentration-based limitations, compliance is calculated using the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. For mass-based limitations, compliance is calculated using the following formula:

lbs/day = 8.34 * Ce * Q, where

Ce = average of effluent concentrations collected during the calendar month (mg/L)
Q = average flow rate averaged over the same calendar month (mgd)

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday). For concentration-based limitations, compliance is calculated using the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. For mass-based limitations, compliance is calculated using the following formula:

lbs/day = 8.34 * Ce * Q, where

Ce = average of effluent concentrations collected during the calendar week (mg/L)
Q = average flow rate averaged over the same calendar week (mgd)

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

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.

Degrade: 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): sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

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

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".

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

Reported Minimum Level: 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 II of the

Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. 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. For concentration-based limitations, compliance is calculated by calculating the median value of all daily discharges measured during the 180-day period ending on the day of a collected sample. For mass-based limitations, compliance is calculated using the following formula:

lbs/day = 0.00834 * Ce * Q, where

Ce = rolling 180-day median of effluent concentrations (µg/L)
Q = average flow rate over that same 180-day period (mgd)

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. 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.

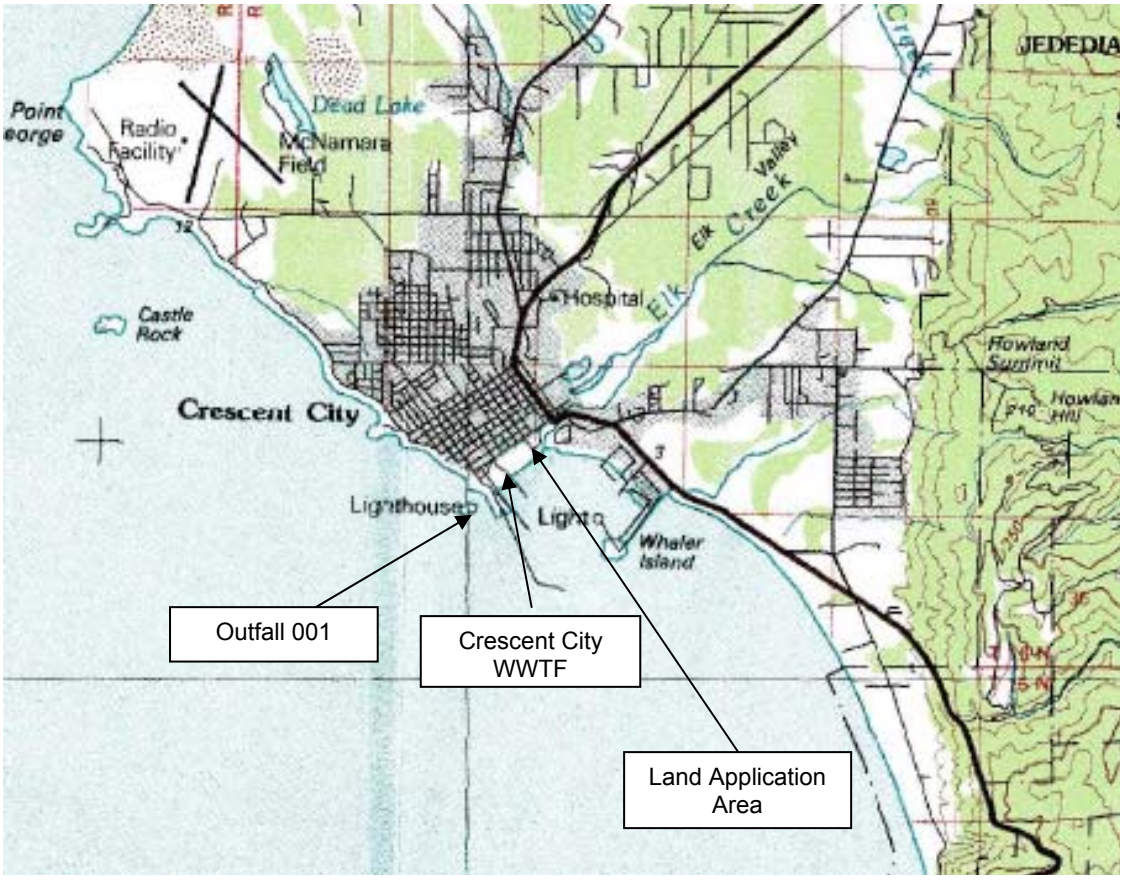
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

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.)

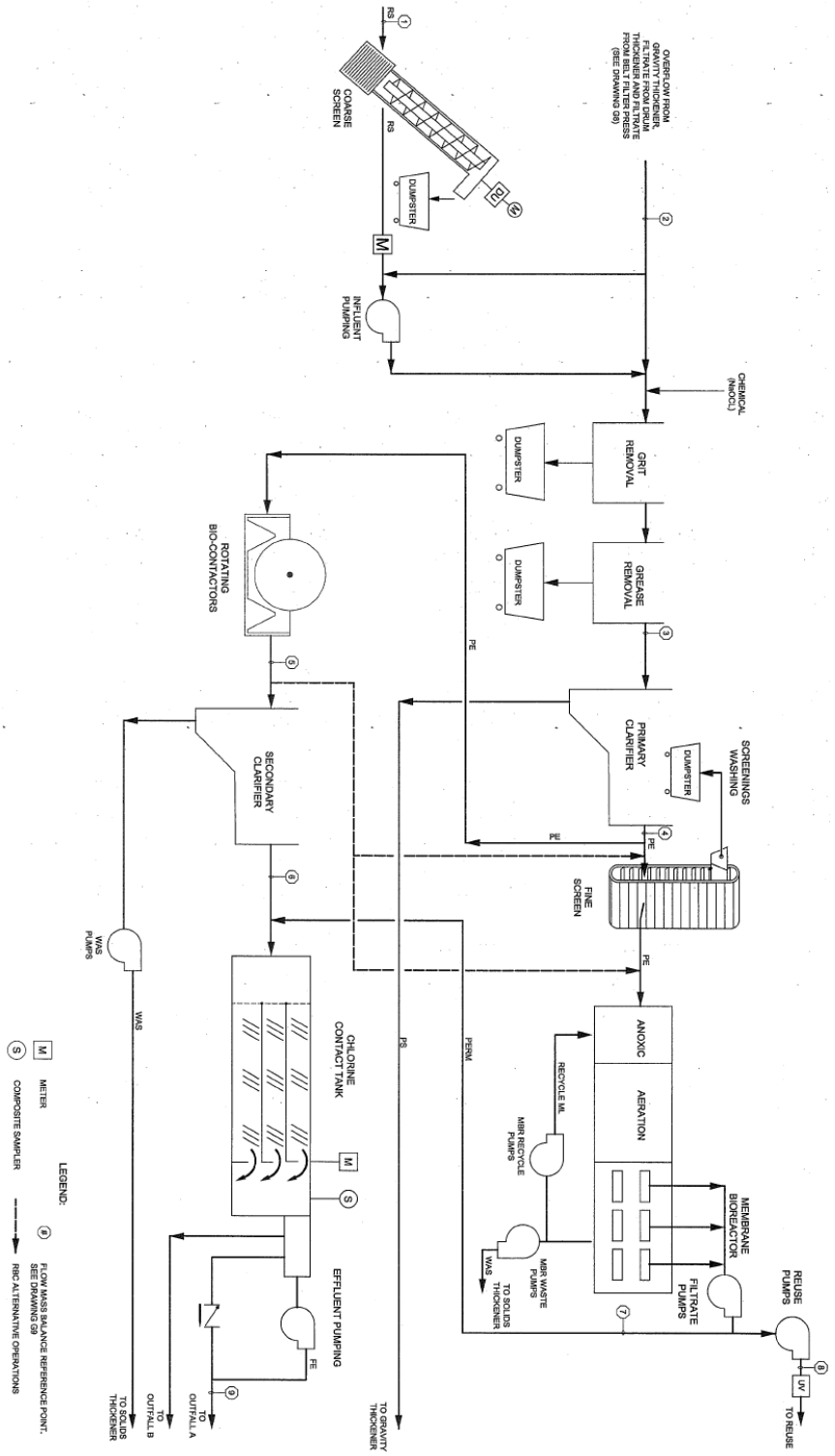
Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

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).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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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 in the facility headworks where representative samples of wastewater can be collected prior to treatment.
001	EFF-001	Location where representative samples of treated wastewater, to be discharged to the Pacific Ocean at Discharge Point 001, can be collected at a point after treatment, including chlorination/dechlorination but before mixing with other effluent of various sources using the same outfall and contact with the receiving water.
---	REC-001	Location where the flow rate of recycled water can be monitored and representative samples of treated wastewater

Discharge Point	Monitoring Location	Monitoring Location Description
		to be discharged to the reclaimed water system can be collected.
---	RSW-001	Location in the receiving water in the vicinity of the outfall, within the waste field where initial dilution is completed.
---	RSW-002	Location in the receiving water outside the influence of the discharge, for determining ambient conditions.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
BOD_5 [1]	mg/L	Grab	2X/Week [2,3]	40 CFR 136
TSS	mg/L	Grab	2X/Week [2,3]	40 CFR 136

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater to be discharged at Discharge Point 001, with compliance determined at Monitoring Location EFF-001, as follows.

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[1] For purposes of determining percent removal of BOD_5, the Discharger may sum the BOD_5 mass computed from samples collected at INF-001 and the BOD mass removed by the Rumiano Cheese Company pretreatment process during the same interval. The Discharger must provide and certify pretreatment data from the Rumiano Cheese plant with all monthly reports for which Rumiano's BOD_5 removal is to be considered in percent removal determinations.

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

[3] Based on results of the first 12 months of monitoring, the Regional Water Board Executive Officer may reduce the frequency of monitoring for influent BOD_5 and TSS to 1X/week.

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Flow [4]	mgd	Continuous	Continuous	Meter
BOD_5	mg/L	24-hr composite	2X/Week[5]	SM 5210 B
TSS	mg/L	24-hr composite	2X/Week[5]	SM 2540 D
Settleable Solids	mL/L-hr	Grab	1X/Day	SM 2540 F
Oil and Grease	mg/L	Grab	1X/Month	40 CFR 136
Turbidity	NTU	Grab	1X/Week	40 CFR 136
pH	s.u.	Grab	1X/Day	40 CFR 136
Fecal Coliform Bacteria	MPN/100 mL	Grab	2X/Week	40 CFR 136
Total Ammonia	mg/L	Grab	1X/ Week	40 CFR 136
Copper	µg/L	24-hr composite	1X/Month	40 CFR 136
Zinc	µg/L	24-hr composite	1X/Month	40 CFR 136
TCDD Equivalents	µg/L	24-hr composite	1X/Year	40 CFR 136
Bis(2-ethylhexyl)phthalate	µg/L	24-hr composite	1X/Year	40 CFR 136
Tetrachloroethylene	µg/L	24-hr composite	1X/Year	40 CFR 136
Total Chlorine Residual[6]	mg/L	Grab	1X/Day	40 CFR 136
Chronic Toxicity	TUc	Grab	2X/Year	40 CFR 136
Remaining Ocean Plan Table B Pollutants[7]	µg/L	24-hr composite	1X/Year	40 CFR 136

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Testing

The Discharger shall conduct chronic toxicity testing twice per year, once during the first quarter and again during the third quarter of the calendar year, to demonstrate compliance with the chronic toxicity water quality objective contained in the Ocean Plan. The Discharger shall meet the following chronic toxicity testing requirements:

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

[5] Based on results of the first 12 months of monitoring, the Regional Water Board Executive Officer may reduce the frequency of monitoring for effluent BOD_5 and TSS to 1X/week.

[6] The Discharger shall monitor total residual chlorine in the effluent daily at a point following dechlorination using a method with a reporting limit as low as technically feasible, using the spectrophotometric DPD method 4500-CL G, or equivalent.

[7] Those pollutants identified by Table B of the Ocean Plan, excluding acute toxicity and those pollutants with specific monitoring requirements listed in Table E-3.

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

2. **Sample Type.** 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 conducted on-site and requiring renewals, grab samples collected on consecutive days are required. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with USEPA test methods.

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 suite 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-4. 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.** For this discharge, a mixing zone or dilution allowance is authorized. The chronic instream waste concentration (IWC) for this discharge is 3.3% effluent. A series of at least five effluent dilutions and a control shall be tested. At minimum, the dilution series shall include and bracket the IWC. 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 water quality objective for chronic toxicity.

9. **Accelerated Toxicity Testing and TRE/TIE Process**. If the result of any chronic toxicity test exceeds the chronic toxicity water quality objective of 30 TUc, and the

testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring in accordance with the following:

a. The TRE shall be initiated within If a chronic WET permit limit or trigger is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the Discharger shall conduct one additional toxicity test using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding a chronic WET permit limit or trigger. If the additional toxicity test does not exceed a chronic WET permit limit or trigger, then the Discharger may return to their regular testing frequency.30 days of the date of completion of the accelerated monitoring test, required by Section V of the MRP, observed to exceed the chronic toxicity parameter.

b. If a chronic WET permit limit or trigger is exceeded and the source of toxicity is not known, then the Discharger shall conduct four additional toxicity tests using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding a chronic WET permit limit or trigger. If none of the additional toxicity tests exceed a chronic WET permit limit or trigger, then the Discharger may return to their regular testing frequency. TRE shall be conducted in accordance with the Discharger's Workplan.

c. If one of the additional toxicity tests (in paragraphs 3.a or 3.b) exceeds a chronic WET permit limit or trigger, then, within 14 days of receipt of this test result, the Discharger shall initiate a TRE using as guidance, based on the type of treatment facility, EPA manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/ 833/B-99/002, 1999) or EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070, 1989). In conjunction, the Discharger shall develop and implement a Detailed TRE Workplan which shall include: further actions undertaken by the Discharger to investigate, identify, and correct the causes of toxicity; actions the Discharger will take to mitigate the impact of theTRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B 99/002.

d. The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA test method manuals: Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I (EPA/600/6-91/005F, 1992); Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080, 1993); Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996).

B. Chronic Toxicity Reporting

1. **Routine Reporting**. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals.

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

   a. Test Procedures.

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

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

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

   iv. Identification of any reference toxicant testing performed;

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

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

   vii. Summary and Conclusions section.

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

   i. Sample date(s);

   ii. Test initiation date;

   iii. Test species;

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

   v. NOEC value(s) in percent effluent;

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

   vii. TUc values (100/NOEC);

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

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

   x. IC50 or EC50 values(s) for reference toxicant test(s);

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

xii. Statistical methods used to calculate endpoints;

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

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

2. **Quality Assurance Reporting.** Because the permit requires sublethal hypothesis testing endpoints from methods 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 water quality objectives and other permit requirements.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Location REC-001

1. The Discharger shall monitor treated wastewater discharged to the water reclamation system, with compliance determined at Monitoring Location REC-001, as follows:

When reclaimed water is being used for irrigation, representative samples of effluent being discharged to the water reclamation system shall be collected and analyzed as follows:

Table E-5. Reclaimed Water Monitoring, Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Total Daily Flow	mgd	Meter	Continuous	---
Turbidity	NTU	meter	Continuous	---
Total Coliform Bacteria	MPN/100 mL	Grab	1X/Day	40 CFR 136
Nitrate	mg/L as N	Grab	1X/Week	40 CFR 136
CTR Pollutants[8]	µg/L	Grab	1X/ Year [9]	40 CFR 136
UV Dose	mJ/cm^2	online	Continuous	---
UV Intensity	mW/cm^2	online	Continuous	---
UV Transmittance	percent	online	Continuous	---
Flow at each reactor	gallons/min.	online	Continuous	---

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Location RSW-001

The Discharger shall conduct monitoring at receiving water monitoring locations RSW-001 as follows.

1. Weekly bacteria samples shall be collected from RSW-001. The geometric mean shall be calculated using the five most recent sample results.

Table E-6. Receiving Water Monitoring, Monitoring Locations RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Fecal Coliform Bacteria	MPN/100 mL	Grab	1X/Week	"[10]"
Total Coliform Bacteria	MPN/100 mL	Grab	1X/Week	"6"

[8] Those pollutants identified by the California Toxics Rule (CTR) at section 131.38.

[9] To be collected upon commencement of the discharge to the recycled water system.

[10] Detection methods used for coliforms (total and fecal) shall be those presented in Table 1 A of 40 CFR Part 136, unless alternate methods have been approved in advance by USEPA pursuant to 40 CFR Part 136. Detection methods used for enterococcus shall be those presented in EPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure,* or any improved method determined by the Regional Board to be appropriate.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Method
Enterococcus Bacteria	MPN/100 mL	Grab	1X/Week	"6"

2. If a single sample exceeds any of the single sample maximum standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued every 24 hours until the sample result is less than the single sample maximum standard or until a sanitary survey is conducted to determine the source of the high bacterial densities,

   When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

B. Biological Survey

The Discharger shall conduct a comparative evaluation of indigenous biota in the vicinity of the ocean outfall (RSW-001) and a reference station (RSW-002) outside the influent of the discharge, using a qualified aquatic biologist, at least once during the term of the permit. The evaluation shall include a photographic survey of the intertidal flora and fauna and observations of objectionable aquatic growths; floating particulates or grease and oil; aesthetically undesirable discoloration of the ocean surface; color of fish or shellfish; and any evidence of degradation of indigenous biota attributable to the rate of deposition of inert solids, settleable material, or increased concentrations of Ocean Plan Table B substances. The Discharger shall submit to the Regional Water Board Executive Officer a Biological Survey Work Plan no later than **February 1, 2012** in order to complete the survey and prepare a final report by 180 days prior to permit expiration. The final report shall be submitted no later than **January 2, 2016**.

IX. OTHER MONITORING REQUIREMENTS

A. Ocean Outfall Inspection

The Discharger shall visually inspect the effluent discharge structure once during the term of the permit to verify the operational status of the outfall and to document any cracks, breaks, or malfunctions. A report summarizing the outfall's condition and any maintenance or repairs to the outfall shall be submitted within 90 days of completing the inspection.

B. Disinfection Process Monitoring for UV Disinfection System

Upon completion and approval of the UV disinfection system, the following monitoring requirements must be implemented.

1. **Monitoring.** The UV transmittance of the effluent from the UV disinfection system shall be monitored continuously and recorded when reclaimed water is used for irrigation. The operation UV dose shall be calculated from UV transmittance, UV intensity, turbidity, exposure time, and other appropriate performance factors.

2. **Reporting.** The Discharger shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports for months when reclaimed water is used for irrigation. If the UV transmittance falls below 65 percent or UV dose falls below 80 mJ/cm^2, the event shall be reported to the Regional Water Board by telephone within 24 hours and documented in a narrative description to accompany the applicable routine monthly self-monitoring report.

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. The Discharger is required 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). 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
Continuous	July 1, 2011	All	First day of second calendar month following month of sampling
1X/ Week	July 3, 2011	Sunday through Saturday	First day of second calendar month following month of sampling
2X/ Week	July 3, 2011	Sunday through Saturday	First day of second calendar month following month of sampling
1X/ Month	July 1, 2011	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1X/ Quarter	July 1, 2011	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
1X/ year	July 1, 2011	January 1 through December 31	February 1 each year
2X/ Year	July 1, 2011	January 1 through June 30 July 1 through December 31	August 1 February 1
1X/ Permit Term	July 1, 2011	January 1 through December 31	December 3, 2015

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 reported data shall include calculation of all effluent limitations that require averaging, taking of a median or other computation. 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:

(1) Facility name;

(2) WDID;

(3) Applicable period of monitoring and reporting;

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

(5) Corrective actions taken or planned; and

(6) The proposed time schedule for corrective actions.

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

North Coast Regional Water Board
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 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 February 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 Part 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.

c. A summary report, if applicable, of the amount of sludge or biosolids placed in a landfill and the landfill(s) which received the sludge or biosolids, in accordance with Special Provisions, VI.C.5.c.(4) of the Order.

E. Spills and Overflows Notification

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

   a. As soon as possible, but not later than **two (2) hours** after becoming aware of the discharge, the Discharger shall notify the State Office of Emergency Services (OES), the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas, and the Regional Water Board[11].

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

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

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

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

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

   Information to be provided in writing includes:

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

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

2. Discharges less than 1,000 gallons that do not reach a drainage channel or a surface water:

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

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

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1A84006ODN
Discharger	City of Crescent City
Name of Facility	Crescent City Wastewater Treatment Facility (WWTF)
Facility Address	210 Battery Street Crescent City, CA 95531 Del Norte County
Facility Contact, Title and Phone	Jim Barnts, Public Works Director/City Engineer, (707) 464-9506
Authorized Person to Sign and Submit Reports	Same as above
Mailing Address	377 J Street, Crescent City, CA 95531
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	Yes
Reclamation Requirements	Yes – State Water Board Order No. 2009-0006-DWQ
Facility Permitted Flow	1.86 million gallons per day (mgd)
Facility Design Flow	1.86 mgd (average dry weather flow) 6.12 mgd (peak wet weather flow)
Watershed	Smith River
Receiving Water	Pacific Ocean
Receiving Water Type	Marine

A. The City of Crescent City (hereinafter Discharger) owns and operates the City of Crescent City WWTF, a POTW.

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

B. The treatment facility discharges treated wastewater to the Pacific Ocean, waters of the United States, and is currently regulated by Regional Water Board Order No. R1-2006-0001, which was adopted on January 25, 2006 and expired on January 25, 2011. The terms and conditions of the current Order have been automatically continued and remain in effect until new waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application dated July 28, 2010 for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit. Substantive supplemental information was requested on September 9, 2010 and was received on October 6, 2010.

II. FACILITY DESCRIPTION

The City of Crescent City owns and operates the wastewater collection, treatment, and disposal facilities that serve Crescent City and the surrounding County Service Area (CSA). The CSA has two subareas, the Northwest area to the north of the City and the Bertsch Ocean View area to the east. As of 2007, the City of Crescent City and the CSA had service area populations of 5,596 and 9,977, respectively. The WWTF is located at 210 Battery Street in Crescent City, Del Norte County, California.

A. Description of Wastewater Treatment or Controls

The City of Crescent City WWTF treats domestic, commercial, and industrial wastewater. The treatment facility has a design average dry weather treatment capacity of 1.86 million gallons per day (mgd) and a peak wet weather flow of 6.12 mgd. The Discharger currently has one Significant Industrial User (Rumiano Cheese Company) that is covered under a pretreatment permit to discharge to the WWTF. The Discharger is also in negotiations with Alber Seafood Processors and the Crescent City Harbor District that would facilitate the connection of the seafood processor directly to the Discharger's sanitary sewer system and increase to two the number of Significant Industrial Users.

The City and CSA maintain separate sanitary sewer collection systems, with flows collected in the CSA area joining the City collection system. The combined flow is then conveyed to the WWTF, owned and operated by the City of Crescent City.

Treatment processes at the Crescent City WWTF consist of headworks, including a mechanically cleaned screen, a Parshall flume, and a wetwell; primary treatment, including two grit removal tanks and two clarifiers; and secondary treatment. Secondary treatment is provided by operating rotating biological contactors and a membrane bioreactor (MBR)

in parallel. Flows from the rotating biological contactors and any flow from the MBR unit that is not used for recycled water use are commingled and disinfected and dechlorinated. Flow from the MBR that is used for recycled water is disinfected with ultraviolet light (UV) prior to discharge to the reclamation system.

The Discharger proposes to use recycled water to irrigate Beach Front Park, which is located northeast of the WWTF. The Discharger has applied to the State Water Resources Control Board for coverage under the State Water Board Water Quality Order No. 2009-0006-DWQ (General Permit for Landscape Irrigation Uses of Municipal Recycled Water.)

The capacity of the reclamation system is 1.2 mgd; however, the membrane bioreactor can treat up to 1.6 mgd. Effluent that is not recycled is discharged to the Pacific Ocean. The 24-inch diameter ductile iron pipe outfall discharges into a rocky slot in the surf zone adjacent to Battery Point Lighthouse, and has an effluent conveyance capacity up to 13 mgd.

Solids handling consists of gravity thickening of primary sludge, rotary drum thickening of secondary sludge, and anaerobic digestion of thickened sludge. Dewatered solids are currently placed in a landfill.

B. Discharge Points and Receiving Waters

The treatment facility's point of discharge to the Pacific Ocean at Discharge Point 001 is located at 41º 44' 38" N latitude and 124º 12' 10" W longitude. The outfall structure is sloped downward and discharges into a natural slot formed in the basalt forming Battery Point.

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

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

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation					Monitoring Data (2/2006 - 5/2010)
		Monthly Average	Weekly Average	Daily Maximum	6-Month Median	Instantaneous Maximum	Highest Average Monthly[1]
Discharge Point 001							
BOD_5	mg/L	30	45	---	---	---	66
	lb/day	700	1050	---	---	---	529

[1] Unless otherwise noted.

Parameter	Units	Effluent Limitation					Monitoring Data (2/2006 - 5/2010)
		Monthly Average	Weekly Average	Daily Maximum	6-Month Median	Instantaneous Maximum	Highest Average Monthly[1]
Percent Removal, BOD_5	%	≥75	---	---	---	---	Minimum - 70
Suspended Solids	mg/L	30	45	---	---	---	29
	lb/day	475	710	---	---	---	289
Percent Removal, TSS	%	≥85	---	---	---	---	Minimum - 84
pH	s.u.	6.0 – 9.0 at all times					Minimum – 7.0 Maximum – 7.9
Settleable Solids	mL/L	0.1	---	0.2	---	3.0	< 0.1
Oil and Grease	mg/L	25	40	---	---	75	63
Turbidity	NTU	75	100	---	---	225	26
Total Residual Chlorine	mg/L	---	---	0.24	0.06	1.8	Daily Max - 4.3
Ammonia	mg N/L	---	---	72	18	180	29
Copper	mg/L	---	---	0.3	0.032	0.84	Daily Max - 0.078
Zinc	mg/L	---	---	2.2	0.37	5.8	Daily Max - 0.45
Chloroform	mg/L	3.9	---	---	---	---	1.8
Bis(2-chloroethyl)ether	µg/L	1.4	---	---	---	---	
Bis(2-chloroethoxy)methane	µg/L	130	---	---	---	---	
N-nitrosodimethylamine	µg/L	220	---	---	---	---	
Fecal Coliform Bacteria	MPN/100 mL	14[2]	---	43[3]	---	---	97[2]

D. Compliance Summary

1. Violation Summary

During the term of the previous order, violations were assessed for exceedances of effluent limitations for BOD_5, fecal coliform bacteria, ammonia, total chlorine residual, copper, oil and grease; for reporting violations; receiving water violations; and violations of pretreatment program requirements. Violations of BOD_5, fecal coliform, ammonia, and chlorine residual have been largely eliminated as a result of the completion of upgrades to the secondary treatment and disinfection systems at the WWTF in August 2010.

Violations of effluent limitations occurring since March 2006 are summarized as follows:

BOD_5, weekly average: 13 violations

[2] Monthly median value.

[3] Not more than 10 percent of samples in any calendar month shall exceed 43 MPN/100 mL.

BOD_5, monthly average: 24 violations

BOD_5, percent removal; 1 violation

Fecal Coliform, 90^{th} percentile: 9 violations

Fecal Coliform, monthly median; 3 violations

Ammonia, 6-month median: 55 violations

Chlorine Residual, daily maximum: 11 violations

Copper, 6-month median: 9 violations

Oil & Grease, weekly average: 2 violations

2. Enforcement Action Summary

Cease and Desist Orders (CDOs) for violations and threatened violations of the Discharger's NPDES permit have been in effect for the WWTF since 1997. The following is a summary of CDOs adopted by the Regional Water Board for the WWTF:

CDO No. 97-17: This Order documented violations of effluent limits contained in the then-existing waste discharge requirements for the WWTF.

CDO No. 98-24: This Order was issued for existing and/or threatened violations of then-existing waste discharge requirements and included a prohibition on additional discharges into the WWTF until it could be demonstrated that additional capacity is available.

CDO 99-54: This Order modified the discharge prohibition contained in CDO No. 98-24 by changing the prohibition on additional connections to a restriction on the addition of new wastewater flows to the equivalent of 220 single-family dwelling units.

CDO No. R1-2000-72: This Order was issued for threatened violations of the newly adopted (reissued) NPDES permit (WDR Order No. R1-2000-71). All previous cease and desist orders were rescinded by CDO No. R1-2000-72. CDO No. R1-2000-72 continued the connection restriction to the WWTF, allowing the addition of no more than the equivalent of 220 single-family dwelling units. The CDO also established a time schedule for completing environmental documents pursuant to the CEQA leading to design and construction of a new WWTF. The Discharger complied with time schedules contained in CDO No. R1-2000-72, requiring completion of CEQA documents.

CDO No. R1-2002-0005: This Order modified CDO No. R1-2000-72 to include a time schedule for increasing hydraulic capacity through the ocean outfall and for completing design of a new WWTF.

CDO No. R1-2004-0001: This Order modified CDO No. R1-2000-72, allowing an additional 160 single family dwelling units or 36,000 gallons per day to the connection restriction.

CDO No. R1-2005-0035: This Order modified CDO No. R1-2000-72, allowing an additional 500 single family dwelling units to the connection restriction (equal to 270 lbs/day of BOD_5), and required the Discharger to submit a draft pretreatment ordinance to comply with federal pretreatment requirements.

During the term of the previous permit, the following Administrative Civil Liabilities (ACLs) were adopted by the Regional Water Board for the WWTF:

ACL Complaint No. R1-2007-0035: This Complaint assessed Mandatory Minimum Penalties (MMPs) for three late reports during the term of the previous permit. The Discharger proposed a Supplemental Environmental Project (SEP) which was accepted by the Regional Water Board in ACL Order No. R1-2007-0069.

ACL Complaint No. R1-2007-0061: This Complaint was issued for exceedances of limitations for fecal coliform bacteria, BOD_5, TSS, and oil and grease, in addition to the occurrence of two sanitary sewer overflows that occurred during the term of the previous permit. ACL Order No. R1-2008-0018 was adopted and required the Discharger to pay a sum to the Cleanup and Abatement Account, and to complete a Compliance Project (CP) and a Project in lieu of paying the remaining MMPs. Installation of UV disinfection satisfied the CP requirement and upgrade of the facility headworks satisfied the Project requirement.

ACL Complaint No. R1-2010-0018: This Complaint assessed MMPs for violations of effluent limits for BOD_5, fecal coliform, total residual chlorine, and ammonia; late annual reports; exceedances of receiving water objectives; and missed monitoring events.

3. Recent Improvements to WWTF Affecting Compliance

In 2007, the Discharger began construction of upgrades to the WWTF to improve effluent quality and to comply with enforcement actions issued by the Regional Water Board, as enumerated in the previous section. The WWTF upgrades included the installation of the previously-described MBR unit, new solids dewatering equipment, and rehabilitation of the headworks, primary clarifiers, solids thickening, and the anaerobic digesters. The WWTF upgrade also included the installation of a new UV disinfection system and effluent reuse pumping station downstream of the MBR process. The UV system treats wastewater flows up to 1.2 mgd to title 22 tertiary standards. The upgrade projects were completed in August 2010.

Monitoring data since the MBR unit went on-line in August to October 2010 document markedly lower effluent concentrations of BOD_5 and ammonia, with concentrations 70-80% less than effluent concentrations observed in 2009. The improved effluent quality has resulted in elimination of effluent limit violations.

E. Planned Changes

The Discharger plans to construct waste chemical storage facilities for temporary storage of membrane bioreactor (MBR) cleaning chemicals. The waste storage system will capture and store waste chlorine and citric acid used for membrane cleaning. When the MBR is in need of cleaning, the stored cleaning chemicals will be slowly introduced into the treatment system to avoid upsets or conditions that could result in effluent violations.

The Discharger is also contemplating whether to construct a septage receiving facility at the WWTF to satisfy the need for local septage disposal. As described in preliminary discussions with Regional Water Board staff, septage would be collected and monitored at a septage receiving facility and pumped to the anaerobic digesters for co-treatment with the plant solids or added to the digested solids prior to ultimate disposal at a permitted land disposal site.

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 exceed 3,000 mg/L, and thereby meet an exception to Resolution 88-63. The “municipal or domestic

supply" (MUN) designation is therefore not applicable to the coastal receiving water for discharges at Discharge Point 001. Beneficial uses applicable to the receiving water for discharges from Crescent City WWTF are as follows.

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	**Existing:** • Navigation (NAV) • Water Contact Recreation (REC1) • Non-Contact Water Recreation (REC2) • Commercial and Sport Fishing (COMM) • Marine Habitat (MAR) • Wildlife Habitat (WILD) • Preservation of Rare, Threatened, or Endangered Species (RARE) • Migration of Aquatic Organisms (MIGR) • Spawning, Reproduction, and/or Early Development (SPWN) • Shellfish Harvesting (SHELL) • Aquaculture (AQUA) **Potential:** • Industrial Service Supply (IND) • Industrial Process Supply (PRO) • Preservation of Areas of Special Biological Significance (ASBS)

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. Requirements of the Order implement the Thermal Plan.

3. **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, 2005, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. 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

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes [40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** Section 131.12 requires that 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.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[4] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require

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

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 or 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 load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

On November 12, 2010, the USEPA provided final approval of the 2008-2010 303(d) list of impaired water bodies prepared by the State. The coastal waters which are the receiving waters for this discharge are not listed on the 303(d) list as being impaired.

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 State-wide general storm water permit has been deemed not applicable to Crescent City WWTF because all storm water on-site is directed to the plant 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 Discharger is enrolled and is subject to 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 land application of biosolids for qualifying biosolids application projects.

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

   This Order is consistent with the requirements of the Recycled Water Policy. This Order allows for increased use of recycled water consistent with the mandate established in the Recycled Water Policy to increase the use of recycled water in California.

   For the recycled water discharge, the Discharger has applied to the State Water Resources Control Board for coverage under the State Water Board Water Quality Order No. 2009-0006 WQ (General Permit for Landscape Irrigation Uses of Municipal Recycled Water) and submitted an Engineering Report on the Production and Use of Reclaimed Water to the California Department of Public Health for a determination of compliance with Water Recycling Criteria in title 22 of the California Code of Regulations. The Discharger's application for coverage under the General Permit for Landscape Irrigation Uses of Municipal Recycled Water and the Discharger's Engineering Report are currently under review. This Order does not authorize the discharge of recycled water to the water reclamation system but does require that all reclaimed water meet standards in title 22, section 60301.230 for disinfected tertiary recycled water. The Discharger must obtain coverage under the General Permit of Landscape Irrigation and approval for the water reclamation system by the California Department of Public Health. If coverage is not obtained, Discharger may seek an amendment of this Order in order to include this discharge, subject to notice and public hearing.

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 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. R1-2006-0001) 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.B.** Creation of pollution, contamination, or nuisance, as defined by Water Code section 13050 is prohibited.

   This prohibition is retained from the previous Order (Order No. R1-2006-0001) and is based on section 13050 of the Water Code.

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

   This prohibition is retained from the previous Order (Order No. R1-2006-0001) 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.

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

   This prohibition has been retained from the previous Order (Order No. R1-2006-0001) and is based on the need 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) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and is therefore explicitly prohibited by the Order.

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

   This prohibition is established by this Order. The prohibition applies to spills related to SSOs and is based on State standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the States' antidegradation policy as specified in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

   This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*. Order No. 2006-0003-DWQ prohibits SSOs that result in the

discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E. of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the State, groundwater, and land, and which will provide a more complete protection of human health. The rationale for this more strict prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

6. **Discharge Prohibition III.F.** The discharge at Discharge Point 001 shall not exceed 1.86 mgd as an average dry weather flow rate determined from the lowest average daily flow measured over 30 consecutive days.

   This prohibition is established by this Order. The facility average dry weather design capacity is 1.86 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.

7. **Discharge Prohibition III.G.** Discharge of waste to land that is not owned by or subject to an agreement for use by the Discharger is prohibited.

   This prohibition is established by the Order to prohibit unauthorized discharges to land.

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

   This prohibition is established by this Order and is based on the discharge prohibitions contained in the Ocean Plan.

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

   This prohibition is established by this Order and is based on the discharge prohibitions contained in 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	

In addition, the State Water Board, in Table A of the Ocean Plan, has established technology-based requirements, applicable to all POTWs for suspended solids, settleable solids, turbidity, pH, and grease and oil.

2. Applicable Technology-Based Effluent Limitations

Technology-based limitations established by the Order for Discharge Point 001 are summarized in the following table. Note that the mass-based limits have been rounded to two significant digits.

Table F-6. Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum
BOD_5	mg/L	30	45	---	---
	lbs/day	700	1,050	---	---
TSS	mg/L	30	45	---	---
	lbs/day	465	700	---	---
BOD_5	% Removal	75	---	---	---
TSS	% Removal	85	---	---	---
pH	s.u.	6.0 – 9.0 at all times			---
Settleable Solids	mL/L-hr	0.1	---	0.2	3.0
Oil and Grease	mg/L	25	40	---	75
	lbs/day	390	620	---	1,200
Turbidity	NTU	75	100	---	225

Numeric effluent limitations for BOD_5, TSS, including the percent removal requirements, and for pH are retained from the previous permit and reflect secondary treatment standards at Part 133.

The previous permit granted a lower percent removal requirement than required by secondary treatment regulations for BOD_5, based on the special consideration established at 40 CFR §133.103(d) for less concentrated influent wastewater. The regulation states that a lower percent removal requirement may be substituted for the 85 percent removal requirements set forth in 40 CFR §133.102(a)(3) if the following three conditions are met: 1) the WWTF is consistently meeting its permit effluent concentration limitations but cannot meet the percent removal requirement due to less concentrated influent wastewater; 2) to meet the percent removal requirement the WWTF would have to achieve significantly more stringent requirements than would otherwise be required by the concentration-based standards; and 3) the less concentrated effluent is not the result of excessive infiltration and inflow (I/I). The 75 percent removal requirement for BOD_5 is retained in this Order. However, it is acknowledged in the ROWD that the new MBR process unit, which commenced operation in June 2010, will significantly improve the BOD_5 removal of the WWTF and the improved performance could warrant reconsideration and modification of the lower percent removal requirement.

Numeric effluent limitations for oil and grease and turbidity are retained from the previous 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. Effluent limitations for settleable solids are retained from the previous permit; the average monthly and maximum daily limitations are more stringent than required by Table A of the Ocean Plan, but monitoring data show that the Discharger can meet these more stringent limitations.

Mass-based limitations are required for all effluent limitations 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 established in this Order for BOD_5, TSS and oil and grease. Mass-based limitations for TSS and oil and grease are calculated based on the permitted flow rate of 1.86 mgd. For TSS, the mass-based limitations are more stringent than the mass-based limitations contained in the previous Order, which were calculated based on a flow rate of 1.9 mgd. The mass-based limitations for oil and grease are newly-established in this Order. It is expected that the Discharger will be able to comply with the more stringent limitations, based on past facility performance. Mass-based effluent limitations for BOD_5 in this Order are retained from the previous Order and are not based on the permitted flow rate of 1.86 mgd; rather, mass-base limitations for BOD_5 were modified in the previous Order to account for high wet weather influent flows and reflect the demonstrated treatment performance of the WWTF from 2000 to 2005. As with BOD_5 percent removal requirements, mass-based limitations for BOD_5 could be modified during the term of this Order if the MBR process results in significant improvement in treatment performance.

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. Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

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 the Ocean 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

Beneficial uses established by the Basin Plan and Ocean Plan, applicable to the coastal receiving waters for discharges from the Crescent City WWTF, are described in the findings of the Order and in section III.C.1 of this Fact Sheet. Water quality objectives, applicable to these receiving waters, are established by the Basin Plan and the Ocean Plan and include the water quality objectives for toxic pollutants established in Table B of the Ocean Plan.

3. Determining the Need for WQBELs

a. Non-Table B Ocean Plan Water Quality Objectives

i. Fecal Coliform Bacteria

The Ocean Plan includes bacteriological objectives for ocean waters used for water contact recreation and shellfish harvesting. For total and fecal coliform bacteria and the Enterococcus group of bacteria, water contact standards must be met 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. Shellfish harvesting standards for total coliform bacteria must be maintained throughout the water column.

Because of the presence of coliform bacteria in domestic wastewater effluent, The Regional Water Board has therefore determined that there is reasonable potential that the discharge can cause or contribute to exceedances of the Ocean Plan water quality objectives for fecal coliform bacteria for shellfish harvesting.

Because reasonable potential is demonstrated for fecal coliform bacteria, the fecal coliform bacteria limitations are retained from the previous permit. The fecal coliform bacteria limitations are based on USEPA National Recommended Criteria for shellfish harvesting waters. These limitations can reasonably be achieved with the Facility's existing treatment facilities and are also protective of the water contact recreation beneficial use of the receiving water.

The disinfected effluent at 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 milliliters (mL) for a calendar month.

(2) Not more than 10 percent of samples in a calendar month shall exceed an MPN of 43 per 100 mL.

b. Ocean Plan Table B Water Quality Objectives

Procedures for performing a Reasonable Potential Analysis (RPA) for 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 such 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 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 log normally. 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 for Discharge Point 001, performed in accordance with procedures described by the Ocean Plan and summarized above, for the Crescent City WWTF. Here, the RPA was conducted using all available effluent data generated during monitoring events from May 2007 to February 2010.

The maximum effluent concentration (MEC) presented in the table below is the expected MEC after mixing, calculated in accordance with Appendix VI of the Ocean Plan, which accounts for the dilution provided by the receiving water and the background concentration of the pollutant.

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 ammonia, copper, zinc, TCDD equivalents, bis(2-ethylhexyl)phthalate, and tetrachloroethylene. Effluent limitations for these pollutants are therefore required at Discharge Point 001. Additionally, reasonable potential was determined for total residual chlorine because the Discharger uses chlorine for effluent disinfection, and the Regional Water Board has determined that the discharge may cause or contribute to exceedances of applicable water quality criteria for chlorine, even though monitoring data may not show reasonable potential.

Table F-7. RPA Results – Discharge Point 001[5]

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	90	0	1133	**Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.**
Arsenic	8	4	1	2.9	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Cadmium	1	4	2	0.0017	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorinated Phenolics	1	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (VI)	2	4	3	0.10	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Copper	3	52	9	4.5	**Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.**
Cyanide	1	3	1	0.077	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Total Residual Chlorine	2	-	-	-	**Endpoint 1 – Other Information**

[5] Notes to Table F-7:
ND indicates that the pollutant was not detected.
Minimum probable initial dilution for this Discharger is 29:1. Maximum effluent concentration is the expected concentration after complete mixing, in accordance with Appendix VI of the Ocean Plan.
Effluent data used for this RPA are from May 2007 to February 2010 for most Ocean Plan pollutants.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
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	1	0.017	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Mercury	0.04	4	1	0.0011	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Nickel	5	4	0	0.40	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Non-chlorinated Phenolics	30	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15	4	1	0.021	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Silver	0.7	4	1	0.16	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Zinc	20	52	1	23	**Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.**
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	3	3	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	1	0.0067	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Bis(2-Chloroethoxy)Methane	4.4	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroisopropyl)Ether	1200	3	3	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	1	0.070	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Dichlorobenzenes	5100	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Diethyl Phthalate	33000	3	2	0.033	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	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Di-n-Butyl Phthalate	3500	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Ethylbenzene	4100	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Fluoranthene	15	3	3	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	5	0	0.31	Endpoint 2 – An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate.
Tributylin	0.0088	2	2	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	4	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	2	2	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.
TCDD Equivalents	3.9E-9	4	0	5.1E-09	**Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.**
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	3	3	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.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Benzidine	6.9E-5	3	3	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	3	3	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Ethylhexyl)Phthalate	3.5	4	0	1.4	**Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.**
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	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chloroform	130	52	3	60	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.
Dichlorobromomethane	6.2	4	3	0.010	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dieldrin	0.00004	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Halomethanes	130	4	3	0.017	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	3	3	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	4	3	0.0067	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	3	3	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.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Tetrachloroethylene	2.0	4	1	0.18	**Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required.**
Toxaphene	0.00021	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Trichloroethylene	27	4	2	0.027	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

Based on results of the RPA, performed in accordance with methods of the Ocean Plan for discharges to the Pacific Ocean, the Regional Water Board is establishing WQBELs for ammonia, copper, zinc, TCDD equivalents, bis(2-ethylhexyl)phthalate, tetrachloroethylene, and total residual chlorine.

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 = 29)

For the Crescent City WWTF, Dm (29) is unchanged from the previous Order (R1-2006-0001). 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-8. Background Concentrations—Ocean Plan

Pollutant	Background Seawater Concentration (ug/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

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

Table F-9. Water Quality Objectives–Ocean Plan

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Ammonia	µg/L	600	2400	6000	---
Copper	µg/L	3	12	30	---
Zinc	µg/L	20	80	200	---
TCDD Equivalents	µg/L	---	---	---	3.9E-9
Bis(2-Ethylhexyl)Phthalate	µg/L	---	---	---	3.5
Tetrachloroethylene	µg/L	---	---	---	2.0
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 29 for each effluent limitation calculation.

Ammonia

Ce = 600 + 29 (600 – 0) = 18 mg/L (6-Month Median)
Ce = 2400 + 29 (2400 – 0) = 72 mg/L (Daily Maximum)
Ce = 6000 + 29 (6000 – 0) = 180 mg/L (Instantaneous Maximum)

Copper

Ce = 3 + 29 (3 – 2) = 32 µg/L (6-Month Median)
Ce = 12 + 29 (12 – 2) = 302 µg/L (Daily Maximum)
Ce = 30 + 29 (30 – 2) = 842 µg/L (Instantaneous Maximum)

Zinc

Ce = 20 + 29 (20 – 8) = 368 µg/L (6-Month Median)
Ce = 80 + 29 (80 – 8) = 2168 µg/L (Daily Maximum)
Ce = 200 + 29 (200 – 8) = 5768 µg/L (Instantaneous Maximum)

TCDD Equivalents

Ce = 3.9E-9 + 29 (3.9E-9 – 0) = 1.2E-7 µg/L (30-day Average)

Bis(2-Ethylhexyl)Phthalate

Ce = 3.5 + 29 (3.5 – 0) = 105 µg/L (30-day Average)

Tetrachloroethylene

Ce = 2.0 + 29 (2.0 – 0) = 60 µg/L (30-day Average)

Total Residual Chlorine

Ce = 2 + 29 (2 – 0) = 60 µg/L (6-Month Median)
Ce = 8 + 29 (8 – 0) = 240 µg/L (Daily Maximum)
Ce = 60 + 29 (60 – 0) = 1800 µg/L (Instantaneous Maximum)

Mass-based effluent limitations have also been established for these pollutants pursuant to 40 CFR 122.45(f), which requires that effluent limits be expressed in terms of mass. As described in Section III. C of the Ocean Plan, mass-based effluent limitations are calculated as follows:

Mass-Based Effluent Limit (lbs/day) = 0.00834 x Ce x Q

Where …

Ce = the effluent limitation (µg/L)
Q = flow rate in million gallons per day (mgd)
0.00834 = conversion factor (8.34 if Ce is in mg/L)

Mass-based limitations are established using the facility dry weather design flow of 1.86 mgd.

WQBELs established by the Order are summarized below. Note that the limits have been rounded to two significant digits from the calculations above.

Table F-10. Summary of Final WQBELs for Ocean Plan Table B Pollutants

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Ammonia	mg/L	18	72	180	---
	lbs/day	280	1100	2800	---
Copper	µg/L	32	300	840	---
	lbs/day	0.50	4.7	13	---
Zinc	µg/L	370	2200	5800	---
	lbs/day	5.7	34	89	---
TCDD Equivalents	µg/L	---	---	---	1.2E-07
	lbs/day	---	---	---	1.8E-09
Bis(2-	µg/L	---	---	---	110

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Ethylhexyl)Phthalate	lbs/day	---	---	---	1.6
Tetrachloroethylene	µg/L	---	---	---	60
	lbs/day	---	---	---	0.93
Total Residual Chlorine	µg/L	60	240	1800	---
	lbs/day	0.93	3.7	28	---

WQBELs for fecal coliform bacteria reflect applicable water quality criteria for protection of the shellfish harvesting beneficial use are expressed as follows.

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 mL for a calendar month.

(2) Not more than 10 percent of samples collected in a calendar month shall exceed an MPN of 43 per 100 mL.

5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent toxicity (WET), acute or chronic, protect the receiving water quality from the aggregate toxic effects of a mixture of pollutants in the effluent. There are two types of WET test – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. The Ocean Plan contains numeric water quality objectives for acute and chronic toxicity established in Table B.

The Discharger's chronic toxicity testing results collected during the term of the previous permit and summarized in the following table, do not indicate toxic impacts from the discharge.

Table F-11. Summary of Chronic Toxicity Testing Results

Date	*Macrocystis pyrifera* (TUc)		*Menidia beryllina* (TUc)		*Mytilus galloprovinciales* (TUc)
	germination	growth	survival	biomass value	development
08/01/06	6.25	6.25	6.25	6.25	12.5
01/24/07	6.25	6.25	---	---	---
08/20/07	---	---	---	---	6.25
02/06/08	6.25	6.25	---	---	---
08/13/08	6.25	6.25	---	---	---
02/10/09	---	---	---	---	6.25

Date	*Macrocystis pyrifera* (TUc)		*Menidia beryllina* (TUc)		*Mytilus galloprovinciales* (TUc)
	germination	growth	survival	biomass value	development
09/08/09	> 100** (9.3)	6.25	---	---	---
03/02/10	6.25	6.25	---	---	---

** Laboratory reported that the concentration response curve was flat, which indicated that there was no increase in impairment as effluent concentration increased. A two-point interpolation was conducted using toxicity results to estimate EC_{25} point estimate. Results showed an EC_{25} of 10.7% effluent, resulting in 9.3 TUc (where TUc = EC_{25}/100).

This Order does not contain WET limitations, but, in accordance with the Ocean Plan, establishes chronic monitoring requirements for effluent at Discharge Point 001. If the result of any chronic toxicity test exceeds the water quality objective, the Discharger must initiate accelerated monitoring as described in section V of the MRP. After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Discharger will be required to conduct a Toxicity Reduction Evaluation (TRE), as described by the MRP. Accelerated toxicity testing and TRE/TIE requirements in the Order are consistent with the previous permit.

This Order also retains the requirement for the Discharger to conduct a screening test using at least one vertebrate, invertebrate, and plant species. After the screening test is completed, monitoring can be reduced to the most sensitive species.

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. Effluent limitations for chloroform, bis(2-chloroethyl)ether, bis(2-chloroethoxy)methane, and N-nitrosodimethylamine are not retained from the previous permit. The Ocean Plan contains a procedure for determining reasonable potential and establishing effluent limitations. Eliminating effluent limitations from the previous permit that do not demonstrate reasonable potential meets the exception to antibacksliding requirements established at CWA section 402(o)(2)(B)(ii). This exception states that a less stringent effluent limitation (here, the elimination of a limitation) may be included in a reissued permit when information is available which was not available at the time of permit issuance. New information considered by Regional Water Board staff to make a determination of "no reasonable potential" is effluent monitoring data generated since the previous permit was adopted.

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. The Order also contains effluent limitations in addition to the minimum, federal technology-based requirements necessary to meet applicable water quality standards. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000 but not approved by USEPA by that date are nonetheless "applicable water quality standards for the purposes of the CWA pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required by to implement the requirements of the CWA.

In addition, the Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

E. Interim Effluent Limitations

Not applicable.

F. Land Discharge Specifications

Not applicable.

G. Reclamation Specifications

1. The Discharger has submitted a Notice of Intent for coverage under Water Quality Order No. 2009-0006-DWQ and additionally shall comply with applicable State and local requirements regarding the production and use of reclaimed wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and Department of Health Services regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria).

2. This Order establishes reclamation specifications for total coliform and for turbidity that are based on the requirements for disinfected tertiary recycled water at title 22, division 4, chapter 3, article 1, section 60301.230 and for filtered wastewater at section 60301.320 of the California Code of Regulations.

3. A streamlined reasonable potential analysis was conducted to determine whether the concentrations of pollutants in the recycled water had the potential to exceed water quality objectives for groundwater if discharged to land through the proposed landscape irrigation system. The most stringent water quality objectives for the protection of the MUN beneficial use for groundwater are primary and secondary Maximum Contaminant Levels (MCLs) for drinking water found in title 22 of the California Code of Regulations. Because effluent monitoring data specific to and representative of recycled water was unavailable at the time of permit development, pollutants considered in the streamlined RPA were only those pollutants detected in the ocean discharge during routine Ocean Plan Table B pollutant monitoring for the previous permit term. Using this select data set, no pollutants detected in the treated wastewater effluent exceeded primary or secondary drinking water MCLs, except tetrachloroethylene, which was measured in the ocean discharge at a concentration of 0.0055 mg/L, as shown in Table F-10.

   To determine the actual concentration of tetrachloroethylene in the recycled water, one sample of advanced treated effluent from the MBR unit was collected in May 2011 and analyzed for volatile organic compounds (VOCs) using EPA Method 8260B. Results from this analysis showed that all VOCs, including tetrachloroethylene, were not detected at method detection levels above the primary or secondary MCLs for drinking water. Therefore, based on all available information, there is no reasonable potential that concentrations of priority pollutants in recycled water will cause or contribute to an exceedance of water quality objectives for the protection of the beneficial uses of groundwater.

   2,3,7,8 TCDD (Dioxin)

   As part of the streamlined RPA for recycled water, the presence of 2,3,7,8 TCDD in the treated effluent was evaluated even though this congener of dioxin was determined to be not present in routine sampling of the ocean discharge. Again, like many priority pollutants for the streamlined RPA, monitoring data specific to and representative of the recycled water was not available at the time of permit development.

   Background

   The term dioxin commonly refers to a family of toxic chemicals (congeners) that share a similar chemical structure and a common mechanism of toxic action, but have different toxicities. Dioxins congeners are most often found in mixtures rather than as single compounds in the environment, and the chemical family includes, as

mentioned above, chlorinated dibenzo-p-dioxins (CDDs), chlorinated dibenzofurans (CDFs) and certain polychlorinated biphenyls (PCBs). CDDs and CDFs are not commercial chemical products but trace level byproducts of combustion generated among other things by forest fires, wood-burning stoves, and several industrial chemical processes. PCBs were produced commercially in large quantities until production was stopped in 1977. Although dioxin levels in the environment have been declining since the early 1970s, dioxins and furans remain ubiquitous in urban runoff at concentrations much higher than water quality standards.

The most toxic dioxin congeners are 2,3,7,8 TCDD and 1,2,3,7,8 PeCDD. , A "Toxicity Equivalence" or TEQ method is used to compare the toxicity of less toxic dioxin congeners to the toxicity of 2,3,7,8 TCDD and 1,2,3,7,8 PeCDD and calculate the sum of all dioxin congener toxicities. The California Ocean Plan currently uses the TEQ method and applies a water quality objective for dioxin/furans expressed as TCDD Equivalents.

For discharges to inland surface waters, enclosed bays and estuaries, the water quality objective is for 2,3,7,8 TCDD, alone, per the California Toxics Rule (CTR). Similarly, the water quality objective for groundwater applicable to the recycled water discharge is the primary MCL for 2,3,7,8 TCDD of 3×10^{-8} mg/L. For the proposed recycled water discharge from the WWTF, dioxin concentrations in the recycled water are unknown. However, results for the ocean discharge of were “Non Detect” for 2,3,7,8 TCDD. Therefore, based on all available information about the levels of 2,3,7,8 TCDD in the ocean discharge and the strong likelihood that the presence of all dioxin congeners will be further reduced in recycled water though advanced treatment in the MBR unit, it is determined that there is no reasonable potential that concentrations of priority pollutants in recycled water will cause or contribute to an exceedance water quality objectives for groundwater.

Table F-10. Maximum Contaminant Levels for Drinking Water

Chemical	MCL, mg/L		Maximum Effluent Concentration, mg/L	Maximum Effluent Concentration, mg/L
	Primary	Secondary	Ocean Discharge	Recycled Water Discharge
Antimony	0.006	---	0.0002 (J) **	not available
Arsenic	0.010	---	0.00073	not available
Cadmium	0.005	---	0.00005 (J) **	not available
Chromium VI	0.05	---	0.003 (J) **	not available
Copper	1.3 *	1.0	0.078	not available
Cyanide	0.15	---	0.0023	not available
Lead	0.015 *	---	0.0005	not available
Mercury	0.002	---	0.000017	not available
Nickel	0.1	---	0.012	not available
Selenium	0.01	---	0.00064	not available
Silver	0.05	0.1	0.0003	not available

Zinc	---	5.0	0.450	not available
Diethyl Phthalate	---	---	0.001 (J) **	not available
Toluene	0.15	---	0.0092	< 0.0005
2,3,7,8 TCDD (Dioxin)	3×10^{-8}	---	ND	not available
Bis(2-Ethylhexyl)Phthalate	---	---	0.042	not available
Chloroform	---	---	1.8	< 0.0005
Dichlorobromomethane	---	---	0.0003 (J) **	< 0.0005
Methylene Chloride	---	---	0.0002 (J) **	< 0.0005
Tetrachloroethylene (PCE)	0.005	---	0.0055	< 0.0005

* Regulatory Action Level: if exceeded, certain action must be taken, such as additional monitoring, corrosion control studies and treatment, and for lead, a public education program.

** "J" flagged results reflect estimated analytical values below the Reporting Limit and above the Method Detection Limit.

4. Reclamation Specification IV.D.2.c implements a flow restriction for water discharged to the water recycling system (REC-001). Based upon the equations developed, at the highest flow of 830 gpm, one reactor cannot provide the required UV dose, if the UVT drops below 78 percent. A third UV reactor is needed to address all operational conditions, including any flow up to 830 gpm and any UVT down to 65%, while still providing adequate redundancy. The 2003 National Water Research Institute (NWRI) UV Guidance states that "At a minimum, two reactors must be simultaneously operated in any on-line reactor train." It continues by requiring a redundant reactor in a single treatment train, "Standby UV equipment must be provided: A standby reactor per train. [OR] A standby reactor train." Further, NWRI Guidance states the system must be capable of applying the required dose, "with any failed or out-of-service reactor." Examples include failure of the power supply, cleaning mechanism, cooling system, SCADA system, or a damaged UV intensity sensor. Until this reliability issue is sufficiently addressed, the flow should be restricted to 0.6 MGD, which is one-half of the design flow of 1.2 MGD.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The State Water Board adopted water quality criteria as water quality objectives in the Ocean Plan. The Ocean Plan includes numeric and narrative water quality objectives for various beneficial uses. This Order contains receiving surface water limitations based on the Ocean Plan numerical and narrative water quality objectives for dissolved oxygen, floating particulates, oil and

grease, pH, discoloration, natural lighting, deposition of solids, dissolved sulfides, organic materials, and nutrient materials.

B. Groundwater

Groundwater limitations are not applicable to the discharge from the 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 BOD_5 and TSS are retained from the previous permit and are necessary to determine compliance with the Order's percent removal requirement for these parameters. Frequency of monitoring has been increased from weekly to twice per week to correspond to the increase in monitoring frequency in the effluent. The Discharger is authorized by the MRP to sum the BOD_5 mass computed from samples collected at INF-001 with the BOD_5 mass removed by the Rumiano pretreatment process during the same interval for determining compliance with the percent removal requirement for BOD_5. The Discharger must provide and certify pretreatment data from the Rumiano plant with all monthly reports for which Rumiano BOD_5 removal is to be considered in percent removal determinations.

B. Effluent Monitoring

Most effluent monitoring requirements for Discharge Point 001 at Monitoring Location EFF-001 are retained from the previous permit. Changes in the MRP (Attachment E) from that of the previous permit are as follows.

- The monitoring frequency for BOD_5, TSS and fecal coliform monitoring has been increased from once per week to twice per week. The basis for the increase in monitoring frequency is the variability of the effluent. The *Technical Support Document for Water Quality-based Toxics Control* (page 113) states that the decision on monitoring frequency is case-specific and needs to consider a number of factors including effluent variability. If, after 12 months, effluent monitoring data demonstrates that effluent variablity is not significant, the Regional Water Board Executive Officer may reduce the monitoring frequency to once per week, with a corresponding reduction in influent montoring.

- The monitoring frequency for ammonia has been increase from once per month to once per week. The increase in monitoring frequency is based on the history of violations of the 6-month median effluent limitation for ammonia from August 2008 to March 2010 and the uncertainly that the MBR system will bring the discharge into consistent compliance with the 6-month median limitation.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring requirements protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. This Order includes annual monitoring requirements for chronic toxicity to determine compliance with the Ocean Plan water quality objective for chronic toxicity, which is implemented in the Order as a monitoring trigger for accelerated monitoring. Acute toxicity testing is not required in accordance with the toxicity testing requirements of Section III.C of the Ocean Plan for discharges with a dilution of less than 100:1.

Effluent monitoring requirements for chronic toxicity are established in the MRP for Monitoring Location EFF-001 for determining compliance with the chronic toxicity water quality objectives. The dilution series required by the Monitoring and Reporting Program is bracketed around the receiving water effluent concentration, based on the available 29:1 dilution, consistent with the guidance contained USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms*.

D. Reclamation Monitoring Requirements

Monitoring requirements for the recycled water discharge at Monitoring Location REC-001 are established with this Order for determining compliance with reclamation specification applicable to discharges from the water reclamation system, and are described in the MRP (Attachment E). Monitoring requirements are also established for priority pollutants identified in the California Toxics Rule (CTR), as required by the State's Recycled Water Policy. Monitoring requirements for the recycled water discharge become effective upon commencement of the discharge to the water reclamation system.

E. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring for fecal coliform, total coliform and Enterococcus bacteria are retained from the previous permit; however, the frequency has been reduced from 5 samples per month to one sample each calendar week. Monitoring is required for determining compliance with Ocean Plan objectives for bacteria, and established considering the ease of public access to the vicinity of the outfall.

Compliance with the receiving water limitation established in section V.A of the Order will be determined based on a physical, chemical, and biological survey of the outfall location; the survey is required once every 5 years. The requirement to implement the plan for a comparative evaluation of indigenous biota and submit a summary report at least 6 months prior to permit expiration is established by this Order for compliance determination with Ocean Plan physical and chemical objectives.

2. Groundwater

The MRP does not establish groundwater monitoring requirements.

F. Other Monitoring Requirements

1. Ocean Outfall. The requirement to conduct an ocean outfall inspection once during the term of the permit is established in the MRP.

2. UV Disinfection System Monitoring. The Order establishes operations monitoring for the UV disinfection system. These monitoring requirements are established to document proper operations and maintenance of the disinfection system for the new recycled water system. This monitoring is intended to ensure adherence to proper standards for UV light dosage and to ensure adequate disinfection occurs.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. **Federal 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).

2. **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.

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

   b. 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.

   c. 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.

B. 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.

d. **Effluent Limitations for BOD_5 (Special Provisions VI.C.1.d).** Mass-based effluent limitations and percent removal limitations for BOD_5 in this Order were first established in the previous Order to account for high wet weather influent flows and on the demonstrated performance of the WWTP from 2000 to 2005. In June 2010, the WWTF was upgraded to include a new MBR unit, new solids dewatering equipment, and rehabilitation of the headworks, primary clarifiers, solids thickening, and the anaerobic digesters. It is expected that these upgrades will significantly improve long-term treatment performance of the WWTF. If monitoring data collected during the term of this Order indicate that the discharge can meet effluent limitations based on improved performance, this Order may be reopened to modify these limitations.

e. **Priority Pollutants Monitoring (Special Provisions VI.C.1.e)**. This Order may be reopened for modification to include monitoring requirements for priority pollutants developed as part of a Salt and Nutrient Management Plan. This provision implements the Recycled Water Policy, which requires compliance with regional or subregional salt and nutrient management plans that are developed to ensure attainment of water quality objectives and protection of beneficial uses. Where a salt and nutrient management plan requires monitoring of recycled water for landscape irrigation projects, monitoring requirements may be prescribed for the Discharger's recycled water discharge.

f. **Septage Receiving (Special Provisions VI.C.1.f).** The Discharger has indicated an interest in developing a program for receiving septage into the WWTF. Because septage has the potential to upset plant treatment operations or process performance or both if the plant is not designed to handle septage or the septage is handled improperly, an acceptable septage management plan is necessary to ensure that pollutants associated with domestic septage do not pass through or interfere with the operation or performance of the WWTF. Accordingly, this Order includes a provision to reopen the permit if a Septage Management Plan is submitted by the Discharger and approved by the Regional Water Board Executive Officer during the term of this Order.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Evaluations (Provision VI.C.2.a).

In addition to routine monitoring at Discharge Point 001 for chronic toxicity, this provision requires the Discharger to submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a

plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

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

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

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

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

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

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

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

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

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

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

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Plan. Provision VI.C.3.a is included in this Order pursuant to section III.C.9 of the Ocean Plan. A Pollutant Minimization Program

is required when there is evidence that a toxic pollutant is present in effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation, and Maintenance Specifications

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 (Provision VI.C.5.a)

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

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

   All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges [40 CFR 122.41(d)], to report non-compliance [40 CFR 122.41(1), (6), and (7)], and to properly operate and

maintain facilities [40 CFR 122.41(e)]. This provision is consistent with these federal requirements.

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

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

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

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

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

When the Discharger intends to reuse biosolids through land application, 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.

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

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

e. Adequate Capacity (Provisions VI.C.5.e)

This provision is newly established by the Order. 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.

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

Not applicable.

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 Crescent City WWTF. 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 **Del Norte Triplicate** on **February 4, 2011.**

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **April 11, 2011**

C. Public Hearing

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

Date: June 22, 2011
Time: 1:00 p.m., or as soon as possible thereafter as noticed in the final agenda
Location: Regional Water Quality Control Board
David C. Joseph Room
5550 Skylane Blvd. Suite A
Santa Rosa, California

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 (ROWD), 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.