CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION

ORDER NO. R9-2005-0219
NPDES NO. CA0107395

WASTE DISCHARGE REQUIREMENTS FOR THE ENCINA WASTEWATER AUTHORITY ENCINA WATER POLLUTION CONTROL FACILITY AND SATELLITE WASTEWATER TREATMENT PLANTS DISCHARGE TO THE PACIFIC OCEAN VIA THE ENCINA OCEAN OUTFALL

SAN DIEGO COUNTY

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

Table 1. Discharger Information

Discharger	Encina Wastewater Authority
Name of Facility	Encina Ocean Outfall
Facility Address	6200 Avenida Encinas Carlsbad, CA 92011 San Diego County

The discharge by the Encina Wastewater Authority from the discharge point identified below is subject to waste discharge requirements as set forth in this Order.

Table 2. Outfall Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
Outfall 001	POTW Effluent and waste brine	33° 06' 33.59" N	117° 20' 52.77" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	December 14, 2005
This Order shall become effective on:	January 1, 2006
This Order shall expire on:	January 1, 2006
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that this Order supercedes Order No. 2000-036 except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) 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 herein.

I, John H. Robertus, 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, San Diego Region, on December 14, 2005.

JOHN H. ROBERTUS
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION

TENTATIVE ORDER NO. R9-2005-0219
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WASTE DISCHARGE REQUIREMENTS
FOR THE
ENCINA WASTEWATER AUTHORITY
ENCINA WATER POLLUTION CONTROL FACILITY
AND SATELLITE WASTEWATER TREATMENT PLANTS
DISCHARGE TO THE PACIFIC OCEAN VIA THE ENCINA OCEAN OUTFALL

SAN DIEGO COUNTY

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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	Encina Wastewater Authority
Name of Facility	Encina Ocean Outfall
Facility Address	6200 Avenida Encinas Carlsbad, CA 92009 San Diego County
Facility Contact, Title, and Phone	Michael T. Hogan, General Manager, (760) 438-3941
Mailing Address	6200 Avenida Encinas Carlsbad, CA 92009 San Diego County
Type of Facility	Municipal POTW
Facility Design Flow	43.3 million gallons per day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Water Board), finds:

A. **Background.** The Encina Wastewater Authority is currently discharging pursuant to Order No. 2000-036 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107395 which was adopted on April 12, 2000. The Discharger submitted a Report of Waste Discharge, dated October 14, 2004, with subsequent revisions and supplements, in application for a NPDES permit renewal to discharge up to 43.3 MGD of treated wastewater from the Encina Water Pollution Control Facility, Vallecitos Water District Meadowlark Water Reclamation Plant, City of Carlsbad Carlsbad Water Recycling Facility, and Buena Sanitation District Shadowridge Water Reclamation Plant , hereinafter Facilities, to the Pacific Ocean through the Encina Ocean Outfall. The application was deemed complete on April 12, 2005.

B. **Facility Description.** The Encina Wastewater Authority (EWA, hereinafter also Discharger) is a joint powers authority established pursuant to California Government Code, Section 6500 et seq. to provide for regional treatment and disposal of wastewater in a portion of the north coastal area of San Diego County. The following member agencies comprise the EWA: Buena Sanitation District, City of Carlsbad, City of Encinitas, Leucadia Wastewater District, Vallecitos Water District, and the City of Vista. The Discharger owns and operates the Encina Water Pollution Control Facility (EWPCF) and the Encina Ocean Outfall (EOO). The EWPCF has secondary treatment facilities to currently treat wastewater up to 36 million gallons per day (MGD), and the design capacity of the EOO is 75 MGD. The EWPCF provides the majority of municipal wastewater treatment services to a population of approximately 281,000 within the service areas of the EWA member agencies, treating primarily residential and commercial wastewater. Each EWA member agency owns, operates and maintains its own wastewater collection system which conveys wastewater to the EWPCF; EWA does not own any portion of a wastewater collection system. In addition to the wastewater generated in the member agencies' service areas, the City of Vista and the City of Oceanside have a flow transfer agreement whereby Vista and Oceanside have agreed to exchange wastewater flows in specific areas to reduce pumping costs. There are five non-categorical significant industrial users and 31 categorical industrial users within the areas served by the EWPCF. The Vallecitos Water District independently owns and operates the Meadowlark Water Reclamation Plant (VMWRP) and land outfall. The VMWRP has secondary and tertiary treatment facilities to produce up to 2.25 MGD tertiary effluent for water recycling. The City of Carlsbad independently owns and operates the Carlsbad Water Recycling Facility (CWRF). The CWRF only has tertiary treatment facilties to further treat secondary effluent from the EWPCF to produce tertiary effluent for water recycling purposes. All wastewater generated within the service areas of the EWA member agencies, except for wastewater treated at VMWRP, is treated at EWPCF, and all treated effluent from EWPCF, VMWRP, and CWRF, if not recycled, is discharged to the Pacific Ocean through the EOO. The Buena Sanitation District independently owns the Shadowridge Water Reclamation Plant (BSWRP) and land outfall; these facilities are non-operational but maintain a connection to the EOO. The EWPCF provides all grit and solids removal and treatment for the EWA. Screenings from the headworks and solids from grit removal at EWPCF are trucked to a local landfill or an Arizona landfill. Dewatered treated biosolids are land applied in Arizona. The wastewater collection systems tributary to

EWPCF and VMWRP are not subject to the requirements and provisions of this Order. The satellite wastewater treatment plants (CWRF, BSWRP and VMWRP) are subject to the requirements and provisions of this Order for all discharges through the EOO, and EWA is legally responsible under this Order to ensure their compliance. Attachment B provides a map of the area around the EOO and the Facilities which can discharge through the EOO. Attachment C provides a flow schematic of the Facilities which can discharge through the EOO.

C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implements regulations contained in the Code of Federal Regulations (CFR) adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from Facilities owned by the Discharger to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC.

D. **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 environmental data. The Fact Sheet, Attachment F, which contains background information and rationale for Order requirements and other provisions, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

F. **Technology-Based Effluent Limitations.** 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR Part 133. 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 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality objective to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

H. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and

policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the Pacific Ocean are as follows:

Table 5. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 001	Pacific Ocean	Industrial Service Supply (IND); Navigation (NAV); Contact Water Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Preservation of Biological Habitats of Special Significance (BIOL); Wildlife Habitat (WILD); Rare, Threatened, or Endangered Species (RARE); Marine Habitat (MAR); Aquaculture (AQUA); Migration of Aquatic Organisms (MIRG); Spawning, Reproduction, and/or Early Development (SPWN); Shellfish Harvesting (SHELL)

The Basin Plan relies primarily on the requirements of the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) for protection of the beneficial uses of the State ocean waters. The Basin Plan, however, may contain additional water quality objectives applicable to the Discharger.

On November 16, 2000 the State Water Board adopted a revised Ocean Plan. The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized below:

Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean.

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 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 these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

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 it on September 18, 1975. The Thermal plan contains temperature objectives for coastal waters.

The terms and conditions of the Ocean Plan, Thermal Plan, and any revisions thereto are incorporated into the Basin Plan by reference. In addition, State Water Board Resolution No. 88-

63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Requirements of this Order specifically implement the applicable Water Quality Control Plans.

I. **Antidegradation Policy.** 40 CFR 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, which incorporates the requirements of the federal antidegradation policy. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F), a discharge in compliance with this Order is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

J. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 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. Some effluent limitations in this Order are less stringent than those in the previous Order or have been removed. As discussed in detail in the Fact Sheet (Attachment F), relaxation or removal of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

K. **Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

L. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR 122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. 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 (Attachment F).

M. **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 (Attachment F) of this Order.

N. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of waste from the EWPCF, VMWRP, CWRF, and BSWRP not treated by a secondary treatment process and the discharge of waste from the Discharger's facilities not in compliance with the effluent limitations specified in Table 7 of Section IV.B of this Order, and/or to a location other than the Encina Ocean Outfall (Outfall 001), unless specifically regulated by this Order or separate waste discharge requirements, is prohibited.

B. The Discharger shall comply with the following waste discharge prohibitions of the Basin Plan:

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredge or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.

4. The discharge of treated or untreated waste to lakes or reservoirs used for municipal water supply, or to inland surface water tributaries thereto, is prohibited.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of this Regional Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited unless the discharge is authorized by this Regional Water Board.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner that may permit its being transported into the waters, is prohibited unless authorized by the Regional Water Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of "storm water" is prohibited unless authorized by this Regional Water Board. [Federal Regulations 40 CFR 122.26 (b) defines storm water as storm water runoff, snow melt runoff, and surface runoff and drainage.]

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.

10. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

11. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

12. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities that cause deleterious bottom deposits, turbidity or discoloration in waters of the state or that unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

C. The discharge of waste shall not cause violation of water quality objectives for ocean waters established by Chapter II of the Ocean Plan.

D. The discharge of waste to Areas of Special Biological Significance, as designated by the State Water Board, is prohibited.

E. The discharge of sludge to the ocean is prohibited; the discharge of municipal and industrial waste sludge directly to the ocean or into a waste stream that discharges to the ocean is prohibited. The discharge of sludge digester supernatant directly to the ocean or to a waste stream that discharges to the ocean without further treatment is prohibited.

F. The bypassing of untreated wastes containing concentrations of pollutants in excess of those in Tables A or B of the Ocean Plan is prohibited, except under upset conditions, as described in Attachment D of this Order, Standard Provision I. H.

G. Compliance with Discharge Prohibitions contained in Section III.H of the Ocean Plan is a requirement of this Order.

IV. DISCHARGE SPECIFICATIONS AND EFFLUENT LIMITATIONS

A. Discharge Specifications

The discharge of effluent from the Discharger's facilities through Outfall 001 shall comply with the following:

1. Waste management systems that discharge to the Pacific Ocean through Outfall 001 must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

2. Waste discharged to the Pacific Ocean through Outfall 001 must be essentially free of:

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

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

c. Substances, which will accumulate to toxic levels in marine waters, sediments, or biota.

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

e. Materials that result in aesthetically undesirable discoloration of the ocean surface.

3. Waste effluents from the Discharger's Facilities shall be discharged through Outfall 001 in a manner that provides sufficient initial dilution to minimize the concentrations of substances not removed in treatment.

4. The location of waste discharges from the Discharger's Facilities shall assure that:

   a. 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.

   b. Natural water quality conditions are not altered in areas designated as being areas of special biological significance or areas that existing marine laboratories use as a source of seawater.

   c. Maximum protection is provided to the marine environment.

5. Waste that contains pathogenic organisms or viruses shall be discharged from the Facility through Outfall 001 a sufficient distance from shellfishing and water contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard shall be used.

6. The calendar-monthly average of daily effluent discharge flowrates from the Discharger's Facilities through the Encina Ocean Outfall shall not exceed 43.3 million gallons per day (MGD) from May through October, and shall not exceed 52.6 MGD from November through April.

B. Effluent Limitations and Performance Goals

The discharge of effluent to Outfall 001 shall be monitored at Monitoring Location M-001, M-002, M-003, and M-004 as described in Attachment E, Monitoring and Reporting Program, except as otherwise noted (Endnotes are located at the end of this Order starting on page 38). Scientific notation, with some exceptions, is used to express the effluent limitations and

performance goals to avoid ambiguity. The effluent limitations and performance goals below apply to the number of significant digits given in the effluent limitation or performance goal.

1. The discharge of effluent from EWPCF, VMWRP, and BSWRP, as monitored at monitoring stations M-001, M-002 and M-003, respectively, shall maintain compliance with the following effluent limitations:

Table 7a. Effluent Limitations based on Secondary Treatment Standards

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
CBOD 5-day 20°C *	mg/l		25	40			
	lbs/day		9.0 E+03	1.4 E+04			
	%	The average monthly percent removal shall not be less than 85 percent.					
Total Suspended Solids *	mg/l		30	45			
	lbs/day		1.1 E+04	1.6 E+04			
	%	The average monthly percent removal shall not be less than 85 percent.					
pH	pH units				6.0	9.0	

* $CBOD_5$ and total suspended solids mass emission rate effluent limitations apply to the sum of individual mass emission rates from EWPCF, VMWRP and BSWRP based on the effluent flowrate and concentrations measured at each treatment plant facility.

2. The discharge of effluent from the Discharger's Facilities to Outfall 001, as monitored at Monitoring Location M-004, shall maintain compliance with the following effluent limitations:

Table 7b. Effluent Limitations based on the 2001 California Ocean Plan

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Oil and Grease	mg/l		25	40		75	
	lbs/day		9.0 E+03	1.4 E+04		2.7 E+04	
Settleable Solids	ml/l		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	
Chronic Toxicity	TUc	145					

3. Constituents that do not have reasonable potential or had inconclusive reasonable potential analysis results are referred to as performance goal constituents and assigned the performance goals listed in the following table. Performance goal constituents shall also be

monitored at M-004, but the results will be used for informational purposes only, not compliance determination.

Table 8. Performance Goals based on the 2001 California Ocean Plan

Constituent	Units	Perfomance Goals					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Arsenic	ug/l	4.2 E+03				1.1 E+04	7.3 E+02
	lbs/day	1.5 E+03				4.0 E+03	2.6 E+02
Cadmium	ug/l	5.8 E+02				1.5 E+03	1.5 E+02
	lbs/day	2.1 E+02				5.2 E+02	5.2 E+01
Chromium VI	ug/l	1.2 E+03				2.9 E+03	2.9 E+02
	lbs/day	4.2 E+02				1.0 E+03	1.0 E+02
Copper	ug/l	1.5 E+03				4.1 E+03	1.5 E+02
	lbs/day	5.2 E+02				1.5 E+03	5.3 E+01
Lead	ug/l	1.2 E+03				2.9 E+03	2.9 E+02
	lbs/day	4.2 E+02				1.0 E+03	1.0 E+02
Mercury	ug/l	2.3 E+01				5.7 E+00	5.7 E+00
	lbs/day	8.4 E+00				2.1 E+00	2.1 E+00
Nickel	ug/l	2.9 E+03				7.3 E+03	7.3 E+02
	lbs/day	1.0 E+03				2.6 E+03	2.6 E+02
Selenium	ug/l	8.7 E+03				2.2 E+04	2.2 E+03
	lbs/day	3.1 E+03				7.9 E+03	7.9 E+02
Silver	ug/l	3.8 E+02				9.9 E+02	7.8 E+01
	lbs/day	1.4 E+02				3.6 E+02	2.8 E+01
Zinc	ug/l	1.0 E+04				2.8 E+04	1.7 E+03
	lbs/day	3.8 E+03				1.0 E+04	6.3 E+02
Cyanide	ug/l	5.8 E+02				1.5 E+03	1.5 E+02
	lbs/day	2.1 E+02				5.2 E+02	5.2 E+01
Total Chlorine Residual	ug/l	1.2 E+03				8.7 E+03	2.9 E+02
	lbs/day	4.2 E+02				3.1 E+03	1.0 E+02
Ammonia (expressed as nitrogen)	ug/l	3.5 E+05				8.7 E+05	8.7 E+04
	lbs/day	1.3 E+05				3.1 E+05	3.1 E+04
Acute Toxicity	TUa	4.62					

Constituent	Units	Perfomance Goals					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Phenolic Compounds (non-chlorinated)	ug/l	1.7 E+04				4.4 E+04	4.4 E+03
	lbs/day	6.3 E+03				1.6 E+04	1.6 E+03
Chlorinated Phenolics	ug/l	5.8 E+02				1.5 E+03	1.5 E+02
	lbs/day	2.1 E+02				5.2 E+02	5.2 E+01
Endosulfan	ug/l	2.6 E+00				3.9 E+00	1.3 E+00
	lbs/day	9.4 E-01				1.4 E+00	4.7 E-01
Endrin	ug/l	5.8 E-01				8.7 E-01	2.9 E-01
	lbs/day	2.1 E-01				3.1 E-01	1.0 E-01
HCH	ug/l	1.2 E+00				1.7 E+00	0.6 E+00
	lbs/day	4.2 E-01				6.3 E-01	2.1 E-01
Radioactivity	- - -	Not to exceed limits specified in Title 17 California Code of Regulations Section 30253, Standards for Protection Against Radiation					
Acrolein	ug/l		3.2 E+04				
	lbs/day		1.2 E+04				
Antimony	ug/l		1.7 E+05				
	lbs/day		6.3 E+04				
Bis (2-chloroethoxy) Methane	ug/l		6.4 E+02				
	lbs/day		2.3 E+02				
Bis (2-chloroisopropyl) ether	ug/l		1.7 E+05				
	lbs/day		6.3 E+04				
Chlorobenzene	ug/l		8.3 E+04				
	lbs/day		3.0 E+04				
Chromium (III)	ug/l		2.8 E+07				
	lbs/day		9.9 E+06				
Di-n-butyl Phthalate	ug/l		5.1 E+05				
	lbs/day		1.8 E+05				
Dichlorobenzenes	ug/l		7.4 E+05				
	lbs/day		2.7 E+05				
Diethyl Phthalate	ug/l		4.8 E+06				
	lbs/day		1.7 E+06				
Dimethyl Phthalate	ug/l		1.2 E+08				
	lbs/day		4.3 E+07				

Constituent	Units	Perfomance Goals					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
4,6-dinitro-2-methylphenol	ug/l		3.2 E+04				
	lbs/day		1.2 E+04				
2,4-dinitrophenol	ug/l		5.8 E+02				
	lbs/day		2.1 E+02				
Ethylbenzene	ug/l		5.9 E+05				
	lbs/day		2.1 E+05				
Fluoranthene	ug/l		2.2 E+03				
	lbs/day		7.9 E+02				
Hexachlorocyclo-pentadiene	ug/l		8.4 E+03				
	lbs/day		3.0 E+03				
Nitrobenzene	ug/l		7.1 E+02				
	lbs/day		2.6 E+02				
Thallium	ug/l		2.9 E+02				
	lbs/day		1.0 E+02				
Toluene	ug/l		1.2 E+07				
	lbs/day		4.5 E+06				
Tributyltin	ug/l		2.0 E-01				
	lbs/day		7.3 E-02				
1,1,1-trichloro-ethane	ug/l		7.8 E+07				
	lbs/day		2.8 E+07				
Acrylonitrile	ug/l		1.5 E+01				
	lbs/day		5.2 E+00				
Aldrin	ug/l		3.2 E-03				
	lbs/day		1.2 E-03				
Benzene	ug/l		8.6 E+02				
	lbs/day		3.1 E+02				
Benzidine	ug/l		1.0 E-02				
	lbs/day		3.6 E-03				
Beryllium	ug/l		4.8 E+00				
	lbs/day		1.7 E+00				
Bis (2-chloroethyl) Ether	ug/l		6.5 E+00				
	lbs/day		2.4 E+00				

Constituent	Units	Perfomance Goals					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Bis (2-ethlyhexyl) Phthalate	ug/l		5.1 E+02				
	lbs/day		1.8 E+02				
Carbon Tetrachloride	ug/l		1.3 E+02				
	lbs/day		4.7 E+01				
Chlordane	ug/l		3.3 E-03				
	lbs/day		1.2 E-03				
Chlorodibromo-methane	ug/l		1.2 E+03				
	lbs/day		4.5 E+02				
Chloroform	ug/l		1.9 E+04				
	lbs/day		6.8 E+03				
DDT	ug/l		2.5 E-02				
	lbs/day		8.9 E-03				
1,4-dichloro-benzene	ug/l		2.6 E+03				
	lbs/day		9.4 E+02				
3,3'-dichloro-benzidine	ug/l		1.2 E+00				
	lbs/day		4.2 E-01				
1,2-dichloroethane	ug/l		4.1 E+03				
	lbs/day		1.5 E+03				
1,1-dichloro-ethylene	ug/l		1.3 E+02				
	lbs/day		4.7 E+01				
Dichlorobromo-methane	ug/l		9.0 E+02				
	lbs/day		3.2 E+02				
Dichloromethane	ug/l		6.5 E+04				
	lbs/day		2.4 E+04				
1,3-dichloro-propene	ug/l		1.3 E+03				
	lbs/day		4.7 E+02				
Dieldrin	ug/l		5.8 E-03				
	lbs/day		2.1 E-03				
2,4-dinitrotoluene	ug/l		3.8 E+02				
	lbs/day		1.4 E+02				
1,2-diphenyl-hydrazine	ug/l		2.3 E+01				
	lbs/day		8.4 E+00				

Constituent	Units	Perfomance Goals					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Halomethanes	ug/l		1.9 E+04				
	lbs/day		6.8 E+03				
Heptachlor	ug/l		7.3 E-03				
	lbs/day		2.6 E-03				
Heptachlor Epoxide	ug/l		2.9 E-03				
	lbs/day		1.0 E-03				
Hexachloro-benzene	ug/l		3.0 E-02				
	lbs/day		1.1 E-02				
Hexachlorobuta-diene	ug/l		2.0 E+03				
	lbs/day		7.3 E+02				
Hexachloroethane	ug/l		3.6 E+02				
	lbs/day		1.3 E+02				
Isophorone	ug/l		1.1 E+05				
	lbs/day		3.8 E+04				
N-nitrosodimethyl-amine	ug/l		1.1 E+03				
	lbs/day		3.8 E+02				
N-nitrosodi-N-propylamine	ug/l		5.5 E+01				
	lbs/day		2.0 E+01				
N-nitrosodiphenyl-amine	ug/l		3.6 E+02				
	lbs/day		1.3 E+02				
PAHs	ug/l		1.3 E+00				
	lbs/day		4.6 E-01				
PCBs	ug/l		2.8 E-03				
	lbs/day		9.9 E-04				
TCDD equivalents	ug/l		5.7 E-07				
	lbs/day		2.0 E-07				
1,1,2,2-tetrachloro-ethane	ug/l		3.3 E+02				
	lbs/day		1.2 E+02				
Tetrachloro-ethylene	ug/l		2.9 E+02				
	lbs/day		1.0 E+02				
Toxaphene	ug/l		3.0 E-02				
	lbs/day		1.1 E-02				

Constituent	Units	Perfomance Goals					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Trichloroethylene	ug/l		3.9 E+03				
	lbs/day		1.4 E+03				
1,1,2-trichloro-ethane	ug/l		1.4 E+03				
	lbs/day		4.9 E+02				
2,4,6-trichloro-phenol	ug/l		4.2 E+01				
	lbs/day		1.5 E+01				
Vinyl Chloride	ug/l		5.2 E+03				
	lbs/day		1.9 E+03				

V. RECEIVING WATER LIMITATIONS

Unless specifically excepted by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

A. Bacterial Characteristics

1. 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, but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.

    a. Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

    b. The fecal coliform density, based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

2. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

3. At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

B. Physical Characteristics

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

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

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

4. 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.

C. Chemical Characteristics

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

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

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

4. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan (2001), shall not be increased in marine sediments to levels that would degrade indigenous biota.

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

6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

7. Numerical water quality objectives established in Chapter II, Table B of the California Ocean Plan (2001) shall not be exceeded outside of the zone of initial dilution as a result of discharges from the Facility.

D. Biological Characteristics

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

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

3. 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.

E. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

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

   a. The Discharger shall comply with all requirements and conditions of this Order. Any permit non-compliance constitutes a violation of the CWA and/or the CWC and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.

   b. The Discharger shall comply with all applicable federal, state, and local laws and regulations that pertain to sewage sludge handling, treatment, use, and disposal, including CWA Section 405 and USEPA regulations at 40 CFR Part 257.

   c. The Discharger's wastewater treatment facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 26 of the California Code of Regulations.

   d. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and re-rating of an existing treatment facility. For new treatment facilities and expansions, the certification report shall be prepared by the design engineer. For re-ratings, the certification report shall be

prepared by the engineer who evaluated the treatment facility capacity. The certification report shall:

1) Identify the design capacity of the treatment facility, including the daily and 30-day design capacity,

2) Certify the adequacy of each component of the treatment facility, and

3) Contain a requirement-by-requirement analysis, based on acceptable engineering practices, of the process and physical design of the facility to ensure compliance with this Order.

The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction. The Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

1) The certification report is received by the Executive Officer,

2) The Executive Officer has received written notification of completion of construction (new treatment facilities and expansions only),

3) An inspection of the facility has been made by staff of the Regional Water Board (new treatment facilities and expansions only), and

4) The Executive Officer has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.

e. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

f. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff and other impacts resulting from a 100-year, 24-hour storm event.

g. This Order expires on October 12, 2010, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.

h. The wastewater treatment facilities that discharger through the EOO shall be operated and maintained in accordance with the operations and maintenance manual prepared for each facility pursuant to the Clean Water Grant Program.

i. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

j. The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised waste discharge requirements that have been or may be adopted by the Regional Water Board.

k. The Discharger shall comply with effluent standards and prohibitions for toxic pollutants established pursuant to Section 307 (a) of the CWA within the time frame set forth by the regulations that establish those standards and prohibitions, even if this Order has not been modified to incorporate the requirements. If an applicable effluent standard or prohibition, including any schedule of compliance, is promulgated pursuant to Section 307 (d) of the CWA for a toxic pollutant, and that standard or prohibition is more stringent than a limitation contained in this Order, the Executive Officer may institute proceedings to modify or revoke and reissue the Order to conform to the effluent standard or prohibition.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program (Attachment E) of this Order.

C. Special Provisions

1. Re-opener Provisions

a. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

1) Violation of any terms or conditions of this Order.

2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts.

3) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

b. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Water Board

may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

c. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

d. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (ML).

e. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load allocation (TMDL) for the receiving water.

f. This Order may be re-opened upon submission by the Discharger of adequate information, as determined by this Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

g. This Order may be re-opened and modified to revise the toxicity language once that language becomes standardized.

h. This Order may also be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. Encina Ocean Outfall Capacity

No later than 180 days prior to the Order's expiration date, the Discharger shall submit a written report to the Executive Officer regarding capacity of the Encina Ocean Outfall (EOO) that satisfies the following:

1) The EOO capacity evaluation was conducted within four and a half years after the adoption date of this Order.

2) The report includes the Discharger's best estimate of when the average daily flow will equal or exceed the EOO capacity.

3) The report includes the Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the EOO and/or to control the flow rate before the flow rate is equal to the current outfall capacity.

4) The report includes an evaluation of the physical condition of the EOO conducted within four and a half years after the adoption date of this Order.

5) The report must be signed and agreed upon by each of the parties discharging through the EOO.

b. Treatment Plant Capacity

The Discharger shall submit a written report to the Executive Officer within 90 days after the monthly average influent flow rate equals or exceeds 75 percent of the design secondary treatment capacity of the wastewater treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter in accordance with Standard Provision V.B.2.a (Attachment D) which transmits that report and certifies that the policy-making body is adequately informed of the influent flow rate relative to the Facility's design capacity. The report shall include the following:

1) Average influent daily flow for the calendar month; the date on which the maximum daily flow occurred; and the rate of that maximum flow.

2) The Discharger's best estimate of when the average daily influent flow for a calendar month will equal or exceed the design capacity of the facilities.

3) The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the waste treatment and/or disposal facilities, and/or control the flow rate before the waste flow exceeds the capacity of present units.

c. Spill Reporting Requirements

For purposes of this section, a spill is a discharge of treated or untreated wastewater and other materials that occurs at or downstream of the EWPCF, VMWRP, and BSWRP headworks, or influent intake location(s) at the CWRF, in violation of Discharge Prohibition A of this Order, or a discharge of other materials related to treatment and operations of the EWPCF, VMWRP, CWRF, and BSWRP that occurs anywhere throughout the collection and treatment system owned and/or operated by the Discharger. This section does not include sanitary sewer overflows. The Discharger shall report spills in accordance with the following procedures:

1) If a spill results in a discharge of treated or untreated wastewater that is greater than 1,000 gallons that reaches surface waters, the Discharger shall:

a) Report the spill to the Regional Water Board by telephone, by voice mail, or by FAX within 24 hours from the time the Discharger becomes aware of the spill. The Discharger shall inform the Regional Water Board of the date of the spill, spill location and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.

b) Submit a written report, as well as any additional pertinent information, to the Regional Water Board no later than five days following the starting date of the spill event. The Discharger shall submit the written report using the Sanitary Sewer Overflow Report Form (June 13, 2001) provided under Regional Water Board Order No. 96-04.

2) If a spill results in a discharge of treated or untreated wastewater under 1,000 gallons and the discharge does not reach surface waters:

a) The Discharger is not required to notify the Regional Water Board within 24 hours.

b) The Discharger shall submit a written report, as well as any additional pertinent information, in the monthly self-monitoring report for the month in which the spill occurred. The Discharger shall submit the written report using the Sanitary Sewer Overflow Report Form (June 13, 2001) provided under Regional Water Board Order No. 96-04.

3) For spills of material other than treated or untreated wastewater that cause, may cause, or are caused by significant operational failure, or endangers or may endanger human health or the environment, the Discharger shall notify the Regional Water Board by telephone, by voice mail, or by FAX within 24 hours from the time the Discharger becomes aware of the spill. The Discharger shall inform the Regional Water Board of the date of the spill, spill location and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.

4) For all spills, the Discharger shall submit an annual summary containing the following information for each spill: date of spill, location of spill and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.

5) The spill reporting requirements contained in this Order do not relieve the Discharger of responsibilities to report to other agencies, such as the Office of Emergency Services (OES) and the County of San Diego Department of Environmental Health Services.

d. Sanitary Sewer Systems and Sanitary Sewer Overflow Reporting Requirements*

A sanitary sewer system is a wastewater collection system including sewers, pipes, pumps, or other conveyances which convey wastewater (e.g. domestic, commercial, and industrial wastewaters) to a wastewater treatment plant. A sanitary sewer system is part of the publicly owned treatment works and subject to all federal Standard Provisions of this Order if it is owned and operated by the Discharger. A sanitary sewer overflow is each instance of a discharge from a sanitary sewer system at any point upstream of the headworks of a wastewater treatment plant. Temporary storage and conveyance facilities (such as wet wells, impoundments, tanks, highlines, etc.) are part of the sanitary sewer system and are not sanitary sewer overflows provided that sewage from these facilities is

not discharged to waters of the State.

The Discharger shall report sanitary sewer overflows from the sanitary sewer system owned and operated by the Discharger in accordance with Monitoring and Reporting Program No. 96-04, Sanitary Sewer Overflow Reporting Procedures for Sewage Collection Agencies, incorporated by reference into this Order.

**EWA does not own any portion of a sanitary sewer system.*

e. Sludge Disposal Requirements

1) The handling, treatment, use, management, and disposal of sludge and solids derived from wastewater treatment must comply with applicable provisions of CWA section 405 and USEPA regulations at 40 CFR parts 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements.

2) Sludge and wastewater solids must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Parts 258 and 503 and Title 23, Chapter 15 of the California Code of Regulations. If the Discharger desires to dispose of solids and/or sludge in a different manner, a request for permit modification must be submitted to the USEPA and to this Regional Water Board at least 180 days prior to beginning the alternative means of disposal.

3) Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 25 pertaining to providing information to the public. In the annual self-monitoring report, the Discharger shall include the amount of sludge placed in the landfill as well as the landfill to which it was sent.

4) All requirements of 40 CFR 503 and 23 CCR Chapter 15 are enforceable whether or not the requirements of those regulations are stated in an NPDES permit or any other permit issued to the Discharger.

5) 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.

6) 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 ground water contamination.

7) The solids and sludge treatment and storage site shall have adequate facilities 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, at the minimum, from a 100-year storm and protection from the highest possible tidal stage that may occur.

8) 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 waters of the State.

9) The Discharger shall submit an annual report to the USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements, as specified by 40 CFR 503. The Discharger shall also report the quantity of sludge removed from the Facility and the disposal method. This self-monitoring report shall be postmarked by February 19 of each year and report for the period of the previous calendar year.

f. Pretreatment Program

1) The Discharger shall be responsible for the performance of all pretreatment requirements contained in 40 CFR Part 403, including any subsequent revisions to that part. Where 40 CFR Part 403 or subsequent revisions place mandatory actions upon the Discharger but do not specify a timetable for completion, the Discharger shall complete the mandatory actions within 6 months of the issuance date of this Order, or the effective date of the revisions to 40 CFR Part 403, whichever is later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies imposed by the USEPA and/or the Regional Water Board, as provided in the CWA and/or the California Water Code.

2) The Discharger shall implement and enforce its approved pretreatment program, and all subsequent revisions, which are hereby made enforceable conditions of this Order. The Discharger shall enforce the requirements promulgated pursuant to Sections 307 (b), 307 (c), 307 (d), and 402 (b) of the CWA with timely, appropriate, and effective enforcement actions. 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 required by 40 CFR 403, including, but not limited to:

a) Implement the necessary legal authorities as required by 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 required by 40 CFR 403.8 (f) (2); and

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

4) By March 1 of each year, the Discharger shall submit an annual report to the Regional Water Board; USEPA Region 9; the State Water Board, Division of Water Quality, Regulations Unit; and the San Diego County Department of Health Services, Hazardous Materials Division, describing its pretreatment activities over the previous calendar year. In the event the Discharger is not in compliance with any condition or requirement of this Order, or any pretreatment compliance inspection/audit requirements, the Discharger shall include the reasons for noncompliance and state how and when it will comply with such conditions and requirements. The annual report shall contain, but not be limited to, the following information:

   a) A summary of analytical results from representative flow-proportioned 24-hour composite sampling of the Discharger's influent and effluent for those pollutants known or suspected to be discharged by industrial users that the USEPA has identified under Section 307 (d) of the CWA, which are known or suspected to be discharged by industrial users. This will consist of an annual full priority pollutant scan. Wastewater sampling and analysis shall be performed in accordance with the minimum frequency of analysis required by the Monitoring and Reporting program of this Order (Attachment E). The Discharger shall also provide influent and effluent monitoring data for non-priority pollutants, which the Discharger believes may be causing or contributing to interference or pass through. The Discharger is not required to sample and analyze for asbestos. Sludge sampling and analysis is addressed in MRP No. R9-2005-0219. Wastewater sampling and analysis shall be performed in accordance with 40 CFR Part 136.

   b) A discussion of upset, interference, or pass through, if any, at the Facilities, which the Discharger knows or suspects were caused by industrial users. The discussion shall include the reasons why the incidents occurred, any corrective actions taken, and, if known, the name and address of the responsible industrial user(s). The discussion shall also include a review of the applicable local pollutant limitations to determine whether any additional limitations or changes to existing limitations, are necessary to prevent pass-through, interference, or non-compliance with sludge disposal requirements.

   c) The Discharger shall characterize the compliance status of each significant industrial user (SIU) by providing a list or table for the following:

      (1) Name of SIU and category, if subject to categorical standards;

      (2) Type of wastewater treatment or control processes in place;

      (3) Number of samples taken by SIU during the year;

      (4) Number of samples and inspections by Discharger during the year;

      (5) For an SIU subject to discharge requirements for total toxic organics (TTO), whether all required certifications were provided;

(6) A list of pretreatment standards (categorical or local) violated during the year, or any other violations;

(7) Industries in significant non-compliance as defined at 40 CFR 403.12 (f) (2) (vii), at any time during the year;

(8) A summary of enforcement actions or any other actions taken against SIUs during the year. Describe the type of action, final compliance date, and the amount of fines and/or penalties collected, if any. Describe any proposed actions for bringing SIUs into compliance; and

(9) The name(s) of any SIU(s) required to submit a baseline monitoring report and any SIUs currently discharging under a baseline monitoring report.

d) A brief description of any programs the Discharger implements to reduce pollutants from industrial users not classified as SIUs.

e) A brief description of any significant changes in operating the pretreatment program which differ from the previous year, including, but not limited to, changes in the program's administrative structure, local limits, monitoring program, legal authority, enforcement policy, funding, and staffing levels;

f) A summary of the annual pretreatment program budget, including the cost of pretreatment program functions and equipment purchases;

g) A summary of activities to involve and inform the public of the pretreatment program, including a copy of the newspaper notice, if any, required by 40 CFR 403.8 (f) (2) (vii);

h) A description of any changes in sludge disposal methods; and

i) A discussion of any concerns not described elsewhere in the annual report.

5) The Discharger shall submit a semiannual SIU compliance status report to the Regional Water Board, the State Water Board, and the USEPA. The reports shall cover the period of January 1 through June 30 and shall be submitted no later than September 1. The report shall identify:

a) The names and addresses of all SIUs which violated any discharge or reporting requirements during the semi-annual reporting period;

b) A description of the violations, including whether the discharge violations were for categorical standards or local limits;

c) A description of the enforcement actions or other actions taken to remedy the non-compliance; and

d) The status of enforcement actions or other actions taken in response to SIU non-compliance identified in previous reports.

6) The Discharger shall continue with its implementation of a Non-Industrial Source Control Program, consisting of a public education program designed to minimize the entrance of non-industrial toxic pollutants and pesticides into the sanitary sewer system. The Program shall be reviewed periodically and addressed in the annual report.

VII. COMPLIANCE DETERMINATION

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

A. Average Monthly Effluent Limitation (AMEL).
If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

B. Average Weekly Effluent Limitation (AWEL).
If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

C. Maximum Daily Effluent Limitation (MDEL).
The MDEL shall apply to flow weighted 24-hour composite samples. If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

D. Instantaneous Minimum Effluent Limitation.

The instantaneous minimum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

E. Instantaneous Maximum Effluent Limitation.

The instantaneous maximum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

F. Six-month Median Effluent Limitation.

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median limitation.

G. Mass and Concentration Limitations.

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be "ND" or "DNQ", the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as "ND" or "DNQ."

H. Percent Removal.

Compliance with the secondary treatment standard for monthly average percent removal of biochemical oxygen demand, carbonaceous biochemical oxygen demand, and total suspended solids pursuant to 40 CFR Part 133 shall be determined separately for each wastewater treatment facility discharging through an outfall. For each wastewater treatment facility, the monthly average percent removal is the average of the calculated daily discharge percent removals only for days on which the constituent concentration is monitored in both the influent and effluent of the wastewater treatment facility at locations specified in the Monitoring and Reporting Program (Attachment E) within a calendar month.

The percent removal for each day shall be calculated according to the following equation:

$$\text{Daily discharge percent removal} = \frac{Influent\ concentration - Effluent\ concentration}{Influent\ concentration}\ x\ 100\,\%$$

I. Ocean Plan Provisions for Table B Constituents.

1. Sampling Reporting Protocols

   a. Dischargers must report with each sample result the reported Minimum Level (ML) and the laboratory's current Method Detection Limit (MDL).

   b. Dischargers must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

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

      2) Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").

      3) Sample results less than the laboratory's MDL must be reported as "Not Detected", or ND.

2. Compliance Determination

   Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

   a. Compliance with Single-Constituent Effluent Limitations
      The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the ML.

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

      Dischargers are out of compliance with an effluent limitation that 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.

3. Pollutant Minimization Program

a. Pollutant Minimization Program Goal

The goal of the Pollutant Minimization Program is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the 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 completion and implementation of a Pollution Prevention Plan, required in accordance with California Water Code Section 13263.3 (d) will fulfill the Pollution Minimization Program requirements in this section.

b. Determining the need for a Pollutant Minimization Program

1) The Discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:

a) The calculated effluent limitation is less than the reported ML.

b) The concentration of the pollutant is reported as DNQ.

c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

2) Alternatively, the Discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:

a) The calculated effluent limitation is less than the Method Detection Limit.

b) The concentration of the pollutant is reported as ND.

c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

c. Regional Water Board may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:

1) Health advisories for fish consumption,

2) Presence of whole effluent toxicity,

3) Results of benthic or aquatic organism tissue sampling,

4) Sample results from analytical methods more sensitive than methods included in the permit.

5) The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL

J. Receiving Water Sampling Protocol.

The instantaneous maximum and daily maximum receiving water limitations shall apply to grab sample determinations.

K. Acute Toxicity.

Compliance with the Acute Toxicity Performance Goals for Outfall 001 (Section IV.B.3 of this Order) shall be determined using an established protocol, e.g., American Society for Testing Materials (ASTM), USEPA, American Public Health Association, or State Board. Acute Toxicity (TUa) shall be expressed in Toxic Units Acute (TUa), where:

$$TUa = 100 / 96\text{-hr } LC_{50}$$

Where LC_{50} is the Lethal Concentration 50%, and the percent waste giving 50% survival of test organisms. LC_{50} shall be determined by static or continuous flow bioassay techniques using standard test species. 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% survival of the test species in 100% waste, the toxicity concentration shall be calculated by the following:

$$TUa = \log (100-S) / 1.7$$

where S is the percentage survival in 100% waste. If $S > 99$, TUa shall be reported as zero.

L. Chronic Toxicity.

Chronic toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with

the Chronic Toxicity performance goal established in Section IV.B.2 of this Order for Outfall 001 shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2001) and restated in MRP R9-2005-0219. Chronic Toxicity (TUc) shall be expressed as Toxic Units Chronic (TUc), where:

$$TUc = 100 / NOEL$$

where NOEL is the No Observed Effect Level and is expressed as the maximum percent of effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test

If the toxicity testing result shows an exceedance of the chronic toxicity limitation identified in the performance goals for Outfall 001 (Section IV.B.2 of this Order), the Discharger shall:

1. Take all reasonable measures necessary to immediately minimize toxicity; and

2. Increase the frequency of the toxicity test(s) that showed a violation to at least two times per month until the results of at least two consecutive toxicity tests do not show violations.

If the Executive Order determines that toxicity testing shows consistent violation or exceedance of any acute or chronic toxicity limitation or performance goal identified in Section IV.B.2 of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) that includes all reasonable steps to identify the source of toxicity. Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations identified in the final effluent limitations for Outfall 001 (Section IV.B.2 of this Order).

M. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop a Toxicity Reduction Evaluation (TRE) workplan in accordance with the TRE procedures established by the USEPA in the following guidance manuals:

1. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070).

2. Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F).

3. Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080).

4. Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081).

The Discharger shall submit the TRE workplan to the Regional Water Board within 180 days of the adoption of this Order. The TRE workplan shall be subject to the approval of the Regional Water Board and shall be modified as directed by the Regional Water Board.

If a toxicity effluent limitation or performance goal identified in Section IV.B of this Order is exceeded, then within 15 days of determining the exceedance, the Discharger shall conduct chronic and acute toxicity tests monthly for a 6-month period and provide the results to the

Regional Water Board. The additional monthly toxicity tests will be incorporated into the semiannual discharge monitoring reports submitted pursuant to Attachment E – Monitoring and Reporting Program.

If the additional monthly tests indicate that toxicity effluent limitations are being consistently violated (at least three exceedances out of the six tests), the Regional Water Board may recommend that the Discharger conduct a TRE and a Toxic Identification Evaluation (TIE), as identified in the approved TRE workplan.

Within 30 days of completion of the TRE/TIE, the Discharger shall submit the results of the TRE/TIE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitation of this Order and prevent recurrence of violations of those limitation, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

N. Mass Emission Rate.

The mass emission rate (MER), in pounds per day, shall be obtained from the following calculation for any calendar day:

$$\text{Mass Emission Rate (lb/Day)} = 8.34 \times Q \times C$$

in which Q and C are the flow rate in MGD and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor. If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

O. Bacterial Standards and Analysis.

1. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

   $$\text{Geometric Mean} = (C_1 \times C_2 \times \ldots \times C_n)^{1/n}$$

   where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL) found on each day of sampling.

2. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 MPN (most probable number). The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliforms (total and fecal) shall be those listed in 40 CFR 136 or any improved method determined by the Regional Water Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure,* listed under 40 CFR 136, and any other method approved by the Regional Water Board.

P. Single Operational Upset.

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

1. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision V.E.2.b of Attachment D - Standard Provisions.

3. For purposes outside of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

4. For purposes of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC Section 13385 (f)(2).

ENDNOTES

1. Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).

2. If a Discharger can demonstrate to the satisfaction of the Regional Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometalic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR 136, as revised May 14, 1999.

3. The water quality objectives for total chlorine residual applicable to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation: $\log y = -0.43 (\log x) + 1.8$, where y = the water quality objective (in ug/l) to apply when chlorine is being discharged; x = the duration of uninterrupted chlorine discharge in minutes. Actual effluent limitations for total chlorine, when discharging intermittently, shall then be determined according to *Implementation Procedures for Table B* from the Ocean Plan (2001), using a minimum probable initial dilution factor of 87 and a flow rate of 22.9 MGD.

4. Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100 / NOEL, where NOEL (No Observed Effect Level) 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 critical life stage toxicity tests identified in Section V of Monitoring and Reporting Program No. R9-2005-0101.

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

6. Not to exceed limits specified in Title 17 California Code of Regulations, Section 30253, Standards for Protection Against Radiation. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

7. Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

8. Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

9. Shall mean the sum of 4,4’DDT; 2,4’DDT; 4,4’DDE; 2,4’DDE; 4,4’DDD; and 2,4’DDD.

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

11. PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenapthalene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene,

benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorine, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

12. PCBs (polychlorinated biphenyls) shall mean he 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.

13. TCDD Equivalents shall mean the sum of 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 by 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 CDD	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

ATTACHMENT A – DEFINITIONS

Anti-Backsliding. Provisions in the Clean Water Act and USEPA regulations [CWA 303 (d) (4); CWA 402 (c); CFR 122.44 (l)] that require a reissued permit to be as stringent as the previous permit with some exceptions.

Antidegradation. Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by the State to minimize adverse effects on water.

Applicable Standards and Limitations means all State, interstate, and federal standards and limitations to which a discharge, a sewage sludge use or disposal practice, or a related activity is subject under the CWA, including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, pretreatment standards, and standards for sewage sludge use or disposal under sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of CWA.

Areas of Special Biological Significance (ASBS) are those areas designated by the State Water Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

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

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

Beneficial Uses of the waters of the State that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ). The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

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

Bioassay. A test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism.

Biochemical Oxygen Demand (BOD). A measurement of the amount of oxygen utilized by the decomposition of organic material, over a specified time period (usually 5 days) in a wastewater sample; it is used as a measurement of the readily decomposable organic content of a wastewater.

Biosolids. Sewage sludge that is used or disposed through land application, surface disposal, incineration, or disposal in a municipal solid waste landfill. Sewage sludge is defined as solid, semi-solid, or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility.

Bypass. The intentional diversion of wastestreams from any portion of a treatment (or pretreatment) facility.

Carbonaceous Biochemical Oxygen Demand (CBOD). The measurement of oxygen required for carbonaceous oxidation of a nonspecific mixture of organic compounds. Interference caused by nitrifying bacteria in the standard 5-day BOD test is eliminated by suppressing the nitrification reaction.

Certifying Official. All applications, including NOIs, must be signed as follows:

For a corporation: By a responsible corporate officer, which means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. 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.

Chemical Oxygen Demand (COD). A measure of the oxygen-consuming capacity of inorganic and organic matter present in wastewater. COD is expressed as the amount of oxygen consumed in mg/L. Results do not necessarily correlate to the biochemical oxygen demand (BOD) because the chemical oxidant may react with substances that bacteria do not stabilize.

Composite Sample. Sample composed of two or more discrete samples of at least 100 milliliters collected at periodic intervals during the operating hours of a facility over a 24-hour period. The aggregate sample will reflect the average water quality covering the compositing or sample period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

Conventional Pollutants. Pollutants typical of municipal sewage, and for which municipal secondary treatment plants are typically designed; defined at 40 CFR 401.16 as BOD, TSS, fecal coliform bacteria, oil and grease, and pH.

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.

Daily Maximum Limit. The maximum allowable daily discharge of pollutant. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the 24-hour period. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that 24-hour period.

Degrade (Degredation). 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.

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

Dilution Ratio is the critical low flow of the upstream receiving water divided by the flow of the effluent discharged.

Discharge when used without qualification means the discharge of a pollutant. Discharge of a pollutant means:

1. Any addition of any pollutant or combination of pollutants to waters of the United States from any point source, or

2. Any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any indirect Discharger.

Discharge Monitoring Report (DMR) means the USEPA uniform form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved states as well as by USEPA. The USEPA will supply DMRs to any approved state upon request. The USEPA national forms may be modified to substitute the state agency name, address, logo, and other similar information, as appropriate, in place of USEPA's.

Effluent Limitation means any restriction imposed by an Order on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Grab Sample. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes. The sample is taken from a waste stream on a one-time basis without consideration of the flow rate of the waste stream and without consideration of time of day.

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

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

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

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.

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.

Sanitary Sewer. A pipe or conduit (sewer) intended to carry wastewater or water-borne wastes from homes, businesses, and industries to the POTW.

Sanitary Sewer Overflows (SSO). Untreated or partially treated sewage overflows from a sanitary sewer collection system.

Secondary Treatment Standards. Technology-based requirements for direct discharging municipal sewage treatment facilities. Standards are based on a combination of physical and biological processes typical for the treatment of pollutants in municipal sewage. Standards are expressed as a minimum level of effluent quality in terms of: BOD_5, total suspended solids (TSS), and pH (except as provided for special considerations and treatment equivalent to secondary treatment).

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

Surface Waters include navigable waters, rivers, streams (including ephemeral streams), lakes, playa lakes, natural ponds, bays, the Pacific Ocean, lagoons, estuaries, man-made canals, ditches, dry arroyos, mudflats, sandflats, wet meadows, wetlands, swamps, marshes, sloughs and water courses, and storm drains tributary to surface waters. Surface Waters include waters of the United States as used in the federal Clean Water Act (see 40 CFR 122.2).

Technology-Based Effluent Limit. A permit limit for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration.

Toxic Pollutant. Pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator of USEPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. Toxic pollutants also include those pollutants listed by the Administrator under CWA Section 307 (a) (1) or any pollutant listed under Section 405 (d) which relates to sludge management.

Toxicity Reduction Evaluation (TRE). A site-specific study conducted in a stepwise process designed to identify the causative agent(s) of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Upset is defined as (a) An unusual event that temporarily disrupts the usually satisfactory operation of a system. This definition constitutes the plain meaning or broad definition of the term “upset.” (b) An event more narrowly defined at 40 CFR 122.41 (n)(1) and which belongs to a subset of events that fit the definition of the term “upset” provided in (a).

Water Quality Control Plan consists of a designation or establishment for the waters within a specified area of all of the following:

1. Beneficial uses to be protected.

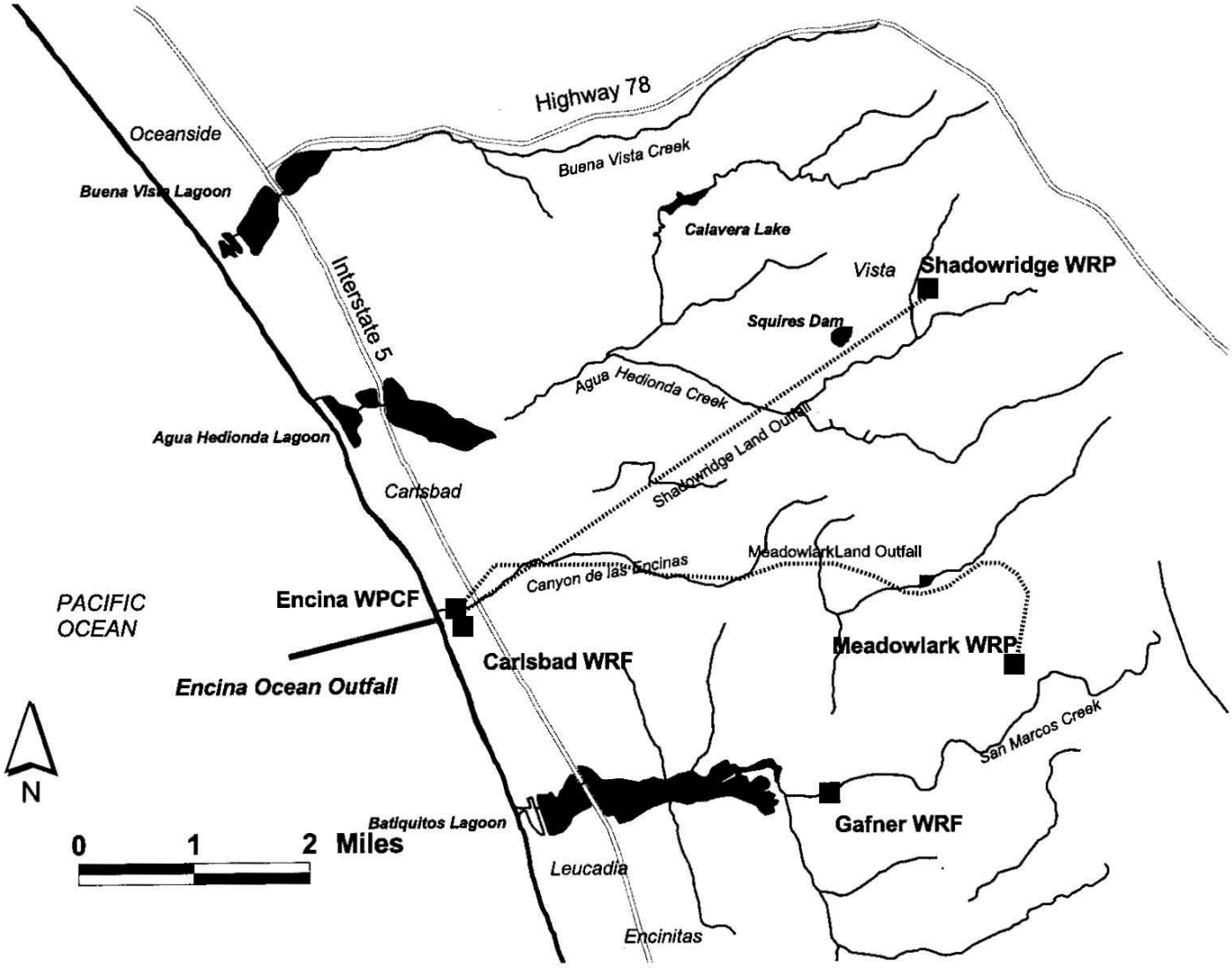
2. Water quality objectives.

3. A program of implementation needed for achieving water quality objectives.

Water Quality Objectives means the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

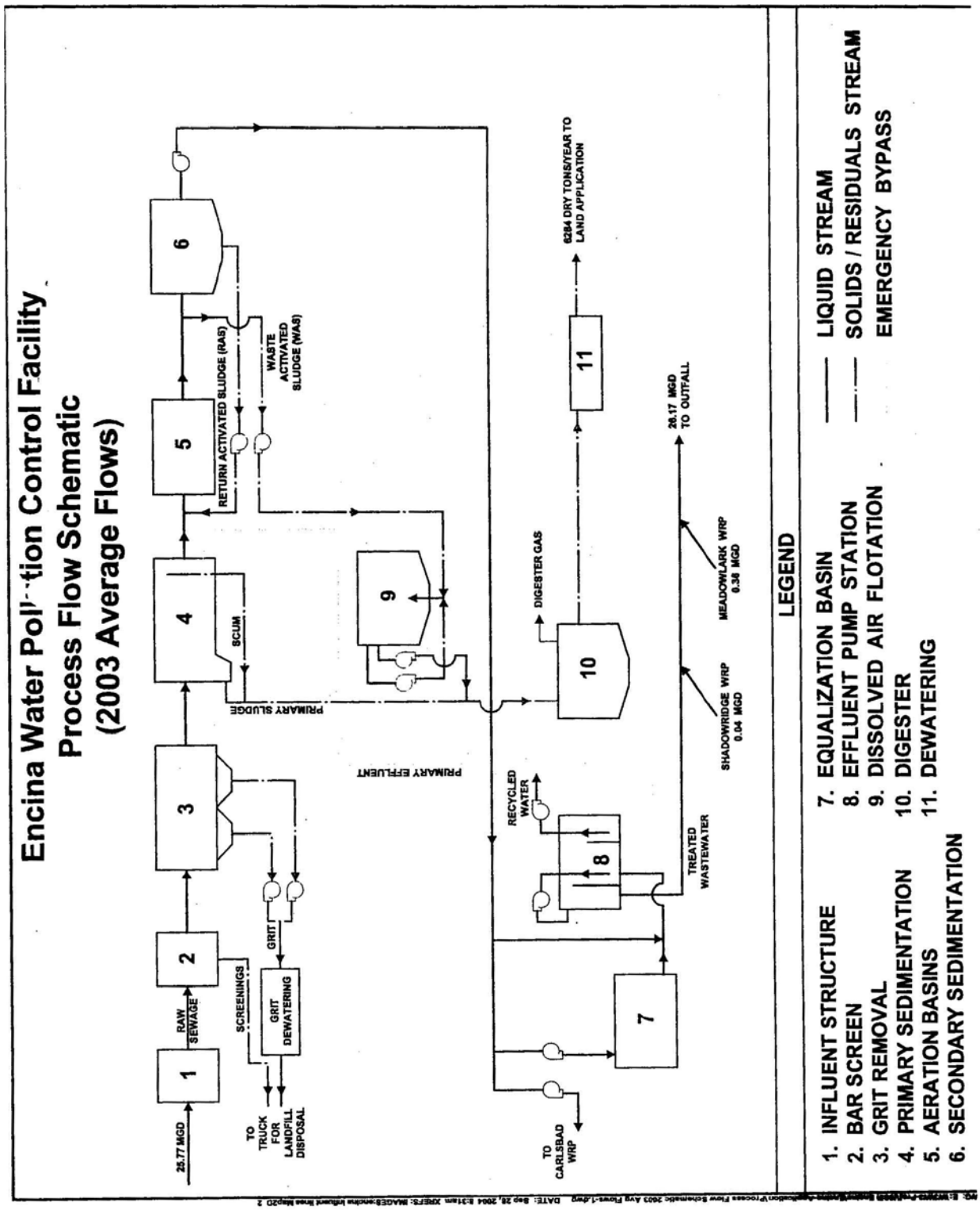
Whole Effluent Toxicity (WET). The total toxic effect of an effluent measured directly with a toxicity test.

ATTACHMENT B – MAP

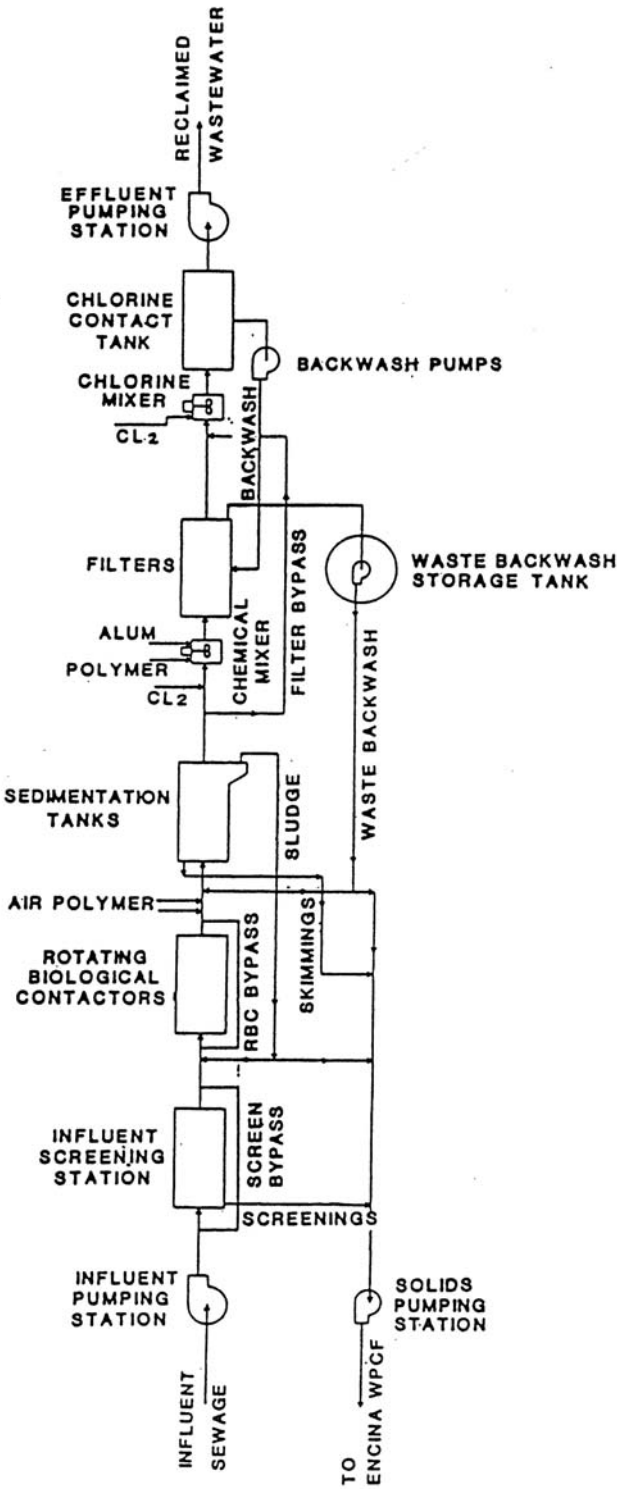


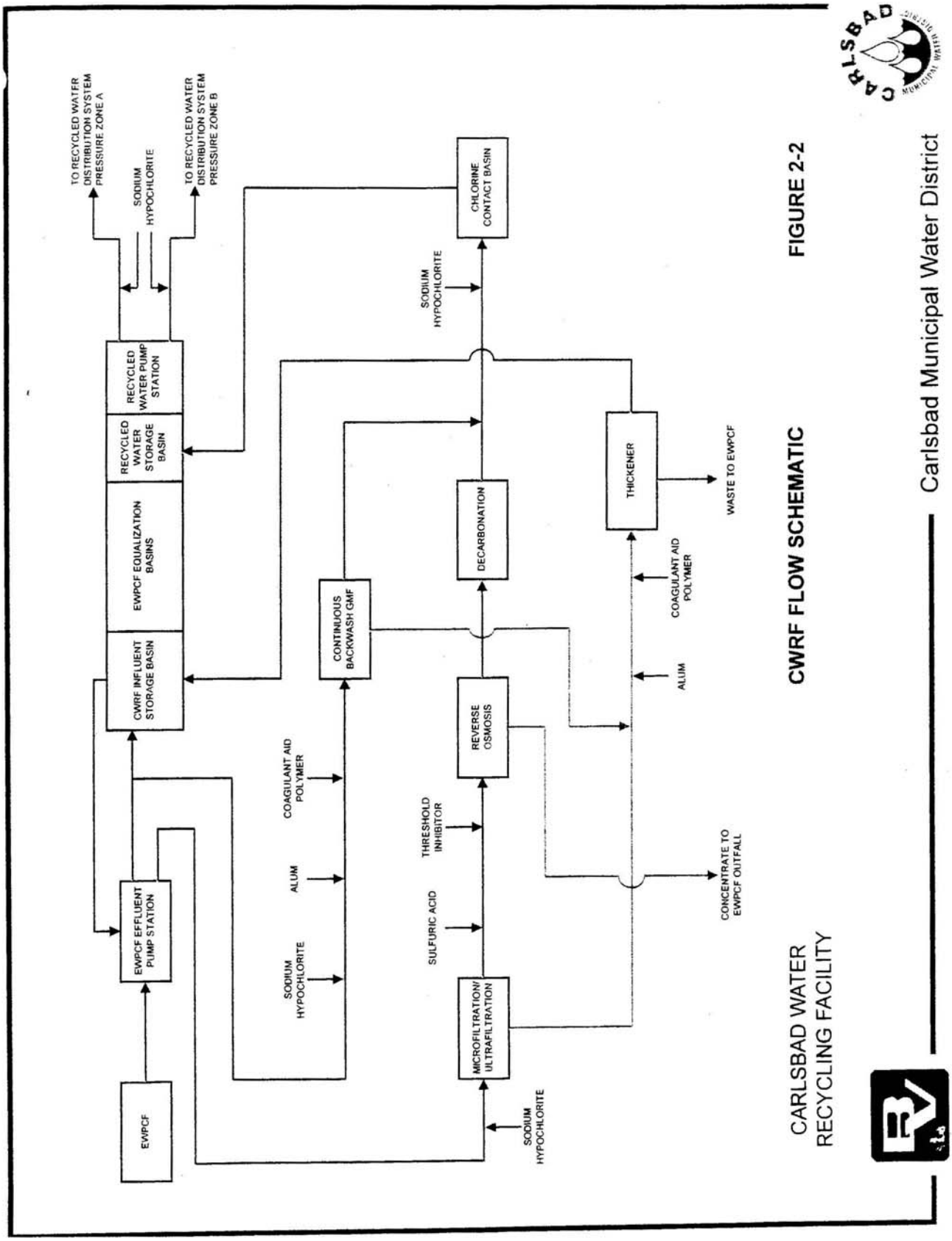
ATTACHMENT C – FLOW SCHEMATIC

Flow schematics on the following pages for Encina Water Pollution Control Facility, Meadowlark Water Reclamation Plant, and Carlsbad Water Recycling Facility


Encina Water Pollution Control Facility
Process Flow Schematic
(2003 Average Flows)
25.77 MGD
RAW SEWAGE
SCREENINGS
GRIT
GRIT DEWATERING
TO TRUCK FOR LANDFILL DISPOSAL
SCUM
PRIMARY SLUDGE
PRIMARY EFFLUENT
RETURN ACTIVATED SLUDGE (RAS)
WASTE ACTIVATED SLUDGE (WAS)
DIGESTER GAS
6284 DRY TONS/YEAR TO LAND APPLICATION
RECYCLED WATER
TO CARLSBAD WRP
TREATED WASTEWATER
SHADOWRIDGE WRP 0.04 MGD
MEADOWLARK WRP 0.38 MGD
25.17 MGD TO OUTFALL
LEGEND
1. INFLUENT STRUCTURE
2. BAR SCREEN
3. GRIT REMOVAL
4. PRIMARY SEDIMENTATION
5. AERATION BASINS
6. SECONDARY SEDIMENTATION
7. EQUALIZATION BASIN
8. EFFLUENT PUMP STATION
9. DISSOLVED AIR FLOTATION
10. DIGESTER
11. DEWATERING
LIQUID STREAM
SOLIDS / RESIDUALS STREAM
EMERGENCY BYPASS

Meadowlark Water Reclamation Facility
Schematic Flow Diagram




TO RECYCLED WATER DISTRIBUTION SYSTEM PRESSURE ZONE A
SODIUM HYPOCHLORITE
TO RECYCLED WATER DISTRIBUTION SYSTEM PRESSURE ZONE B
RECYCLED WATER PUMP STATION
RECYCLED WATER STORAGE BASIN
EWPCF EQUALIZATION BASINS
CWRF INFLUENT STORAGE BASIN
EWPCF EFFLUENT PUMP STATION
EWPCF
SODIUM HYPOCHLORITE
ALUM
COAGULANT AID POLYMER
CONTINUOUS BACKWASH GMF
SODIUM HYPOCHLORITE
CHLORINE CONTACT BASIN
DECARBONATION
REVERSE OSMOSIS
SULFURIC ACID
THRESHOLD INHIBITOR
MICROFILTRATION/ ULTRAFILTRATION
SODIUM HYPOCHLORITE
THICKENER
WASTE TO EWPCF
COAGULANT AID POLYMER
ALUM
CONCENTRATE TO EWPCF OUTFALL
CARLSBAD WATER RECYCLING FACILITY
CWRF FLOW SCHEMATIC
FIGURE 2-2
Carlsbad Municipal Water District

ATTACHMENT D – FEDERAL 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 (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act 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 been modified to incorporate the requirement [*40 CFR §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 CFR §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 CFR §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 CFR §122.41(e)*].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §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 CFR §122.5(c)*].

F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383(c)*]:

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 CFR §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 CFR §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 CFR §122.41(i)(3)*];

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [*40 CFR §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 CFR §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 CFR §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 and I.G.5 below [*40 CFR §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 CFR §122.41(m)(4)(i)*]:

    a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(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 CFR §122.41(m)(4)(B)*]; and

    c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)(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 CFR §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 CFR §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 [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR §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 paragraph H.2 of this section 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 CFR §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 CFR §122.41(n)(3)*]:

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset [*40 CFR §122.41(n)(3)(i)*];

   b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [*40 CFR §122.41(n)(3)(iii)*]; and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [*40 CFR §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 CFR §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 CFR §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 CFR §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 CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [*40 CFR §122.41(j)(1)*].

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [*40 CFR §122.41(j)(4)*] [*40 CFR §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 40 CFR 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 CFR §122.41(j)(2)*].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];
2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];
3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];
4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];
5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and
6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

C. Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, 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, SWRCB, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*].

2. All permit applications shall be signed as follows:

   a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or

   c. For a municipality, State, federal, or other public agency: 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 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this

provision, 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 paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

b. The authorization specified 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 CFR §122.22(b)(2)*]; and

c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision 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 paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].

5. Any person signing a document under paragraph (2.) or (3.) of this provision 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 CFR §122.22(d)*].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB for reporting results of monitoring of sludge use or disposal practices [*40 CFR §122.41(l)(4)(i)*].

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal,

approved under 40 CFR Part 136 unless otherwise specified in 40 CFR 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 CFR §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 CFR §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 CFR §122.41(l)(5)*].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

   b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

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 CFR §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 CFR §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 40 CFR §122.29(b) [*40 CFR §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 which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §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 CFR §122.41(l)(1)(iii)*].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or SWRCB of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR §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 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §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, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a

pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*40 CFR §122.41(a)(2)*] [*CWC 13385 and 13387*].

B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [*40 CFR §122.41(a)(3)*].

C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*40 CFR §122.41(j)(5)*].

D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*40 CFR §122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(1)*]:

    a. 100 micrograms per liter (µg/L) [*40 CFR §122.42(a)(1)(i)*];

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(1)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" [*40 CFR §122.42(a)(2)*]:

    a. 500 micrograms per liter (µg/L) [*40 CFR §122.42(a)(2)(i)*];

    b. 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(2)(ii)*];

    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(2)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(2)(iv)*].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [*40 CFR §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 CFR §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 CFR §122.42(b)(2)*].

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 CFR §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 (CFR) at 40 CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC 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 that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Water Board. Samples shall be collected at times representative of "worst case" conditions with respect to compliance with the requirements of Order No. R9-2005-0219.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, or unless other test procedures are specified in Order No. R9-2005-0219 and/or in this MRP and/or by the Regional Water Board.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Regional Water Board.

E. Records of monitoring information shall include information required under Attachment D, Section VI. Standard Provisions – Records.

F. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the Regional Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.

H. Analysis for toxic pollutants, including acute and chronic toxicity, with effluent limitations based on water quality objectives of the California Ocean Plan (2001) shall be conducted in accordance with procedures described in the Ocean Plan (2001) and restated in this MRP.

I. This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any USEPA approved, new, state water quality standards applicable to effluent toxicity.

II. MONITORING LOCATIONS

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

Table 1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
	M-INF1	At a location where all influent flows to EWPCF are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
	M-INF2	At a location where all influent flows to VMWRP are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
	M-001	Downstream of any in-plant return flows at EWPCF where representative samples of effluent treated solely at EWPCF can be collected.
	M-002	Downstream of any in-plant return flows where representative samples of effluent treated solely at VMWRP can be collected.
	M-003	At a location where representative samples of wastewater from BSWRP discharged to the land outfall tributary to the EOO can be collected.
Outfall 001	M-004	At a location where representative samples of commingled effluent from EWPCF, VMWRP, CWRF, and BSWRP can be collected.
		- Receiving Water Monitoring Stations -
		- Surf Zone Monitoring Stations -
	S1	Surf Zone; 6,500 ft south of the outfall
	S2	Surf Zone; 2,500 ft south of the outfall
	S3	Surf Zone; at the outfall
	S4	Surf Zone; 3,000 ft north of the outfall
	S5	Surf Zone; 5,500 ft north of the outfall

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
		- Near Shore Monitoring Stations -
	K1	Downcoast of the outfall, at the contemporary offshore edge of the kelp bed (kelp station).
	K2	Upcoast of the outfall, at the contemporary offshore edge of the kelp bed (kelp station).
	N2a	Directly offshore from S2, at the 30 foot depth contour, MLLW
	N3	Directly offshore from S3, at the 30 foot depth contour, MLLW
	N4	Directly offshore from S4, at the 30 foot depth contour, MLLW
		- Offshore Monitoring Stations -
	Z1	At a distance of 150 feet downcoast from the diffuser midpoint, and at the 150-foot depth (MLLW) contour (ZID-boundary station)
	Z2	At a distance of 150 feet upcoast from the diffuser midpoint, and at the 150-foot depth (MLLW) contour (ZID-boundary stations)
	G1	At a distance of 1,000 feet downcoast from the outfall, and at the 150-foot depth (MLLW) contour (Gradient station)
	G2	At a distance of 1,000 feet upcoast from the outfall, and at the 150-foot depth (MLLW) contour (Gradient station).
	R1	Approximately 2.0 miles downcoast from the outfall, and at the 150-foot depth (MLLW) contour (Reference station)
		- Trawl stations -
	T1	Begin trawl slightly upcoast of station R1, first trawl to be away from station heading upcoast along the 150-foot depth (MLLW) contour.
	T2	Begin trawl slightly downcoast of station G1, first trawl to be away from station heading downcoast along the 150-foot depth (MLLW) contour.
	T3	Begin trawl slightly upcoast of station G2, first trawl to be away from station heading upcoast along the 150-foot depth (MLLW) contour.
	T4	Begin trawl slightly downcoast of historical station R2, (i.e., 2.3 miles upcoast from the outfall), first trawl to be away from station heading downcoast along the 150-foot depth (MLLW) contour.

2. The exact locations of near-shore kelp stations K1 and K2 were to have been specified by the discharger within six months after the effective date of the Monitoring and Reporting Program No. 95-03. The discharger shall continue to monitor the kelp beds at those specified station locations to ensure that the same area at each kelp bed is monitored repeatedly. If there is a justifiable reason to change the station locations (e.g., due to kelp loss), the Executive Officer shall be notified of the need to change the stations and the locations of the new stations.

3. It is recommended that stations be located using a land-based microwave positioning system, such as Mini-Ranger or trisponder, or a satellite positioning system such as Global Positioning System (GPS). The high levels of accuracy and precision afforded by this type of positioning system will ensure that stations are properly located with respect to the ZID. If an alternate navigation system (e.g. Loran C) is proposed, its accuracy should be compared

to that of the systems recommended herein, and any compromises in accuracy should be justified.

If a positioning system is used to locate receiving water monitoring stations for a specific reporting period, the discharger shall include a summary of the sampling location coordinates of each station in the required monitoring report.

4. Monitoring station locations may be modified with the approval of the Executive Officer.

CORE MONITORING

III. INFLUENT MONITORING REQUIREMENTS

Monitoring Locations M-INF1 and M-INF2

The Discharger shall monitor influent at M-INF1 and M-INF2, respectively, as follows:

Table 2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	recorder / totalizer	continuous
$CBOD_5$ @ 20º C	mg/L	24 hr composite	weekly
BOD_5 @ 20º C	mg/L	24 hr composite	monthly
TSS	mg/L	24 hr composite	weekly

IV. EFFLUENT MONITORING REQUIREMENTS

Sample Type and Frequency

The Discharger shall monitor secondary effluent at monitoring location M-001, M-002, M-003, and M-004 as follows (Endnotes are located at the end of the MRP starting on page E-20):

Table 3a. Effluent Monitoring at M-001, M-002 and M-003

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Flow [14]	MGD	recorder / totalizer	continuous
$CBOD_5$	mg/L	24 hr composite	three days per week[2]
BOD_5	mg/L	24 hr composite	monthly
TSS	mg/L	24 hr composite	daily [2]
pH	pH Units	grab	daily [2]

Table 3b. Effluent Monitoring M-004

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Flow [14]	MGD	recorder / totalizer	continuous
Oil and Grease	mg/L	grab	monthly [3]

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Settleable Solids	mL/L	grab	weekly
Turbidity	NTU	24 hr composite	weekly [3]
Dissolved Oxygen	mg/L	grab	weekly
Temperature	º F	grab	weekly
arsenic	µg/L	24 hr composite	quarterly [3, 4]
cadmium	µg/L	24 hr composite	quarterly [3, 4]
chromium (VI)	µg/L	24 hr composite	quarterly [3, 4, 6]
copper	µg/L	24 hr composite	quarterly [3, 4]
lead	µg/L	24 hr composite	quarterly [3, 4]
mercury	µg/L	24 hr composite	quarterly [3, 4]
nickel	µg/L	24 hr composite	quarterly [3, 4]
selenium	µg/L	24 hr composite	quarterly [3, 4]
silver	µg/L	24 hr composite	quarterly [3, 4]
zinc	µg/L	24 hr composite	quarterly [3, 4]
cyanide	µg/L	24 hr composite	quarterly [3, 4]
Total Residual Chlorine	µg/L	grab	daily [7]
ammonia	mg/L	24 hr composite	monthly [3]
non-chlorinated phenolic compounds	µg/L	24 hr composite	quarterly [3, 4]
chlorinated phenolics	µg/L	24 hr composite	quarterly [3, 4]
endosulfan	µg/L	24 hr composite	quarterly [3, 4]
endrin	µg/L	24 hr composite	quarterly [3, 4]
HCH	µg/L	24 hr composite	quarterly [3, 4]
radioactivity	pCi/L	24 hr composite	quarterly [3]
acrolein	µg/L	grab	semiannually [3]
antimony	µg/L	24 hr composite	semiannually [3]
bis (2-chloroethoxy) methane	µg/L	grab	semiannually [3]
bis (2-chloroisopropyl) ether	µg/L	grab	semiannually [3]
chlorobenzene	µg/L	grab	semiannually [3]
chromium (trivalent)	µg/L	24 hr composite	semiannually [3]
di-n-butyl phthalate	µg/L	grab	semiannually [3]
dichlorobenzenes	µg/L	grab	semiannually [3]
diethyl phthalate	µg/L	grab	semiannually [3]
dimethyl phthalate	µg/L	grab	semiannually [3]
4,6-dinitro-2-methylphenol	µg/L	grab	semiannually [3]
2,4-dinitrophenol	µg/L	grab	semiannually [3]
ethylbenzene	µg/L	grab	semiannually [3]
fluoranthene	µg/L	grab	semiannually [3]
hexachlorocyclopentadiene	µg/L	grab	semiannually [3]
nitrobenzene	µg/L	grab	semiannually [3]
thallium	µg/L	24 hr composite	semiannually [3]
toluene	µg/L	grab	semiannually [3]
1,1,1-trichloroethane	µg/L	grab	semiannually [3]
tributyltin	µg/L	24 hr composite	semiannually [3]

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
acrylonitrile	µg/L	grab	semiannually [3]
aldrin	µg/L	grab	semiannually [3]
benzene	µg/L	grab	semiannually [3]
benzidine	µg/L	grab	semiannually [3]
beryllium	µg/L	24 hr composite	semiannually [3]
bis (2-chloroethyl) ether	µg/L	grab	semiannually [3]
bis (2-ethylhexyl) phthalate	µg/L	grab	semiannually [3]
carbon tetrachloride	µg/L	grab	semiannually [3]
chlordane	µg/L	grab	semiannually [3]
chlorodibromomethane	µg/L	grab	semiannually [3]
chloroform	µg/L	grab	semiannually [3]
DDT	µg/L	grab	semiannually [3]
1,4-dichlorobenzene	µg/L	grab	semiannually [3]
3,3'-dichlorobenzidine	µg/L	grab	semiannually [3]
1,2-dichloroethane	µg/L	grab	semiannually [3]
1,1-dichloroethylene	µg/L	grab	semiannually [3]
dichlorobromomethane	µg/L	grab	semiannually [3]
dichloromethane	µg/L	grab	semiannually [3]
1,3-dichloropropene	µg/L	grab	semiannually [3]
dieldrin	µg/L	grab	semiannually [3]
2,4-dinitrotoluene	µg/L	grab	semiannually [3]
1,2-diphenylhydrazine	µg/L	grab	semiannually [3]
halomethanes	µg/L	grab	semiannually [3]
heptachlor	µg/L	grab	semiannually [3]
heptachlor epoxide	µg/L	grab	semiannually [3]
hexachlorobenzene	µg/L	grab	semiannually [3]
hexachlorobutadiene	µg/L	grab	semiannually [3]
hexachloroethane	µg/L	grab	semiannually [3]
isophorone	µg/L	grab	semiannually [3]
N-nitrosodimethylamine	µg/L	grab	semiannually [3]
N-nitrosodi-N-propylamine	µg/L	grab	semiannually [3]
N-nitrosodiphenylamine	µg/L	grab	semiannually [3]
PAHs	µg/L	grab	semiannually [3]
PCBs	µg/L	grab	semiannually [3]
TCDD equivalents	µg/L	grab	semiannually [3, 8]
1,1,2,2-tetrachloroethane	µg/L	grab	semiannually [3]
tetrachloroethylene	µg/L	grab	semiannually [3]
toxaphene	µg/L	grab	semiannually [3]
trichloroethylene	µg/L	grab	semiannually [3]
1,1,2-trichloroethane	µg/L	grab	semiannually [3]
2,4,6-trichlorophenol	µg/L	grab	semiannually [3]
vinyl chloride	µg/L	grab	semiannually [3]

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall conduct acute and chronic toxicity testing on effluent samples collected at Effluent Monitoring Station M-004 in accordance with the following schedule and requirements:

Table 4. Whole Effluent Toxicity Testing

Test	Unit	Sample	Minimum Test Frequency
Acute Toxicity	TUa	24-Hr. Composite	semiannually
Chronic Toxicity	TUc	24-Hr. Composite	quarterly

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, October 2002 (EPA-821-R-02-012).

Critical life stage toxicity tests shall be performed to measure chronic toxicity (TUc). Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (SWRCB, 1996)

A screening period for chronic toxicity shall be conducted every other year for three months, using a minimum of three test species with approved test protocols, from the following list (from the 2001 Ocean Plan). Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used for the monthly testing. Repeat screening periods may be terminated after the first month if the most sensitive species is the same as found previously to be most sensitive. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

Table 5. Approved Tests for Chronic Toxicity

Species	Test	Tier [A]	Reference [B]
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

Species	Test	Tier [A]	Reference [B]
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
Silversides, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[A] 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.

[B] 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. USEPA 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. USEPA 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 9eds). 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.

VI. RECEIVING WATER MONITORING REQUIREMENTS

Receiving water and sediment monitoring in the vicinity of the EOO shall be conducted as specified below. Station location, sampling, sample preservation and analyses, when not specified, shall be by methods approved by the Executive Officer. The monitoring program may be modified by the Executive Officer at any time.

The receiving water and sediment monitoring program for the EOO may be conducted jointly with other dischargers to the EOO.

During monitoring events, if possible, sample stations shall be located using a land-based microwave positioning system or a satellite positioning system such as GPS. If an alternate navigation system is proposed, its accuracy should be compared to that of microwave and satellite based systems, and any compromises in accuracy shall be justified.

A. Surf Zone Water Quality Monitoring

All surf zone stations shall be monitored as follows:

1. Grab samples shall be collected and analyzed for total and fecal coliform and enteroccoccus bacteria at a minimum frequency of one time per week. [5]

2. Samples shall be collected in accordance with "Standard Operating Procedures for the Collection of Water Samples for Bacterial Analysis from Ocean and Bay Receiving Waters" developed by the County of San Diego Department of Environmental Health and incorporated herein by reference.

3. At the same time samples are collected from surf zone stations, the following information shall be recorded: observation of wind direction and speed; weather (cloudy, sunny, or rainy); current direction; tidal conditions; and observations of water color, discoloration, oil and grease; turbidity, odor, and materials of sewage origin in the water or on the beach; and water temperature (º F).

4. If a surf zone water quality monitoring station consistently exceeds a coliform objective or exceeds a geometric mean enterococcus density of 24 organisms per 100 mL for a thirty day period or 12 organisms per 100 mL for a six month period, the Discharger shall conduct a survey to determine if discharges from the Discharger's Facilities are the source of the contamination. If the survey indicates that elevated coliform and/or enterococcus levels are attributable to discharges from the Discharger's Facilities, the Discharger shall take action to control the source.

B. Near Shore Water Quality Monitoring

1. Reduced Monitoring

If the Executive Officer determines that the effluent at all times complies with Section IV.B Effluent Limitations and Performance Goals of Order No. R9-2005-0219, only reduced near shore water quality monitoring specified below is required.

Table 6a. Near Shore Water Quality Reduced Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	-	-	monthly
Total and Fecal Coliform	number / 100 ml	grab [9]	monthly
Enteroccoccus [5]	number / 100 ml	grab [9]	monthly

2. Intensive Monitoring

The intensive near shore water quality monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by August 31, 2009. This monitoring data will assist Regional board staff in the evaluation of the Report of Waste Discharge. The intensive near shore water quality monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Section IV.B Effluent Limitations and Performance Goals of Order No. R9-2005-0219.

Table 6b. Near Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	-	-	monthly
Total and Fecal Coliform	number / 100 ml	grab [11]	monthly
Enteroccoccus [5]	number / 100 ml	grab [11]	monthly

C. Off Shore Water Quality Monitoring

1. Reduced Monitoring

If the Executive Officer determines that the effluent at all times complies with Section IV.B Effluent Limitations and Performance Goals of Order No. R9-2005-0219, only reduced off shore water quality monitoring specified below is required.

Table 7a. Off Shore Water Quality Reduced Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	-	-	monthly
Total and Fecal Coliform	number / 100 ml	grab [11]	monthly
Enteroccoccus 5	number / 100 ml	grab [11]	monthly

2. Intensive Monitoring

The intensive off shore water quality monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by October 31, 2009. This monitoring data will assist Regional board staff in the evaluation of the Report of Waste Discharge. The intensive off shore water quality monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Section IV.B Effluent Limitations and Performance Goals of Order No. R9-2005-0219.

Table 7b. Off Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	-	-	monthly
Total and Fecal Coliform	number / 100 ml	grab [11]	monthly
Enteroccoccus [5]	number / 100 ml	grab [11]	monthly
Conductivity, Temperature and Depth (CTD)	Practical salinity units, º C, feet	instrument (1- meter intervals, surface to bottom)	monthly
Dissolved Oxygen	mg/L	grab [12]	monthly
Light Transmittance	percent	instrument [12]	monthly
pH	pH units	grab [9]	monthly

D. Benthic Monitoring

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by August 31, 2009. This monitoring data will assist Regional Water Board staff in the evaluation of the Report of Waste Discharge. The sediment monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Section IV.B Effluent Limitations and Performance Goals of Order No. R9-2005-0219. Benthic monitoring shall be conducted at all off shore monitoring stations.

1. Sediment Characteristics. Analyses shall be performed on the upper two inches of core.

Table 8. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	core	Semiannually
Total Chlorinated Hydrocarbons	mg/kg	core	Semiannually
BOD_5	mg/kg	core	Semiannually
COD	mg/kg	core	Semiannually
Particle Size Distribution	mg/kg	core	Semiannually
Arsenic	mg/kg	core	Annually
Cadmium	mg/kg	core	Annually
Total Chromium	mg/kg	core	Annually
Copper	mg/kg	core	Annually
Lead	mg/kg	core	Annually
Mercury	mg/kg	core	Annually
Nickel	mg/kg	core	Annually
Silver	mg/kg	core	Annually
Zinc	mg/kg	core	Annually
Cyanide	mg/kg	core	Annually
Phenolic Compounds	mg/kg	core	Annually
Radioactivity	pCi/kg	core	Annually

2. Infauna. Organisms shall be sieved using a 1.0-mm (0.04-in) mesh screen, fixed in ten percent buffered formalin, and transferred to 70 percent ethanol within two to seven days for storage. Organisms may be stained using Rose Bengal to facilitate sorting.

   Three replicate samples of bottom sediments shall be taken once during the specified period from all "offshore stations," and shall be collected at the same time as the sediment samples collected in accordance with Section D.1 above. These samples shall be separate from those collected for sediment analyses.

   The following data shall be reported for benthic infauna:

a. Total biomass of: (1) Mollusks, (2) Echinoderms, (3) Polychaetes, (4) Crustaceans, (5) All other macroinvertebrates

b. Community structure analysis for each station and each replicate. Wet weight of each taxonomic group of benthic infauna specified in Benthic Monitoring D.2.a, number of species, number of individuals per species, total numerical abundance, species abundance per square meter per station, species richness, species diversity (e.g., Shannon-Wiener), similarity analyses (e.g., Bray-Curtis), and cluster analysis (using unweighted pair-group method).

c. Station mean, range, standard deviation, and 95% confidence limits, if appropriate, for values determined above in b. The discharger may be required to conduct additional statistical analyses to determine temporal and spatial trends in the marine environment.

Table 9. Infauna Monitoring Requirements

Determination	Units	Minimum Frequency
Benthic Biota	Identification and enumeration	3 grabs

E. Additional Biological Monitoring

Demersal Fish and Macroinvertebrates

Monitoring of demersal fish and macroinvertebrates is intended to assess the populations of such organisms, to assess bioaccumulation of toxic pollutants, and to determine whether a significant difference exists between those populations near the outfall diffuser and those in reference areas.

The monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by August 31, 2009. This monitoring data will assist Regional Water Board staff in the evaluation of the Report of Waste Discharge required to be submitted by 180 days prior to the Order's expiration date of October 12, 2010. The biological monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Section IV.B Effluent Limitations and Performance Goals of Order No. R9-2005-0219.

When biological monitoring is required, the discharger shall conduct duplicate standardized trawls at all "Trawl Stations" (during August or September). If duplicate standardized trawls have been performed after the effective date of this Order but before the specified monitoring period, then duplicate standardized trawls during the specified period will not be required.

A standardized trawl shall be a Marinovich 7.62 m (25 ft) head rope otter trawl, towed along the 150-foot depth contour for a minimum duration of ten minutes at a uniform speed between 2.0

and 2.5 knots. Steps shall be taken as necessary to ensure that the second trawl at each station covers the same distance but does not sweep the same path as the first trawl or cover the stations sampled for benthic infauna and sediments.

Fish and macroinvertebrates collected by each trawl shall be identified to the species. The following data and information shall be reported for fish and macroinvertebrates, separately.

a. Community structure analysis for each station and each replicate. As applicable, wet weight of fish and macroinvertebrate species, number per age class per species, standard length of each individual, and number per sex per species, number of species, number of individuals per species, total numerical abundance, species abundance per trawl per station, species richness, species diversity (e.g., Shannon-Wiener), similarity analyses (e.g., Bray-Curtis), and cluster analyses (using unweighted pair-group method).

b. Station mean, range, standard deviation, and 95% confidence limits, if appropriate, for values determined above in a. The discharger may be required to conduct additional "statistical analyses" to determine temporal and spatial trends in the marine environment.

c. Abnormalities and disease symptoms (e.g., fin erosion, internal and external lesions, and tumors).

Liver tissue from one commercially or ecologically important fish species shall be analyzed for "priority pollutants" (excluding asbestos). Collection of the liver tissue shall occur only after the fish contents of both trawls at each station are combined to form one pooled sample of whole fish per station.

Three composite samples shall be prepared for trawl stations T2 and T3. One composite sample shall be prepared for trawl stations T1 and T4. Each composite sample shall consist of tissues resected from at least six Dover sole (Microstomus pacificus) of similar size and of the same sex. If six Dover sole are not caught, it is recommended that one of the following species be selected: longspine combfish (Zaniolepis latipinnis), longfin sanddab (Citharichthys xanthostigma), California tonguefish (Symphurus atricauda), or hornyhead turbot (Pleuronichthys verticalis). If none of these species are caught in sufficient numbers, the discharger shall use its best judgment in preparing the samples. If possible, for the duration of this monitoring and reporting program, the same species shall be used for these analyses at all stations.

F. Solids Monitoring

The Discharger shall report, annually, the volume of screenings, sludges, grit, and other solids generated and/or removed during wastewater treatment and the locations where these waste materials are placed for disposal. Copies of all annual reports required by 40 CFR 503 shall be submitted to the Regional Water Board at the same time they are submitted to the USEPA.

REGIONAL MONITORING

G. Kelp Bed Monitoring

The Discharger shall participate with other ocean Dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum aerial extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area. The entire San Diego Region coastline, from the international boundary to the San Diego Region / Santa Ana Region boundary, shall be photographed on the same day.

The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60 foot (MLLW) depth contours shall be shown

The areal extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses, which persist for more than one year, shall be investigated by divers to determine the probable reason for the loss.

H. Intensive Monitoring

The Discharger shall perform the intensive monitoring as described by this MRP in conjunction with the Southern California Coastal Water Research Project (SCCWRP) Bight Study.

The Discharger shall in year 5 of this Order participate and coordinate with state and local agencies and other Dischargers in the San Diego Region in development and implementation of a regional monitoring program (Bight Study) for the Pacific Ocean as directed by this Regional Water Board. The intent of the Bight Study is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region.

VII. 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. The Discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with waste discharge requirements.

3. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the laboratory current Method Detection Limit (MDL) as determined by the procedure in 40 CFR 136.

4. All noncompliance required to be reported under Provision V.H of Attachment D-Standard Federal Provisions shall be reported in the monthly monitoring reports.

5. Each year the Discharger shall submit an annual report to the Regional Water Board and USEPA Region 9 that contains tabular and graphical summaries of the monitoring data obtained during the previous year. The Discharger shall discuss the compliance record and corrective actions taken, or which may be taken, or which may be needed to bring the discharge into full compliance with the requirements of Order No. R9-2005-0219 and this MRP.

6. Laboratory method detection limits (MDLs) and minimum Levels (MLs) shall be identified for each constituent in the matrix being analyzed with all reported analytical data. Acceptance of data shall be based on demonstrated laboratory performance.

7. The Discharger shall attach a cover letter to the Discharge Monitoring Report. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned and the proposed time schedule of corrective actions. Identified violations should include a description of the requirement that was violated and a description of the violation.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly, quarterly, semiannual, and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 1st day of the second month following the end of each calendar month; Quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter; Semi-annual reports shall be due on August 1 and March 1 following each semi-annual period; Annual reports shall be due on March 1 following each calendar year.

3. Monitoring reports shall be submitted at intervals and in a manner specified in Order No. R9-2005-0219 and in this MRP. Unless otherwise specified, monitoring reports shall be submitted to the Regional Water Board and to the USEPA Region 9 according to the following schedule:

Table 10. Reporting Schedule

Monitoring Frequency	Reporting Period	Report Due
Continuous[14], Daily, Weekly, or Monthly	All	By the first day of the second month after the month of sampling
Quarterly	Jan – March April – June July – September Oct - Dec	May 1 August 1 Nov 1 February 1
Semiannually	Jan – June July - Dec	August 1 March 1
Annually	Jan – Dec	March 1

4. Minimum Levels

For each numeric effluent limitation identified in Table B of the California Ocean Plan (2001), the Discharger shall select one or more Minimum Levels (ML) and their associated analytical methods from Appendix II of the 2001 Ocean Plan. For constituents listed in Appendix II, the Discharger shall submit an appropriate ML (and its associated analytical method) for determining compliance with the effluent limitation for that constituent. All MLs must be approved by the Regional Water Board and/or the State Water Board. The "reported" ML is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from Appendix II. ML's chosen by the Discharger must be approved by the Executive Officer.

a. Selection of Minimum Levels from Appendix II

The Discharger must select from all MLs from Appendix II that are below the effluent limitation. If the effluent limitation is lower than all the MLs in Appendix II, then the Discharger must select the lowest ML.

b. Use of Minimum Levels

1) MLs, as defined in Appendix II of the Ocean Plan (2001), represent the lowest quantifiable concentration in a sample based on the proper application of method-specific analytical procedures and the absence of matrix interferences. MLs also represent the lowest standard concentration in the calibration curve for a specific analytical technique after the application of appropriate method-specific factors.

Common analytical practices may require different treatment of the sample relative to the calibration standard. Some examples of these practices are given in Chapter III.C.5.a of the Ocean Plan.

2) Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied when

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 during the computation of the reporting limit. Application of such factors will alter the reported ML.

3) The Discharger shall instruct its laboratories to establish calibration standards so that the ML (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. In accordance with the Ocean Plan, the Discharger's laboratory may employ a calibration standard lower than the ML in Appendix II.

c. Reporting

For those constituents identified in Table B of the Ocean Plan (2001), the Discharger shall report with each sample result the applicable ML, the analytical method used, and the current Method Detection Limit (MDL). For reporting and compliance determinations for toxic pollutants (those identified in Table B of the Ocean Plan, 2001) the Discharger shall use analytical methods identified in Appendix II of the Ocean Plan or as approved by the Regional Water Board or the State Water Board.

5. 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.

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. 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:

Submit monitoring reports to:	With a copy sent to:
California Regional Water Quality Control Board	Regional Administrator
San Diego Region	U.S. Environmental Protection Agency
9174 Sky Park Court, Suite 100	Region 9, Attn: 65/MR, W-3
San Diego, CA 92123-4340	75 Hawthorne Street
	San Francisco, CA 94105

C. Discharge Monitoring Reports (DMRs)

1. As described in Section VII.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 self-monitoring reports. Until such notification is given, the Discharger shall submit

discharge monitoring reports (DMRs) in accordance with the requirements described below.

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

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

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

ENDNOTES

1. For samples, which are to be physically composited prior to analyses, or for the results of analyses that are to be arithmetically composited, the basis for compositing shall be the rate of discharge to the ocean, not the rate of inflow to the plant.

2. Three days per week except seven days per week for at least one week during July or August of each year.

3. The minimum frequency of monitoring for this constituent is automatically increased to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the effluent limit specified in this Order for this constituent. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all effluent limits specified in this Order for this constituent.

4. The minimum frequency of monitoring for this constituent is automatically reduced to annually if the results of twelve consecutive analyses, representing each month of the year, or the results of twenty four consecutive analyses, representing each quarter of the year, are below the Ocean Plan 6-month median water quality objective for this constituent, or below the Minimum Level for this constituent in the matrix being analyzed, whichever is higher.

5. As required by implementation procedures at section III. D of the Ocean Plan (2001), measurement of enterococcus density shall be conducted at all stations where measurement of total and fecal coliform bacteria is required. When a shore station consistently exceeds a coliform objective or exceeds a geometric mean enterococcus density of 24 organisms per 100 mL for a 30-day period or 12 organisms per 100 mL for a 6-month period, the Regional Water Board must require that a survey be conducted to determine if the Discharger's Facilities are the source of the contamination. The Discharger shall conduct such a sanitary survey, if so directed by the Regional Water Board.

6. The discharger may, at its option, monitor for total chromium. If the measured total chromium concentration exceeds the hexavalent chromium limitation, it will be assumed that the hexavalent chromium limitation was exceeded unless the results of a hexavalent chromium analysis of a replicate sample indicate otherwise. When analyzing for hexavalent chromium, the appropriate sampling and analytical method must be used (i.e., 24-hour composite, cooled to 4º C and analyzed within 24 hours).

7. Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to Order No. R9-2005-0219 use chlorine for disinfection. If only one sample is collected for total chlorine residual analysis, on a particular day, that sample must be collected at the time when the concentration of total chlorine residual in the discharge would be expected to be greatest. The times of chlorine discharges on the days that samples are collected, and the time at which samples are collected, shall be reported.

8. USEPA method 8280 may be used to analyze for TCDD equivalents.

9. At the surface.

10. If the Discharger demonstrates to the satisfaction of the Executive Officer, by means of daily analyses, that the concentrations of total and fecal coliform bacteria in the effluent are consistently less than 1,000 per mL, enterococcus monitoring may be suspended. The Discharger shall conduct the monitoring as specified unless the Executive Officer provides written authorization to suspend it. If this monitoring is suspended, the Discharger shall resume it at the request of the Executive Officer.

11. At surface and mid-depth.

12. At surface, mid-depth, and bottom.

13. Sampling techniques will follow those employed by biologist divers of the California State Department of Fish and Game. In sandy areas, a 30-meter band transect, one meter wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) recording of water temperature (may be measured from a boat), and estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom; (2) recording of general bottom description; (3) recording of height, period, and crest direction of ripple marks; (4) recording of amount, description, and location of detritus on bottom; (5) creation of a representative photographic record of the area sampled; and (6) within each band, three cores of at least 42.5 cm^2 in area shall be randomly taken to a depth of 15 cm where possible, (the three cores may be taken from a boat) and the material removed sifted through at least a 1 mm mesh screen, and all organisms identified to as low a taxon as possible, enumerated, measured, and reproductive conditions assessed where feasible.

14. Report the total daily effluent flow and the monthly average effluent flow.

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.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table 1. Facility Information

WDID	**9 000000030**
Discharger	**Encina Wastewater Authority**
Name of Facility	**Encina Ocean Outfall**
Facility Address	**6200 Avenida Encinas Carlsbad, CA 92011 San Diego County**
Facility Contact, Title and Phone	**Michael T. Hogan, General Manager, (760) 438-3941**
Authorized Persons to Sign and Submit Reports	**Michael T. Hogan, General Manager, (760) 438-3941 John Jardin, Operations Superintendent, (760) 438-3941**
Mailing Address	**6200 Avenida Encinas Carlsbad, CA 92011 San Diego County**
Billing Address	**6200 Avenida Encinas Carlsbad, CA 92011 San Diego County**
Type of Facility	**Municipal POTW**
Major or Minor Facility	**Major**
Threat to Water Quality	**1**
Complexity	**A**
Pretreatment Program	**Yes**
Reclamation Requirements	**Vallecitos Water District and Carlsbad Municipal Water District are regulated under separate WDRs as Producers and Distributors of recycled water.**
Facility Permitted Flow	**43.3 MGD**
Facility Design Flow	**43.3 MGD**
Watershed	**Pacific Ocean**
Receiving Water	**Pacific Ocean**
Receiving Water Type	**Ocean**

A. The Encina Wastewater Authority (EWA) is a public joint powers authority that is owned by six member agencies. The EWA (hereinafter also Discharger) is the owner and operator of the Encina Ocean Outfall (EOO) and the Encina Water Pollution Control Facility (EWPCF), a municipal publicly-owned treatment works (POTW). The Carlsbad Municipal Water District, a subsidiary of the City of Carlsbad which is a member agency of the EWA, independently owns

and operates the Carlsbad Water Recycling Facility (CWRF), a municipal POTW. The Vallecitos Water District, a member agency of the EWA, independently owns and operates the Meadowlark Water Reclamation Plant (VMWRP) and land outfall, a municipal POTW. The Buena Sanitation District independently owns the Shadowridge Water Reclamation Plant (BSWRP) and land outfall structure prior to connection with the VMWRF land ourfall. For purposes of the waste discharge requirements contained in Order No. R9-2005-0219, the EWA is the Discharger, and the EWPCF, CWRF and VMWRP are collectively referred to as the EOO Facilities.

B. The Discharger discharges effluent consisting of treated wastewater from EWPCF, CWRF and VMWRP and waste brine from the CWRF through the EOO to the Pacific Ocean, a water of the United States. The combined discharge from EWPCF, CWRF, VMWRP and BSWRP was regulated by Order No. 2000-036, which was adopted on February April 12, 2000 and expired on April 12, 2005. The terms of the existing Order were administratively extended and continued in effect after the permit expiration date.

C. The Discharger submitted a Report of Waste Discharge (RoWD) with an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on October 14, 2004. Supplemental Information was received on January 12, 2005. Comments on the RoWD/application were provided to the Discharger on March 18, 2005. The Discharger submitted revisions to the RoWD/application on April 5, 2005, and the Regional Water Board deemed the RoWD/application complete on April 12, 2005.

D. A summary of previous Waste Discharge Requirements and NPDES permits and related amendments for the discharge through the EOO is as follows:

1. On December 17, 1984, the Regional Water Board adopted Order No. 84-35, NPDES No. *CA0107395, Waste Discharge Requirements for Encina Joint Powers/Encina Ocean Outfall, San Diego County*, for the discharge of up to 22.5 MGD of less than secondarily treated wastewater to the Pacific Ocean through the EOO.

   On July 18, 1988, the Regional Water Board adopted Addendum No. 1 to Order No. 84-35, *Modification of an Issued NPDES Permit and 301(h) Variance for Encina Joint Powers/Encina Ocean Outfall*, which modified Order No. 84-35 by increasing the authorized annual average flowrate limitation to 27.45 MGD. The additional 4.95 MGD of flow was required to receive full secondary treatment. USEPA approved the modification on July 25, 1989. The modified permit took effect on August 1, 1988. On October 26, 1988, the Encina Joint Powers (EJP) voted to provide full secondary treatment to all wastewater collected in its service area.

   On May 22, 1989, the Regional Board adopted a second addendum to Order No. 84-35, *An Addendum Establishing Encina Administrative Agency as the Operator/Administrator of the Encina Joint System Facilities*. This second addendum, adopted by the Regional Board on May 22, 1989, was erroneously identified as Addendum No. 1 to Order No. 84-35.

2. On January 29, 1990, the Regional Board adopted Order No. 90-02, NPDES permit No. CA0107395, Waste Discharge Requirements for the Encina Joint Powers, Encina Administrative Agency Ocean Outfall, San Diego County, which superseded Order No. 84-35. Order No. 90-02 established requirements for the discharge of an average dry-weather flowrate of 38.0 MGD of treated wastewater to the Pacific Ocean through the Encina Ocean Outfall. Order No. 90-02 contained an expiration date of January 29, 1995.

   On May 18, 1992, the Regional Board adopted Addendum No. 1 to Order No. 90-02, An Addendum Transferring Responsibility for Order 90-02 from the Encina Administrative Agency to the Encina Wastewater Authority, San Diego County.

3. On April 13, 1995, the Regional Board adopted Order No. 95-03, NPDES permit No. CA0107395, Waste Discharge Requirements for the Encina Wastewater Authority Discharge to the Pacific Through the Encina Ocean Outfall, which superseded Order No. 90-02. Order No. 95-03 renewed the requirements for the discharge of an average dry-weather flowrate of 38.0 MGD of treated wastewater to the Pacific Ocean through the Encina Ocean Outfall. Order No. 95-03 contained an expiration date of April 13, 2000.

   On January 9, 1997, the Regional Water Board adopted Addendum No. 2 to Order No. 95-03. Addendum No. 2 made the following modifications: 1) revised the Encina Ocean Outfall initial dilution ratio, 2) revised the minimum effluent monitoring frequencies for five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), and settleable solids, and 3) authorized the discharge of brine wastewater through the Encina Ocean Outfall.

4. On April 12, 2000, the Regional Water Board adopted Order No. 2000-36, NPDES permit No. CA0107395, Waste Discharge Requirements for the Encina Wastewater Authority Discharge to the Pacific Through the Encina Ocean Outfall, which superseded Order No. 95-03. Order No. 95-03 renewed the requirements for the discharge of an average dry-weather flowrate of 38.0 MGD of treated wastewater to the Pacific Ocean through the Encina Ocean Outfall. Order No. 2000-036 contained an expiration date of April 13, 2000.

   On October 10, 2001, the Regional Water Board adopted Addendum No. 1 to Order No. 2000-036 to approve revisions to the pretreatment program for the Encina Wastewater Authority. On June 11, 2003, the Regional Water Board adopted Addendum No. 2 to Order No. 2000-036 to allow discharges from the Carlsbad Water Recycling Facility Through the EOO. On November 12, 2003, the Regional Water Board adopted Addendum No. 3 to Order No. 2000-036 to revise the surf zone receiving water monitoring and reporting program of Order No. 2000-036.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The Encina Wastewater Authority (EWA) is a joint powers authority established pursuant to California Government Code, Section 6500 et seq. to provide for regional treatment and disposal

of wastewater in a portion of the north coastal area of San Diego County. The following member agencies comprise the EWA: Buena Sanitation District, City of Carlsbad, City of Encinitas, Leucadia Wastewater District, Vallecitos Water District, and the City of Vista.

The EWA provides the majority of wastewater treatment and disposal services to a population of approximately 281,000 within the boundaries of the EWA member agencies. The EWA owns and operates the Encina Water Pollution Control Facility (EWPCF) and the Encina Ocean Outfall (EOO). Each EWA member agency owns, operates and maintains its own wastewater collection system which conveys wastewater to the EWPCF; EWA does not own any portion of a wastewater collection system. In addition to the wastewater generated in the member agencies' service areas, the City of Vista and the City of Oceanside have a flow transfer agreement whereby Vista and Oceanside have agreed to exchange wastewater flows in specific areas to reduce pumping costs. There are five non-categorical significant industrial users and 31 categorical industrial users within the areas served by the EWPCF. The Vallecitos Water District independently owns and operates the Meadowlark Water Reclamation Plant (VMWRP) and land outfall. The City of Carlsbad independently owns and operates the Carlsbad Water Recycling Facility (CWRF). All wastewater generated within the service areas of the EWA member agencies, except for wastewater treated at VMWRP, is treated at EWPCF, and all treated effluent from EWPCF, VMWRP, and CWRF, if not recycled, is discharged to the Pacific Ocean through the EOO. The Buena Sanitation District independently owns the Shadowridge Water Reclamation Plant (BSWRP) and land outfall; these facilities are non-operational but maintain a connection to the EOO. For purposes of the waste discharge requirements contained in Order No. R9-2005-0219, the EWA is the Discharger, and the EWPCF, VMWRP, CWRF, BSWRP and the land outfalls for VMWRP and BSWRP are collectively referred to as the EOO Facilities. Order No. R9-2005-0219 establishes discharge prohibitions, limitations, and conditions to regulate discharges of effluent consisting of treated wastewater and waste brine from the Discharger's Facilities to the Pacific Ocean; these discharges were regulated by Order No. 2000-036 (NPDES Permit No. CA0107395) that expired on April 12, 2005 and administratively extended until the adoption of this Order. The wastewater collection systems tributary to EWPCF and VMWRP are not subject to the requirements and provisions of this Order. The satellite wastewater treatment plants (CWRF, BSWRP and VMWRP) are subject to the requirements and provisions of this Order for all discharges through the EOO, and EWA is legally responsible under this Order to ensure their compliance. The effective date of this Order has been set as January 1, 2006 in order to accommodate a request from EWA to delay the adoption date of this Order by 60 days. EWA requested the delay so that EWA could negotiate agreements with the owner agencies of CWRF, BSWRP and VMWRP which would enable EWA to exercise its responsibility to ensure compliance with this Order.

The EWPCF is located at 6200 Avenida Encinas, Carlsbad, approximately one-third mile from the ocean, near the mouth of Cañon de las Encinas. Wastewater treatment unit operations and processes at the EWPCF consist of bar screening, aerated grit removal, primary sedimentation, biological treatment using activated sludge, and secondary clarification. EWPCF also has disinfection (chlorination) capabilities, with only enough capacity to disinfect secondary effluent currently reused on-site. Solids treatment unit operations and processes consist of dissolved air flotation (DAF) thickening, anaerobic digestion, and mechanical dewatering using belt filter presses. At the time of adoption of this Order, the secondary treatment design capacity of the

EWPCF is 36 MGD (MGD) average dry-weather flowrate, and the facility is capable of processing solids from a flow of 38 MGD. Within the next five years, a planned expansion of the EWPCF will increase the secondary treatment capacity to 40.5 MGD and the solids processing capacity to 43.3 MGD. Except for a small volume of treated wastewater used on-site, all effluent from Encina WPCF is discharged to the Pacific Ocean through the Encina Ocean Outfall. As part of the RoWD/application, the Discharger submitted a report certifying the capacities of the EWPCF prior to expansion. In 2003, actual average daily flow from EWPCF was 25.77 MGD.

The Vallecitos Water District's Meadowlark Water Reclamation Plant (VMWRP) is located at 2310 South Rancho Santa Fe Road, San Marcos, approximately 5.5 miles east of the EWPCF. VMWRP diverts raw wastewater from the Vallecitos Water District's collection system which would otherwise go directly to the EWPCF. VMWRP diverts and treats up to 2.25 MGD raw wastewater (average dry-weather design flowrate) to tertiary level for water recycling. This Regional Board's Order No. 93-23 established waste discharge requirements, including California Code of Regulations (CCR) Title 22 water recycling requirements, for recycling of tertiary effluent from VMWRP. Wastewater treatment unit operations and processes at Meadowlark WRP consist of preliminary treatment using rotating screens, biological treatment using rotating biological contactors, secondary clarification, filtration and chlorine disinfection. Grit and solids removed from wastewater at VMWRP are returned to the sewer system for conveyance to EWPCF. Effluent that is not recycled, such as effluent not meeting Title 22 water recycling requirements or excess tertiary effluent, is conveyed through the Meadowlark land outfall (also referred to as a failsafe line), which connects to the EOO, for direct disposal to the Pacific Ocean. In 2003, VMWRP treated an average of 2.09 MGD and discharged an average of 0.36 MGD of treated wastewater to the EOO. At the time of adoption of this Order, VMWRP is being converted to an activated sludge system for biological treatment and expanded to produce up to 5 MGD tertiary effluent.

The Carlsbad Water Recycling Facility (CWRF) is located at 6220 Avenida Encinas in the City of Carlsbad adjacent to the EWPCF. A portion of secondary effluent flows from EWPCF, which would otherwise be discharged directly to the EOO, will be diverted to CWRF to produce up to 4 million gallons per day of recycled water for reuse in the City of Carlsbad's Carlsbad Municipal Water District service area. This Regional Water Board's Order No. 2001-352 established waste discharge requirements, including CCR Title 22 water recycling requirements, for the reuse of effluent from the CWRF. By letter dated August 16, 2005, the Regional Water Board authorized the discharge of tertiary effluent from the CWRF for water recycling purposes. The treatment unit operations and processes at CWRF consist of continuous backwash granulated media filtration, microfiltration or ultrafiltration (MF/UF), reverse osmosis (RO) membrane filtration, chlorine disinfection, and solids thickening. MF/UF backwash, along with other backwash from other CWRF processes, will be thickened and returned to EWPCF for treatment and disposal. Up to 0.2 million gallons per day of waste brine from the RO process will be discharged directly to the ocean through the EOO. Effluent that is not recycled, such as effluent not meeting Title 22 water recycling requirements or excess tertiary effluent, will also be discharged directly to the Pacific Ocean through the EOO without entering the EWPCF.

At the time of adoption of this Order, screenings and grit removed at the headworks at EWPCF and are collected on-site and trucked to landfills in San Diego County and Yuma County, Arizona. All solids removed from wastewater at EWPCF are treated onsite to meet 40 CFR 503 Pathogen and Vector Attraction Reduction requirements, and dewatered treated sludge is trucked to Yuma County, Arizona where it is land applied at agricultural sites by Ag Tech, LLC (2485 East County 19th Street, Yuma, AZ 85365).

The Leucadia Wastewater District (LWD), a member agency of EWA, independently owns and operates the Gafner Water Reclamation Plant (LGWRP) located at 1960 La Costa Avenue, Leucadia, approximately 3.5 miles southeasterly of the EWPCF. A portion of secondary effluent from EWPCF that would otherwise be discharged to the Pacific Ocean is pumped by LWD's Encina Effluent Pump Station (EEPS) through the Gafner Plant Supply Line (GPSL, formerly the LWD land outfall) to LGWRP for tertiary treatment and subsequent water recycling purposes. This Regional Water Board's Order No. 93-41 established waste discharge requirements for reuse of tertiary effluent from LGWRP. Wastewater treatment unit operations and processes at the LGWRP consist of filtration and chlorine disinfection only. The tertiary treatment design capacity of LGWRP is 1.0 MGD. The LGWRP no longer has a connection from the sewage collection system to allow for the treatment of raw wastewater, and secondary treatment facilities at LGWRP are no longer operational. Solids and other waste stream flows from LGWRP, including effluent not meeting CCR Title 22 water recycling requirements, are discharged back to the sewer system and subsequently conveyed and treated at EWPCF. The LGWRP no longer has a land outfall connection to the EOO, and wastes from LGWRP cannot be directly discharged to the EOO. By correspondence dated March 25, 2004, LWD and EWA notified the Regional Water Board that LWD is exclusively responsible for the operation and maintenance of the EEPS, GPSL and LGWRP as established by a Memorandum of Agreement between LWD and EWA. The Regional Water Board, therefore, acknowledges that the EEPS, GPSL and LGWRP are not facilities subject to the requirements of this Order.

The Buena Sanitation District, a member agency of EWA, independently owns the Shadowridge Water Reclamation Plant (BSWRP) located at 2525 Lupine Hills Road, Vista, approximately 6 miles northeasterly of EWPCF. The BSWRP will not be in operation during the next five years, and Buena Sanitation District, by correspondence dated September 27, 2004 contained in EWA's RoWD/application, has recommended that the BSWRP not be considered a facility subject to the requirements of this Order. However, the BSWRP has been and can continue to be used as a temporary storage facility for raw wastewater to manage flows within the City of Vista's wastewater collection system. Additionally, a land outfall line connecting BSWRP to the EOO remains. Consequently, a potential to discharge wastewater from BSWRP through the EOO exists, and the Regional Water Board maintains that the BSWRP should continue to be subject to the requirements of this Order although it is a non-operating wastewater treatment plant. Specifically, a discharge from the BSWRP through the EOO to the Pacific Ocean, if such discharge occurs, is subject to secondary treatment standards and water quality-based effluent limitations of this Order, and the BSWRP remains subject to all of the standard provisions in Attachment D of this Order.

Table 2a below summarizes the facilities tributary to the EOO and authorized by EWA to maintain a connection with the EOO. These facilities discharge wastes, or have the potential to discharge wastes, to the Pacific Ocean through the EOO, and, as such, are subject to the requirements of Order No. R9-2005-0219.

Table 2a. Facilities tributary to the Encina Ocean Outfall

Agency	Discharging Facility	Nature of Discharge	Current Design Flow Capacity (MGD)	Projected Design Flow Capacity (MGD)
Encina Wastewater Authority	Encina Water Pollution Control Facilty (EWPCF)	Secondary treated effluent	36.0	40.5
Vallecitos Water District	Meadowlark Water Reclamation Plant (VMWRP)	Tertiary treated effluent	2.25	5.0
Carlsbad Municipal Water District	Carlsbad Water Recycling Facility (CWRF)	Tertiary treated effluent, Reverse osmosis brine	4.0	4.0
Buena Sanitation District	Shadowridge Water Reclamation Plant (BSWRP)	Non-operational and non-discharging treatment plant, potential use as wastewater flow equalization facility	0	0

Over the three-year period between 2001 and 2003 the combined flowrate of effluent discharged through the Encina Ocean Outfall from EWPCF, VMWRP, and BSWRP were reported by the Discharger as summarized in Table 2b below:

Table 2b. Historical Flows

Encina Wastewater Authority Discharge to the EOO	2001	2002	2003
Annual Average Daily Flow	24.01	24.4	26.2
Maximum Daily Flow	32.4	28.9	37.5

The Discharger is subject to a dry-weather (May through October) flow limitation of 43.3 MGD calendar-monthly average in this Order for the discharge of effluent from its Facilities through the EOO to the Pacific Ocean. This dry-weather flow limitation is based on EWA's Phase V expansion projected capacity requirements for the treatment and disposal of wastewater generated within the service areas of the EWA member agencies through the year 2025. Currently, actual total wastewater flows generated within the EWA service areas is 29.70 MGD which is approximately 70% of the Phase V expansion projected capacity. The dry-weather flow limitation considers the scenario where all treated wastewater is discharged through the EOO and

none is used for water recycling purposes. This flow limitation also reflects the total treatment design capacities of the EWPCF and VMWRP that would be discharged through the EOO if none of the treated effluent is used for water recycling purposes. Table 3 summarizes the current and projected wastewater flowrates for each EWA member agency as well as the wastewater treatment plant typically receiving and treating the wastewater.

Table No. 3 EWA Member Agency Wastewater Flowrates

EWA Member Agency	Current Flow (MGD)	Phase V Projected Flow (MGD)	Wastewater Treatment Plant
City of Vista	7.52	10.67	EWPCF
City of Carlsbad	7.33	10.26	EWPCF
Buena Sanitation District	1.91	3.00	EWPCF
Vallecitos Water District	7.52	10.47	EWPCF, VMWRP
Leucadia Wastewater District	4.27	7.11	EWPCF
City of Encinitas	1.24	1.8	EWPCF
TOTAL	29.79	43.31	

The Discharger is subject to a wet-weather (November through April) flow limitation of 52.6 MGD calendar monthly average which includes a 9.3 MGD wet-weather flow increment above the dry-weather flow limitation to account for non-excessive inflow and infiltration into the wastewater collection systems of the EWA member agencies. The wet-weather increment is based on the monthly average wastewater flowrates within the service areas of the EWA member agencies during the 12-month period July 2004-June 2005 which was lowest in September 2004 (26.66 MGD, no rain) and highest in January 2005 (36.02 MGD, heavy rainfall). Using, 40 CFR 133.103(d)(3) as guidance, inflow and infiltration within the EWA system is nonexcessive because wet-weather wastewater flowrates do not exceed 275 gallons per capita per day. The dry-weather flow limitation is used in calculations for ocean outfall dilution factors, effluent limitations, and performance goals because any flow contributed from inflow and infiltration are assumed to be free of pollutants and to not negatively impact the treatment processes at EPWCF, VMWRP and CWRF.

B. Discharge Points and Receiving Waters

The Discharger owns and operates the Encina Ocean Outfall (EOO) which begins at the EWPCF site and extends southwesterly from the mouth of Cañon de las Encinas approximately 7,800 ft offshore to a depth of approximately 150 ft. The EOO consists of an original 5,500 ft section of 48-inch reinforced concrete pipe and a 2,300 ft extension of 72-inch diameter reinforced concrete pipe. The final 800 feet of the 72-inch extension is the diffuser, collinear with the rest of the outfall and extending to a depth of approximately 168 ft below MLLW. The diffuser has forty-four 2.5-inch diameter ports, forty-four 2.75-inch diameter ports, forty-eight 3-inch diameter ports, and two 4-inch diameter ports. The terminus of the diffuser is located at Latitude 33° 06' 33.59" North, Longitude 117° 20' 52.77" West. The design capacity of the EOO is 75 MGD (average daily flow), with a maximum rated peak-day capacity of 105 MGD if interim flow

equalization facilities are utilized (EWA Ocean Outfall Disposal Capacity report, February 28, 1996).

The Regional Water Board, with assistance from the State Water Board, determined the minimum initial dilution factor to be 144 for the discharge of up to 43.3 MGD of effluent through the EOO using the US EPA-approved computer modeling package Visual Plumes with the UM3 model. The computer modeling was performed based on characteristics of the EOO, the effluent, and the receiving water, subject to the input limitations of Visual Plumes. The flowrate used in the computer modeling is equivalent to the dry-weather flowrate limitation of 43.3 MGD. Initial dilution factors were determined for each month during the period July 2003 through June 2004 using receiving water characteristics for each month provided by the Discharger; the minimum initial dilution factor was determined using the December 2004 receiving water data. Section IV.C of this Fact Sheet includes additional discussion on initial dilution. Additional details of the initial dilution computer modeling performed are provided in Attachment G and in the Regional Water Board records.

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

Effluent limitations contained in Order No. 2000-036 for discharges from the Discharger's Facilities and representative monitoring data obtained at Monitoring Location M-004 for years 1999 through 2003 are as follows:

Table 4. Historic Effluent Limitations and Monitoring Data

Parameter (units)		Effluent Limitation			Monitoring Data (From 1999 To 2003)	
		Monthly Average (30-day)	Weekly Average (7-day)	Maximum at any time	Mean Discharge	Maximum Discharge
$CBOD_5$	mg/L	25	40	45	7.5	18.2
	lbs/day	7,900	13,000	14,000		
TSS	mg/L	30	45	50	8.6	93
	lbs/day	9,500	14000	16,000		
O&G	mg/L	25	40	75	1.0	3.2
	lbs/day	7,900	13,000	24,000		
Settleable Solids	mL/L	1.0	1.5	3.0	0.07	
Turbidity	NTU	75	100	225	5.74	
pH		6.0 to 9.0			7.42	7.82
Acute toxicity	TUa	1.5	2.0	2.5	0.74	1.44

Order No. 2000-036 also requires that the 30-day average removals of $CBOD_5$ and TSS through the Discharger's Facility be 85 percent or greater; and it establishes concentration and mass based effluent limitations for 77 toxic pollutants, based on water quality objectives presented in the 1997 California Ocean Plan.

The effluent discharged through the EOO has exceeded technology-based total suspended solids (TSS) effluent limitations on four occasions during the period July 2000 through December 2003. Based on TSS sample test results, exceeded the TSS "maximum at anytime" concentration effluent limitation on July 27, 2000 (51.5 mg/L); January 1, 2002 (72.4 mg/L); June 23, 2003 (93.0 mg/L); and December 14, 2003 (57.8 mg/L). The TSS mass emission rate on June 23, 2003 (20,490 lbs/day) also exceeded the mass emission rate effluent limitation. EWA reported that the June 23, 2003 exceedances may have been due to a temporary upset at EWPCF caused by a sudden slug of an unknown origin; however, EWA had not been able to identify the specific cause of the upset. EWA reported that the December 14, 2003 exceedance was due to poor solids settling conditions in the secondary clarifiers which was alleviated by stabilizing the activated sludge process at EWPCF. Since December 2003, the effluent has not exceeded the TSS limitations of Order No. 2000-036.

Order No. 2000-036 established effluent limitations for toxic pollutants based on water quality objectives of the 1997 California Ocean Plan and required monitoring at the following intervals:

Table 5. Toxic Pollutant Monitoring

Toxic Pollutant from Table B of the Ocean Plan (1997)	Monitoring Frequency
Ammonia	Monthly
Chlorine	Daily
Table B pollutants listed with Objectives for the Protection of Marine Aquatic Life from the Ocean Plan (1997) except ammonia, chlorine and chronic toxicity	Quarterly
All other Table B pollutants from the Ocean Plan (1997)	Semi-Annually

Monitoring of toxic pollutants for the period 2000 through 2004 showed the following results:

1. During this 5-year period, effluent limitations for toxic pollutants from Table B of the Ocean Plan were not exceeded.

2. Analytical results reported by the Discharger indicate that the method detection limits used for analyses of several pollutants were, at times, greater than the corresponding effluent limitation and/or the Minimum Level established by the Ocean Plan (2001). Some of these pollutants include antimony, thallium, endrin, endosulfans, acrylonitrile, and aldrin.

D. Compliance Summary

1. As described above, the Discharger has complied with the effluent limitations of Order No. 2000-036 with some exceptions. Non-compliance resulting in monetary penalties are described as follows:

   The Discharger was issued an Administrative Assessment of Civil Liability containing a $6,000 Mandatory Minimum Penalty on December 12, 2003 for two violations of Order No

2000-036: one violation of the TSS "maximum at anytime" concentration effluent limitation in January 2002, and one violation of the TSS "maximum at anytime" concentration effluent limitation in June 2003. These violations were serious violations that required mandatory minimum penalties of $3,000 each pursuant to Water Code Section 13385(h). The violations of the TSS "maximum at anytime" concentration effluent limitation in July 2000 and December 2003 were chronic violations that did not result in Mandatory Minimum Penalty because there were no other violations during the six-month period following each violation.

2. On February 20, 2001, 3,000 gallons of digested sludge spilled from EWPCF to adjacent Encinas Creek Flood Channel in Carlsbad, tributary to the Pacific Ocean. EWA reported that the spill occurred when one sludge digester drained into a second digester causing the second digester to overfill. An automated pump in the second digester which would have prevented the digester from overfilling also failed. Ocean recreational waters adjacent to South Carlsbad State Beach were closed for two days to prevent public contact with waters that were impacted by the spill. EWA reported that it implemented an early detection alarm system to prevent future spills.

E. Planned Changes

1. The Discharger reported that its Phase V expansion at EWPCF will commence in 2005 with completion expected by the end of 2006. The expansion will include minor upgrades and modifications to preliminary treatment facilities; minor upgrades to secondary treatment, odor control, and effluent pumping facilities; replacement and upgrades to existing digester gas cogeneration generators and blowers; and construction of new biosolids handling facilities. The Phase V expansion will increase the secondary treatment design capacity of EWPCF to 40.5 MGD from 36 MGD and increase solids treatment design capacity to handle waste solids from 43.3 MGD of wastewater compared to the previous 38 MGD.

2. The Vallecitos Water District has begun expansion of the VMWRP which will increase its design capacity for secondary and tertiary treatment to 5 MGD from 2.25 MGD. The expansion will include replacement of the existing rotating biological contactors for biological treatment with roughing filters and an activated sludge treatment process. The expansion will also include upgrades to the preliminary treatment, tertiary treatment and chlorination facilities. Completion is expected in mid-2007.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

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 (CWC). It shall serve as a NPDES permit for point source discharges from the EOO Facilities to the Pacific Ocean at Outfall 001. This

Order also contains discharge prohibitions, effluent limitations, discharge specifications, provisions, and other requirements pursuant to the CWC.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the Pacific Ocean are as follows:

Table 6. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 001	Pacific Ocean	Industrial Service Supply (IND); Navigation (NAV); Contact Water Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Preservation of Biological Habitats of Special Significance (BIOL); Wildlife Habitat (WILD); Rare, Threatened, or Endangered Species (RARE); Marine Habitat (MAR); Aquaculture (AQUA); Migration of Aquatic Organisms (MIRG); Spawning, Reproduction, and/or Early Development (SPWN); Shellfish Harvesting (SHELL)

The Basin Plan relies primarily on the requirements of the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) for protection of the beneficial uses of the State ocean waters. The Basin Plan, however, may contain additional water quality objectives applicable to the Discharger.

On November 16, 2000 the State Water Board adopted a revised Ocean Plan. The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized below:

Table 7. Ocean Plan Beneficial Uses of the Pacific Ocean.

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 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 these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

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. The Thermal plan contains temperature objectives for coastal waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

2. **Antidegradation Policy.** 40 CFR 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, which incorporates the requirements of the federal antidegradation policy. Resolution No. 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

3. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and 40 CFR 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. Some effluent limitations in this Order are less stringent than those in the previous Order or have been removed, consistent with the anti-backsliding requirements of the CWA and federal regulations. Technology-based acute toxicity effluent limitations have been replaced with water quality-based acute toxicity effluent limitations consistent with Sections 402(o) and 303(d)(4) of the CWA and 40 CFR 122.44(l). Effluent limitations for silver have been relaxed based on the modification of water quality objectives for silver in the Ocean Plan and is consistent with Section 303(d)(4) of the CWA. Effluent limitations for several constituents listed under Table B of the Ocean Plan have been removed as a result of new information stemming from

a reasonable potential analysis and is consistent with Section 402(o) of the CWA and 40 CFR 122.44(l). Technology-based mass emission rate effluent limitations have been increased as a result of greater flowrates stemming from material and substantial alterations or additions to the permitted facilities and are consistent with Section 402(o) of the CWA and 40 CFR 122.44(l).

4. **Monitoring and Reporting Requirements.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for Clean Water Act (CWA) purposes (40 CFR 131.21, 65 FR 24641, April 27, 2000). Under USEPA's new regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **No More Stringent Than Federal Law.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal Clean Water Act. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), and hydrogen ion concentration (pH). Restrictions on CBOD5, TSS, and pH are specified in federal regulations as discussed in Finding F, and the Order's technology-based pollutant restrictions are no more stringent than required by the Clean Water Act. Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the Ocean Plan (2001), the Ocean Plan is the applicable standard pursuant to CWA Section 303(c)(1). The scientific procedures for calculating the individual water quality-based effluent limitations are based on the Program of Implementation contained in the California Ocean Plan, which was adopted by the State Water Resources Control Board on November 16, 2000 and approved by USEPA on December 3, 2001. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically temperature) were adopted in 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 on September 18, 1975 and are applicable water quality standards pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the Clean Water Act and the applicable water quality standards for purposes of the Clean Water Act.

D. Impaired Water Bodies on CWA 303(d) List

On June 5 and July 25, 2003, the USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to Section 303(d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list includes the following water bodies within the proximity of the EOO as impaired for bacteria indicators:

1. 6.8 acres of Agua Hedionda Lagoon
2. 1.2 miles of Pacific Ocean shoreline at the Buena Vista Creek mouth.

Impairment has been detected at the water bodies indicated above; however, the receiving waters in the immediate vicinity of the EOO discharge point (Outfall 001) are not included on the current 303(d) list.

E. Other Plans, Polices and Regulations

1. **Secondary Treatment Regulations.** 40 CFR 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into Order No. R9-2005-0219, except where more stringent limitations are required by other applicable plans, policies, or regulations.

2. **Storm Water.** Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activity, Excluding Construction Activities. The Discharger shall file a Notice of Intent within 60 days of adoption of this Order (unless already submitted under the previous Order) and comply with Order No. 97-03-DWQ or the Discharger shall provide certification to the Regional Water Board that all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the facility.

3. **Pretreatment.** Discharges of pollutants that may interfere with operations of a POTW are regulated by USEPA's pretreatment regulations at 40 CFR 403. These regulations require Dischargers to develop and implement pretreatment programs that impose limitations on industrial users of the POTW.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges 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: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality objective to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality: 1) 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative objective supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A. Discharge Prohibitions

Prohibition A.1 of Order No. 2000-036 has been modified to clearly define what types of discharges are prohibited by this Order. The modified prohibition is contained in Section III.A of this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

USEPA regulations at 40 CFR Part 122.44(a)(1) require permits to include technology-based effluent limitations and standards based on limitations and standards promulgated by the USEPA authorized under Section 301 of the CWA. USEPA promulgated technology-based effluent limitations and standards for POTWs as secondary treatment regulations at 40 CFR Part 133.

2. Applicable Technology-Based Effluent Limitations

Pursuant to Sections 301 (b) (1) (B) and 304 (d) (1) of the CWA, USEPA has established standards of performance for secondary treatment at 40 CFR Part 133. Secondary treatment is defined in terms of three parameters – 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH. The following table summarizes the technology-based requirements for secondary treatment, which are applicable to EWPCF and VMWRP:

Table 8. Summary of Technology-Based Effluent Limitations for Secondary Treatment Facilities Established by USEPA at 40 CFR 133.102

Constituent	Monthly Avg	Weekly Avg	Percent Removal
BOD_5	30 mg/L	45 mg/L	85
$CBOD_5$	25 mg/L	40 mg/L	85

Constituent	Monthly Avg	Weekly Avg	Percent Removal
TSS	30 mg/L	45 mg/L	85
pH	6.0 to 9.0		

The parameters BOD_5, TSS, and pH must be included in NPDES permits for POTWs; however, the parameter $CBOD_5$ (5-day carbonaceous biochemical oxygen demand) may be substituted for BOD_5 at the option of the permitting authority. Following a request by the Discharger, limitations for $CBOD_5$ were incorporated in a previous EWA permit, Order No. 90-02, in lieu of BOD_5 limitations, and $CBOD_5$ limitations are retained in this Order. Mass emission rate effluent limitations for $CBOD_5$ and TSS were calculated using the EWA's Phase V projected dry-weather flow capacity of 43.31 MGD for all wastewater generated within the service areas of the EWA member agencies. Mass emission rate effluent limitations apply year-round. Compliance with the $CBOD_5$ and TSS mass emission rate effluent limitations will be determined by adding the mass emission rates from EWPCF and VMWRP based on the flowrate and concentrations measured at each treatment plant.

Table A of the Ocean Plan (2001) also establishes the following technology-based effluent limitations for publicly owned treatment works:

Table 9. Summary of Technology-Based Effluent Limitations for POTWs Established by the Ocean Plan (2001)

Constituent	Monthly Avg	Weekly Avg	Instantaneous Max	Percent Removal
O&G	25 mg/L	40 mg/L	75 mg/L	
TSS				75 *
Settleable Solids	1.0 mL/L	1.5 mL/L	3.0 mL/L	
Turbidity	75	100	225	
pH	6.0 to 9.0			

* Dischargers shall, as a monthly average, remove 75% of TSS from the influent stream before discharging to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L

The TSS percent removal requirement and standards under 40 CFR 133 are more stringent than the Ocean Plan requirement; the more stringent TSS requirements are included in Order No. R9-2005-0219.

All technology-based effluent limitations from Order No. 2000-036 for $CBOD_5$, total suspended solids, settleable solids, oil and grease, turbidity, and pH are retained by Order No. R9-2005-0219 with four exceptions. Order No. R9-2005-0219 does not retain the maximum at anytime concentration and mass emission rate limitations for $CBOD_5$ and total suspended solids contained in Order No. 2000-036 and previous permits for the Discharger which were established using best professional judgment. Recent attempts to derive maximum at anytime limitations based on the secondary treatment standards at 40 CFR 133 using appropriate statistical approaches did not yield similar results as the previous maximum at anytime limitations; therefore, based on this new information, retaining the previous maximum at anytime limitations in Order No. R9-2005-0219 is not supported.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

   USEPA regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels, which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The establishment of WQBELs in this Order, based on water quality objectives contained in the 2001 Ocean Plan is in accordance with the USEPA regulations.

2. Applicable Beneficial Uses and Water Quality Objectives

   a. Basin Plan

      For all ocean waters of the State, the Basin Plan and its subsequent revisions establish the beneficial uses described previously in this Fact Sheet. The Basin Plan includes the following water quality objectives for dissolved oxygen and pH in ocean waters, which have been incorporated into Order R9-2005-0219:

      1) Dissolved Oxygen. The dissolved oxygen concentration in ocean waters 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 materials.

      2) pH. The pH of receiving waters shall not be changed at any time more than 0.2 pH units from that which occurs naturally

   b. Ocean Plan

      Order No. R9-2005-0219 has been written using the guidance of the Ocean Plan, which was most recently updated in 2001, during the term of Order No. 2000-036.

      For all ocean waters of the State, the Ocean Plan (2001) establishes the beneficial uses described previously in this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. A water quality objective for acute toxicity was added to the 2001 California Ocean Plan while the acute toxicity technology-based effluent limitation contained in the 1997 California Ocean Plan was eliminated. Water quality objectives from the 1997 California Ocean Plan were included as receiving water limitations in Order No. 2000-036 and water quality objectives from the 2001 California Ocean Plan are similarly included as receiving water limitations in Order No. R9-2005-0219.

      Table B of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

1) 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.

2) 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.

3) 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.

4) Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

Order No. 2000-036 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the Ocean Plan. For Order No. R9-2005-0219, the need for effluent limitations based on water quality objectives in Table B of the Ocean plan was re-evaluated in accordance with 40 CFR 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the California Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited number of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution), can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the reasonable potential analysis can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause is included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analysis, Regional Water Board has determined that the constituents listed under Table 15, when discharged through Outfall 001, do not have reasonable potential to exceed Ocean Plan objectives (i.e., Endpoint 2), and, therefore, do not require effluent limitations. Since these constituents have been determined to have no reasonable potential to cause, or contribute to, or deviate from water quality objectives, numerical effluent limitations are not prescribed. Instead, a narrative limit statement to comply with all Ocean Plan objectives requirements is provided. This Order includes desirable maximum effluent concentrations for constituents that do not have reasonable potential which were derived

using the effluent limitation determination procedure described above and are referred to in this Order as "performance goals". The Discharger is required to monitor for these constituents as stated in the MRP (Attachment E) to gather data for use in reasonable potential analyses for future permit renewals and/or updates.

Only pollutants listed under Table B of the Ocean Plan were part of the reasonable potential analysis; technology-based effluent limitations are included in this Order as described in Section B.2 above. Effluent limitations from Order No. 2000-036 are not retained for constituents for which RPA results indicated Endpoint 3; performance goals have instead also been assigned for these constituents. The MRP for this Order is designed to obtain additional information for these constituents to determine if reasonable potential exists for these constituents in future permit renewals and/or updates.

Effluent data provided in the Discharger's monitoring reports from January 1999 to December 2003 or December 2004 were used in the analyses. A minimum probable initial dilution of 144:1 was considered in this evaluation.

4. WQBEL and Performance Goals Calculations

From the Table B water quality objectives of the Ocean Plan, effluent limitations or performance goals are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

$Ce = Co + Dm (Co – Cs)$ where,

Ce = the effluent limitation or performance goal (µg/L)

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

Cs = background seawater concentration

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

The performance goal for acute toxicity is calculated according to the following equation:

$Ce = Co + (0.1) Dm (Co – Cs)$

where all variables are as indicated above. This equation applies only when $Dm > 24$.

The Dm is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure.

Prior to issuance of Order No. 2000-036, the State Water Board had determined the minimum initial dilution factor, Dm, for the EOO to be 200 to 1. This determination was based on modeling half of the EOO diffuser (i.e., half of the total 138 diffuser ports on one side of the diffuser being open and a half of the authorized flowrate of 38 MGD). As discussed elsewhere in this Fact Sheet, the initial dilution factor, Dm, was recalculated for this current permit renewal in order to account for the increased wastwater treatment and disposal needs of the member agencies of EWA as well expansion of the EWPCF and

VMWRP. The new recalculated Dm was determined as 144 using the US-EPA approved computer modeling application Visual Plumes with the UM3 model and modeling all the ports of the EOO diffuser and the total flowrate of 43.3 MGD authorized in this Order for discharge through the EOO. Additional information on the recalculation of Dm is provided in Attachment G.

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. 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 10. Pollutants Having Background Concentrations

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

As examples, performance goals for copper, chronic toxicity, chloroform and total chlorine residual are determined as follows:

Water quality objectives from the Ocean Plan are:

Table 11. Copper, Chronic Toxicity, Chloroform, and Chlorine Ocean Plan Objectives

Pollutant	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Avg
Copper	3 µg/L	12 µg/L	30 µg/L	-
Chronic Toxicity	-	1 TUc	-	-
Chloroform	-	-	-	130 µg/L
Total Chlorine Residual	2 µg/L	8 µg/L	60 µg/L	-

Using the equation, Ce = Co + Dm (Co – Cs), performance goals are calculated as follows before rounding to two significant digits.

<u>Copper</u>

Ce = 3 + 144 (3 – 2) = 147 µg/L (6-Month Median)
Ce = 12 + 144 (12 – 2) = 1452 µg/L (Daily Maximum)
Ce = 30 + 144 (30 – 2) = 4,062 µg/L (Instantaneous Maximum)

Chronic Toxicity

Ce = 1 + 144 (1 - 0) = 145 TUc (Daily Maximum)

Chloroform

Ce = 130 + 144 (130 – 0) = 18,850 µg/L (30-Day Average)

Total Residual Chlorine

Ce = 2 + 144 (2 – 0) = 290 µg/L (6-Month Median)
Ce = 8 + 144 (8 – 0) = 1,160 µg/L (Daily Maximum)
Ce = 60 + 144 (60 – 0) = 8,700 µg/L (Instantaneous Maximum)

Based on the implementing procedures described above, effluent limitations or performance goals have been calculated for all Table B pollutants from the Ocean Plan and incorporated into Order R9-2005-0219.

Because of the Reasonable Potential Analysis (RPA), most WQBELs established by Order No. 2000-036 are not retained in Order R9-2005-0219, but corresponding performance goals have been included. The WQBEL that are retained and performance goals that are included reflect the revised dilution factor. Differences between the WQBELs or performance goals as they are implemented by the current Ocean Plan and how they are expressed in Order No. 2000-036 and/or Order No. R9-2005-0219 are described below:

a. The Ocean Plan (1997) did not include water quality objectives for four toxic pollutants, which are included in the Ocean Plan (2001) – chlorodibromomethane, dichlorobromomethane, N-nitrosodi-N-propylamine, and heptachlor epoxide; and therefore, effluent limitations for these pollutants were not established by Order No. 2000-036. Based on methods of the Ocean Plan (2001) and a design discharger flowrate of 43.3 MGD, the following performance goals are included in Order No. R9-2005-0219.

Table 12. New Toxic Pollutants and Corresponding Limitations

Pollutant	Units	Monthly Average
Chlorodibromomethane	µg/L	1.2 E+03
	lbs/day	4.5 E+02
Dichlorobromomethane	µg/L	9.0 E+02
	lbs/day	3.2 E+02
N-nitrosodi-N-propylamine	µg/L	5.5 E+01
	lbs/day	2.0 E+01
Heptachlor epoxide	µg/L	2.9 E-03
	lbs/day	1.0 E-03

b. For eight toxic pollutants, water quality objectives are more stringent in the Ocean Plan (2001) than in the Ocean Plan (1997). The following table contains effluent limitations for seven of these pollutants and performance goals for isophorone, which are based on

methods and water quality objectives of the Ocean Plan (2001) and a design discharge flowrate of 43.3 MGD. These effluent limitations and performance goals are included in Order No. R9-2005-0219.

Table 13. Toxic Pollutant Performance Goals Based on the 2001 Ocean Plan

Pollutant	Units	Performance Goal Monthly Average
1,1-dichloroethylene	µg/L	1.3 E+02
	lbs/day	4.7 E+01
Isophorone	µg/L	1.1 E+05
	lbs/day	3.8 E+04
Tetrachloroethylene	µg/L	2.9 E+02
	lbs/day	1.0 E+02
Thallium	µg/L	2.9 E+02
	lbs/day	1.0 E+02
1,1,2,2-tetrachloroethane	µg/L	3.3 E+02
	lbs/day	1.2 E+02
1,1,2-trichloroethane	µg/L	1.4 E+03
	lbs/day	4.9 E+02
1,2-dichloroethane	µg/L	4.1 E+03
	lbs/day	1.5 E+03
Heptachlor	µg/L	7.3 E-03
	lbs/day	2.6 E-03

5. Whole Effluent Toxicity (WET)

Implementing provisions at Section III. C of the Ocean Plan (2001) require that Dischargers shall conduct chronic toxicity testing for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1, and provide that Regional Water Boards may require that acute toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters.

An effluent limitation for chronic toxicity is retained in this Order although RPA for chronic toxicity indicated Endpoint 2. The effluent limitation is retained because effluent limitations for all other Ocean Plan Table B toxic pollutants indicated an RPA result of Endpoint 2 or 3, and effluent limitations for these pollutants were not retained. The chronic toxicity effluent limitation is retained based on best engineering judgment to protect water quality from toxicity of effluents that may contain several constituents whose toxic effects are additive, synergistic, or antagonistic although each constituent may not be present in amounts that would be toxic by itself. Based on methods of the 2001 Ocean Plan, a maximum daily effluent limitation of 145 TUc for chronic toxicity is required.

The technology-based acute toxicty effluent limitation of Order No. 200-036, required under the 1997 Ocean Plan, is not retained in Order No. R9-2005-0219. The 2001 Ocean Plan eliminated the technology-based acute toxicty effluent limitation of the 1997 Ocean Plan and

instead includes an acute toxicity water quality objective. Only a performance goal for acute toxicity is included in this Order based on a reasonable potential analysis result of Endpoint 2 based on the acute toxicity water quality objective.

Toxicity Reduction Evaluation (TRE) is a site-specific study conducted in a stepwise process designed to identify the causative agent(s) of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

D. Final Effluent Limitations

The following tables lists the effluent limitations established by Order No. R9-2005-0219. Where Order No. R9-2005-0219 establishes mass emission limitations, these limitations have been calculated using the EWA's Phase V projected dry-weather flow capacity of 43.3 MGD for all wastewater generated within the service areas of the EWA member agencies. Effluent limitations listed under Table 14a apply to EWPC, VMWRP, and BSWRP as monitored at monitoring stations M-001, M-002 and M-003. Effluent limitations listed under Table 14b apply to the combined discharge through the EOO as monitored at monitoring station M-004. These effluent limitations apply year-round.

Table 14a. Effluent Limitations based on Secondary Treatment

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
CBOD 5-day 20°C *	mg/l		25	40			
	lbs/day		9.0 E+03	14.4 E+03			
	%	The average monthly percent removal shall not be less than 85 percent.					
Total Suspended Solids *	mg/l		30	45			
	lbs/day		10.8 E+03	16.3 E+03			
	%	The average monthly percent removal shall not be less than 85 percent.					
pH	pH units				6.0	9.0	

* The $CBOD_5$ and TSS mass emission rate effluent limitations apply to the sum of individual mass emission rates from EWPCF, VMWRP and BSWRP based on the flowrate and concentrations measured at each treatment plant.

Table 14b. Effluent Limitations based on California Ocean Plan 2001

Constituent	RPA End point	Units	Effluent Limitations					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Oil and Grease	N/A	mg/l		25	40		75	
		lbs/day		9.0 E+03	14.4 E+03		2.7 E+04	
Settleable Solids	N/A	ml/l		1.0	1.5		3.0	
Turbidity	N/A	NTU		75	100		225	
Chronic Toxicity	2	TUc	145					

E. Performance Goals

Constituents that do not have reasonable potential are listed as performance goals in this Order. The following tables lists the performance goals established by Order No. R9-2005-0219. These constituents shall also be monitored at M-004, but the results will be used for informational purposes only, not compliance determination. Where Order No. R9-2005-0219 includes mass emission performance goals, these performance goals have been calculated using the EWA's Phase V projected dry-weather flow capacity of 43.3 MGD for all wastewater generated within the service areas of the EWA member agencies. These performance goals apply year-round.

Table 15. Performance Goals based on California Ocean Plan 2001

Constituent	RPA End point	Units	Perfomance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Arsenic	2	ug/l	4.2 E+03				1.1 E+04	7.3 E+02
		lbs/day	1.5 E+03				4.0 E+03	2.6 E+02
Cadmium	2	ug/l	5.8 E+02				1.5 E+03	1.5 E+02
		lbs/day	2.1 E+02				5.2 E+02	5.2 E+01
Chromium VI	2	ug/l	1.2 E+03				2.9 E+03	2.9 E+02
		lbs/day	4.2 E+02				1.0 E+03	1.0 E+02
Copper	2	ug/l	1.5 E+03				4.1 E+03	1.5 E+02
		lbs/day	5.2 E+02				1.5 E+03	5.3 E+01
Lead	2	ug/l	1.2 E+03				2.9 E+03	2.9 E+02
		lbs/day	4.2 E+02				1.0 E+03	1.0 E+02
Mercury	2	ug/l	2.3 E+01				5.7 E+00	5.7 E+00
		lbs/day	8.4 E+00				2.1 E+00	2.1 E+00
Nickel	2	ug/l	2.9 E+03				7.3 E+03	7.3 E+02
		lbs/day	1.0 E+03				2.6 E+03	2.6 E+02
Selenium	2	ug/l	8.7 E+03				2.2 E+04	2.2 E+03
		lbs/day	3.1 E+03				7.9 E+03	7.9 E+02
Silver	2	ug/l	3.8 E+02				9.9 E+02	7.8 E+01
		lbs/day	1.4 E+02				3.6 E+02	2.8 E+01
Zinc	2	ug/l	1.0 E+04				2.8 E+04	1.7 E+03
		lbs/day	3.8 E+03				1.0 E+04	6.3 E+02
Cyanide	2	ug/l	5.8 E+02				1.5 E+03	1.5 E+02
		lbs/day	2.1 E+02				5.2 E+02	5.2 E+01
Total Chlorine Residual	2	ug/l	1.2 E+03				8.7 E+03	2.9 E+02
		lbs/day	4.2 E+02				3.1 E+03	1.0 E+02
Ammonia (expressed as nitrogen)	2	ug/l	3.5 E+05				8.7 E+05	8.7 E+04
		lbs/day	1.3 E+05				3.1 E+05	3.1 E+04

Constituent	RPA End point	Units	Perfomance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Acute Toxicity	2	TUa	4.62					
Phenolic Compounds (non-chlorinated)	2	ug/l	1.7 E+04				4.4 E+04	4.4 E+03
		lbs/day	6.3 E+03				1.6 E+04	1.6 E+03
Chlorinated Phenolics	2	ug/l	5.8 E+02				1.5 E+03	1.5 E+02
		lbs/day	2.1 E+02				5.2 E+02	5.2 E+01
Endosulfan	2	ug/l	2.6 E+00				3.9 E+00	1.3 E+00
		lbs/day	9.4 E-01				1.4 E+00	4.7 E-01
Endrin	2	ug/l	5.8 E-01				8.7 E-01	2.9 E-01
		lbs/day	2.1 E-01				3.1 E-01	1.0 E-01
HCH	2	ug/l	1.2 E+00				1.7 E+00	5.8 E-01
		lbs/day	4.2 E-01				6.3 E-01	2.1 E-01
Radioactivity	2	- - -	Not to exceed limits specified in Title 17 California Code of Regulations Section 30253, Standards for Protection Against Radiation					
Acrolein	3	ug/l		3.2 E+04				
		lbs/day		1.2 E+04				
Antimony	2	ug/l		1.7 E+05				
		lbs/day		6.3 E+04				
Bis (2-chloroethoxy) Methane	3	ug/l		6.4 E+02				
		lbs/day		2.3 E+02				
Bis (2-chloroisopropyl) ether	3	ug/l		1.7 E+05				
		lbs/day		6.3 E+04				
Chlorobenzene	3	ug/l		8.3 E+04				
		lbs/day		3.0 E+04				
Chromium (III)	2	ug/l		2.8 E+07				
		lbs/day		9.9 E+06				
Di-n-butyl Phthalate	3	ug/l		5.1 E+05				
		lbs/day		1.8 E+05				
Dichlorobenzenes	3	ug/l		7.4 E+05				
		lbs/day		2.7 E+05				
Diethyl Phthalate	3	ug/l		4.8 E+06				
		lbs/day		1.7 E+06				
Dimethyl Phthalate	3	ug/l		1.2 E+08				
		lbs/day		4.3 E+07				
4,6-dinitro-2-methylphenol	3	ug/l		3.2 E+04				
		lbs/day		1.2 E+04				
2,4-dinitrophenol	3	ug/l		5.8 E+02				
		lbs/day		2.1 E+02				

Constituent	RPA End point	Units	Perfomance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Ethylbenzene	3	ug/l		5.9 E+05				
		lbs/day		2.1 E+05				
Fluoranthene	3	ug/l		2.2 E+03				
		lbs/day		7.9 E+02				
Hexachlorocyclope ntadiene	3	ug/l		8.4 E+03				
		lbs/day		3.0 E+03				
Nitrobenzene	3	ug/l		7.1 E+02				
		lbs/day		2.6 E+02				
Thallium	2	ug/l		2.9 E+02				
		lbs/day		1.0 E+02				
Toluene	3	ug/l		1.2 E+07				
		lbs/day		4.5 E+06				
Tributyltin	3	ug/l		2.0 E-01				
		lbs/day		7.3 E-02				
1,1,1-trichloro ethane	3	ug/l		7.8 E+07				
		lbs/day		2.8 E+07				
Acrylonitrile	3	ug/l		1.5 E+01				
		lbs/day		5.2 E+00				
Aldrin	3	ug/l		3.2 E-03				
		lbs/day		1.2 E-03				
Benzene	3	ug/l		8.6 E+02				
		lbs/day		3.1 E+02				
Benzidine	3	ug/l		1.0 E-02				
		lbs/day		3.6 E-03				
Beryllium	2	ug/l		4.8 E+00				
		lbs/day		1.7 E+00				
Bis (2-chloroethyl) Ether	3	ug/l		6.5 E+00				
		lbs/day		2.4 E+00				
Bis (2-ethlyhexyl) Phthalate	3	ug/l		5.1 E+02				
		lbs/day		1.8 E+02				
Carbon Tetrachloride	3	ug/l		1.3 E+02				
		lbs/day		4.7 E+01				
Chlordane	3	ug/l		3.3 E-03				
		lbs/day		1.2 E-03				
Chlorodibromo-methane	3	ug/l		1.2 E+03				
		lbs/day		4.5 E+02				
Chloroform	2	ug/l		1.9 E+04				
		lbs/day		6.8 E+03				
DDT	3	ug/l		2.5 E-02				
		lbs/day		8.9 E-03				

Constituent	RPA End point	Units	Perfomance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
1,4-dichloro-benzene	3	ug/l		2.6 E+03				
		lbs/day		9.4 E+02				
3,3'-dichloro-benzidine	3	ug/l		1.2 E+00				
		lbs/day		4.2 E-01				
1,2-dichloroethane	3	ug/l		4.1 E+03				
		lbs/day		1.5 E+03				
1,1-dichloro-ethylene	3	ug/l		1.3 E+02				
		lbs/day		4.7 E+01				
Dichlorobromo-methane	3	ug/l		9.0 E+02				
		lbs/day		3.2 E+02				
Dichloromethane	3	ug/l		6.5 E+04				
		lbs/day		2.4 E+04				
1,3-dichloro-propene	3	ug/l		1.3 E+03				
		lbs/day		4.7 E+02				
Dieldrin	3	ug/l		5.8 E-03				
		lbs/day		2.1 E-03				
2,4-dinitrotoluene	3	ug/l		3.8 E+02				
		lbs/day		1.4 E+02				
1,2-diphenyl-hydrazine	3	ug/l		2.3 E+01				
		lbs/day		8.4 E+00				
Halomethanes	3	ug/l		1.9 E+04				
		lbs/day		6.8 E+03				
Heptachlor	3	ug/l		7.3 E-03				
		lbs/day		2.6 E-03				
Heptachlor Epoxide	3	ug/l		2.9 E-03				
		lbs/day		1.0 E-03				
Hexachloro-benzene	3	ug/l		3.0 E-02				
		lbs/day		1.1 E-02				
Hexachloro-butadiene	3	ug/l		2.0 E+03				
		lbs/day		7.3 E+02				
Hexachloroethane	3	ug/l		3.6 E+02				
		lbs/day		1.3 E+02				
Isophorone	3	ug/l		1.1 E+05				
		lbs/day		3.8 E+04				
N-nitrosodimethyl-amine	3	ug/l		1.1 E+03				
		lbs/day		3.8 E+02				
N-nitrosodi-N-propylamine	3	ug/l		5.5 E+01				
		lbs/day		2.0 E+01				
N-nitrosodiphenyl-amine	3	ug/l		3.6 E+02				
		lbs/day		1.3 E+02				

Constituent	RPA End point	Units	Perfomance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
PAHs	3	ug/l		1.3 E+00				
		lbs/day		4.6 E-01				
PCBs	3	ug/l		2.8 E-03				
		lbs/day		9.9 E-04				
TCDD equivalents	3	ug/l		5.7 E-07				
		lbs/day		2.0 E-07				
1,1,2,2-tetrachloro-ethane	3	ug/l		3.3 E+02				
		lbs/day		1.2 E+02				
Tetrachloro-ethylene	3	ug/l		2.9 E+02				
		lbs/day		1.0 E+02				
Toxaphene	3	ug/l		3.0 E-02				
		lbs/day		1.1 E-02				
Trichloroethylene	3	ug/l		3.9 E+03				
		lbs/day		1.4 E+03				
1,1,2-trichloro-ethane	3	ug/l		1.4 E+03				
		lbs/day		4.9 E+02				
2,4,6-trichloro-phenol	3	ug/l		4.2 E+01				
		lbs/day		1.5 E+01				
Vinyl Chloride	3	ug/l		5.2 E+03				
		lbs/day		1.9 E+03				

Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the Regional Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the Regional Board may coordinate such actions with the next permit renewal.

F. Antidegradation

Waste Discharge Requirements for the Encina Wastewater Authority's discharge through the Encina Ocean Outfall must conform with federal and state antidegradation policies provided at 40 CFR 131.12 and in State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be

maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the Regional Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

1. Technology-based Effluent Limitations
   The technology-based standards for POTW performance are promulgated at 40 CFR 133 expressed as 30-day averages, 7-day averages, and percent removal for BOD, CBOD and TSS. In previous NPDES permits for the Encina Wastewater Authority, including Order No. 2000-036, these standards were incorporated as "Monthly Average (30-day)" and "Weekly Average (7-day)" effluent limitations for CBOD and TSS which were enforced by the Regional Water Board as running averages. To comply with 40 CFR 122.45, which requires that effluent limitations be expressed as average weekly and average monthly limitations for POTWs, the CBOD and TSS standards have been revised in this current permit as Average Monthly Effluent Limitations (AMEL) and Average Weekly Effluent Limitations (AWEL) that are numerically equal to the previous effluent limitations. As explained in the Compliance Determination section of this Order, compliance with the AMEL and AWEL will be determined by considering the average of sampling results within a calendar month or calendar week, respectively, rather than as running averages. As also further explained in the Compliance Determination section of this Order, a violation of the AMEL or the AWEL would result in a violation for each day of the calendar month or calendar week, respectively. Consequently, the AMEL and AWEL are expected to provide a similar level of incentive for POTWs to operate treatment facilities to be in compliance at all times as the previous "Monthly Average (30-day)" and "Weekly Average (7-day)" running average effluent limitations. The conversion of the CBOD and TSS effluent limitations to AMEL and AWEL are not expected to cause a change in the physical nature of the effluent discharged and are not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the CBOD and TSS AMELs and AWELs.

   The mass emission rate (MER) technology-based effluent limitations in this Order for $CBOD_5$, TSS and Oil and Grease, recalculated using the new higher permitted flowrate for the Discharger's Facilities, have been relaxed and are approximately 14% higher, respectively, than the MER effluent limitations in Order No. 2000-036. The greater MER for these constituents are expected to result in a slight lowering of existing water quality for these constituents by an increment not greater than approximately 35% of the water quality in the receiving water that would have been established under the MER of Order No. 2000-036. See example calculations considering Oil and Grease below:

   - Previous weekly average MER effluent limitation = 13,000 mg/L
     Previous minimum dilution factor (Dm) = 200:1
     Previous maximum authorized flowrate = 38 MGD
     Current weekly average MER effluent limitation = 14,000 mg/L

Current Dm = 144:1
Current maximum authorized flowrate = 43.3 MGD

- Calculated receiving water concentration under previous MER =
  (MER) / [(effluent flowrate) + (diluting ocean water "flowrate")] =
  (13,000 mg/L) / [(38 MGD + 7,600 MGD)(8.34)] = 0.20 mg/L

  where ocean water "flowrate" = (effluent flowrate) x (Dm) = 7,600 MGD

- Calculated receiving water concentration under current MER =
  (MER) / [(effluent flowrate) + (diluting ocean water "flowrate")] =
  (14,400 mg/L) / [(43.3 MGD + 6,235 MGD)(8.34)] = 0.275 mg/L

  where ocean water "flowrate" = (effluent flowrate) x (Dm) = 6,235 MGD

- Increment change in Oil and Grease receiving water concentration =
  Current concentration – previous concentration = 0.275 mg/L – 0.204 mg/L = 0.071 mg/L

- Increment water quality change as a percentage of the previous water quality =
  0.071 mg/L / 0.204 mg/L x 100% = 34.8 %

The example calculations illustrate that if the actual existing Oil and Grease concentration in the receiving water is 0.204 mg/L, then the water quality will be degraded by 0.071 mg/L, or 34.8%. This lowering of water quality is not expected to be significant and is not expected to cause adverse effects to the overall receiving water. Furthermore, the example calculations assume that the effluent will contain Oil and Grease at the concentration of the effluent limitation, whereas historical effluent data for the discharge through the EOO indicate that the concentrations of CBOD5, TSS and Oil and Grease in the effluent discharged are typically much lower. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to further consider the possible impacts resulting from the recalculation of relaxation of MER effluent limitations resulting from the increased flowrate limitation.

2. Water Quality-based Effluent Limitations
   The water quality-based effluent limitations contained in this Order have been modified from previous NPDES permits for the Encina Wastewater Authority, including Order No. 2000-036, due to a recalculation of the ocean outfall initial dilution factor, an increase in permitted flow rates, and removal of effluent limitations after a reasonable potential analysis. In accordance with the State Water Board's Administrative Procedures Update, the Regional Board assessed the potential impact of the modified effluent limitations on existing water quality and the need for an antidegradation analysis as follows:

   a. Recalculation of Ocean Outfall Initial Dilution Factor and Flowrate Increase
      As discussed elsewhere in this Fact Sheet, the initial dilution factor, Dm, was recalculated for this current permit renewal to account for the expansion of the EWPCF and VMWRP. The new recalculated Dm of 144, which is based on an EOO total permitted flow rate of

43.3 MGD, is a decrease from the previous permit's Dm of 200 which was based on the permitted total flowrate in 2000 through the EOO of 38 MGD. The new Dm results in concentation effluent limitations in this Order that are approximately 28% lower, or more restrictive, than those in Order No. 2000-036 and also reflects a reduction of the zone of initial dilution (ZID). The mass emission rate effluent (MER) limitations in this Order are also lower, or more restrictive, by approximately 16% compared to the those in Order No. 2000-036, in spite of an increase in the total permitted flowrate, because of the reduction in of the concentration effluent limitations resulting from the recalculated Dm. Consequently, the existing water quality of the receiving water is not expected to be degraded.

b. Removal of effluent limitations after a reasonable potential analysis
Effluent limitations were not included in this Order for constituents for which reasonable potential to exceed the water quality objective was not indicated, or were inconclusive, following a reasonable potential analysis although the previous permit included effluent limitations for those constituents. The procedures for conducting the reasonable potential analysis are explained elsewhere in this Fact Sheet. For constituents for which effluent limitations were not included, non-regulatory performance goals were included which will indicate the level of discharge at which possible water quality impacts may be significant. The removal of effluent limitations by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for constituents without effluent limitations, the existing water quality is expected to be maintained. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the removal of effluent limitations following a reasonable potential analysis.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of Order No. R9-2005-0219 are derived from the water quality objectives for ocean waters established by the Basin Plan (1994) and the Ocean Plan (2001).

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, 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 Monitoring and Reporting Program for this Facility.

A. Influent Monitoring

Influent monitoring in Order No. R9-2005-0219 have been modified from Order No. 2000-036 to require monitoring at each POTW discharging through the EOO. These monitoring requirements are summarized in the following table.

Table 16. Influent Monitoring Requirements

Constituent	Units	Sample Type	Sampling Frequency
Flow	MGD	recorder / totalizer	continuous
$CBOD_5$ @ 20º C	mg/L	24 hr composite	weekly
BOD_5 @ 20º C	mg/L	24 hr composite	weekly
TSS	mg/L	24 hr composite	weekly

Influent monitoring for $CBOD_5$ and TSS allows determination of removal efficiencies, which are limited by Order No. R9-2005-0219.

B. Effluent Monitoring

In an effort to standardize monitoring and reporting requirements and in order to support electronic data submittal of Discharger Self-Monitoring Reports, reporting units, definitions, and deadlines specified in the Monitoring and Reporting Program (MRP) for Order No. R9-2005-0219 have been written in accordance with the State Water Resource Control Board's Water Quality Permit Standards Team Final Report.

Effluent monitoring requirements of the MRP for Order No. R9-2005-0219 (Attachment E) should be consulted for greater detail regarding specific monitoring requirements.

Order No. R9-2005-0219 requires monitoring for acute toxicity and chronic toxicity to be monitored semiannually and quarterly, respectively, otherwise all effluent monitoring requirements from Order No. 2000-036 are retained by MRP No. R9-2005-0219.

C. Whole Effluent Toxicity Testing Requirements

The Discharger shall conduct acute and chronic toxicity testing on 24-hour composite effluent samples collected at Effluent Monitoring Station M-004, as defined in Section II of the MRP (Attachment E). Acute and chronic toxicity are required to be monitored semiannually and quarterly, respectively.

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, October 2002 (EPA-821-R-02-012).

Critical life stage toxicity tests shall be performed to measure chronic toxicity (TUc). Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic*

Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (SWRCB, 1996)

A screening period for chronic toxicity shall be conducted every other year for three months, using a minimum of three test species with approved test protocols, from the following list (from the Ocean Plan, 2001). Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used for the monthly testing. Repeat screening periods may be terminated after the first month if the most sensitive species is the same as found previously to be most sensitive. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

D. Receiving Water Monitoring

1. Surf Zone Water Quality Monitoring

To assess bacteriological conditions in areas used for body contact activities and to assess aesthetic conditions for general recreational uses, Monitoring and Reporting Program (MRP) No. R9-2005-0219 requires that total and fecal coliform and enterococcus bacteria be monitored at a minimum frequency of once per week on an annual basis at five surf zone locations. Recognizing that significant water-contact recreation, such as surfing and scuba diving, occurs year-round in ocean waters that may be impacted by the discharge from the EOO, the Regional Board previously adopted Addendum No. 3 to Order No. 2000-036 which increased the surf zone monitoring frequency to weekly year-round from the previous minimum frequency of once per week from May 1 through October 31 and once every other week from November 1 through April 30 of each year.

In correspondence dated October 6, 2003, County of San Diego Department of Environmental Health (DEH) recommends using its “Standard Operating Procedures (SOP) for the Collection of Water Samples for Bacterial Analysis from Ocean and Bay Receiving Waters” as the sampling protocol at surf zone monitoring stations to reflect conditions during all critical environmental periods and be most protective of public health. The SOP specifies the time of day and depth for water sampling to reduce the effects of bacterial die-off in determining the actual bacterial densities that may be encountered by beach users. The SOP would also make sampling procedures consistent at sampling stations along the San Diego County coastline to facilitate data comparison.

For the period of July 2001 through August of 2004, samples collected at five surf zone stations have complied with water quality objectives of the Ocean Plan for total and fecal coliform and recommended levels for enterococcus.

Order and MRP No. R9-2005-0219 retain the requirements of Order No. 2000-036 for surf zone water quality monitoring and requires a sampling procedure for surf zone stations in accordance with County of San Diego DEH Standard Operating Procedures.

2. Near Shore Water Quality Monitoring

To assess bacteriological conditions in areas used for body contact activities and where shellfish and/or kelp may be harvested, and to assess aesthetic conditions for general boating and recreational uses, the MRP for Order No. R9-2005-0219 establishes monitoring at five near shore locations for total and fecal coliform and enterococcus bacteria in surface samples on a year-round, monthly basis. These stations are located at the 30-foot depth contours opposite the surf zone stations. Enterococcus monitoring may be suspended in accordance with Endnote 10 of Appendix E - Monitoring and Reporting Program.

For the sample period of July 2001 through August of 2004, samples collected at near shore stations have complied with water quality objectives of the Ocean Plan for total and fecal coliform and recommended levels for enterococcus. Most sample results were below the method detection limit for the period of review.

Order and MRP No. R9-2005-0219 retains the requirements of Order No. 2000-036 for near shore water quality monitoring.

3. Offshore Water Quality Monitoring

To determine compliance with water quality objectives of the Ocean Plan and to determine if discharges cause significant impacts to water quality within the zone of initial dilution, and beyond the zone of initial dilution the MRP of Order No. R9-2005-0219 establishes a schedule of monitoring at five off shore locations. On a routine basis, the MRP requires monitoring for total and fecal coliform and enterococcus bacteria in surface and mid-depth samples on a year-round, monthly basis.

For the sample period of July 2001 through August of 2004, no samples collected at any of the five off shore water quality monitoring stations showed elevated bacteria levels exceeding water quality objectives recommended levels of the Ocean Plan. Most sample results were below the method detection limit for the period of review.

Order and MRP No. R9-2005-0219 retain the requirements of Order No. 2000-036 for offshore water quality monitoring.

E. Other Monitoring Requirements

1. Benthic Monitoring

To assess the status of the benthic community and to evaluate the physical and chemical quality of sediments in the receiving water, Order No. R9-2005-0219 requires the following

monitoring during year 4 of the Order.

a. Sediment Characteristics. Analyses shall be performed on the upper two inches of sediment core samples in accordance with the following schedule:

Table 17. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	core	Semiannually
Total Chlorinated Hydrocarbons	mg/kg	core	Semiannually
BOD_5	mg/kg	core	Semiannually
COD	mg/kg	core	Semiannually
Particle Size Distribution	mg/kg	core	Semiannually
Arsenic	mg/kg	core	Annually
Cadmium	mg/kg	core	Annually
Total Chromium	mg/kg	core	Annually
Copper	mg/kg	core	Annually
Lead	mg/kg	core	Annually
Mercury	mg/kg	core	Annually
Nickel	mg/kg	core	Annually
Silver	mg/kg	core	Annually
Zinc	mg/kg	core	Annually
Cyanide	mg/kg	core	Annually
Phenolic Compounds	mg/kg	core	Annually
Radioactivity	pCi/kg	core	Annually

a. Infauna. Organisms shall be sieved using a 1.0-mm (0.04-in) mesh screen, fixed in ten percent buffered formalin, and transferred to 70 percent ethanol within two to seven days for storage. Organisms may be stained using Rose Bengal to facilitate sorting.

Three replicate samples of bottom sediments shall be taken once every five years from all "offshore stations," and shall be collected at the same time as the sediment samples collected in accordance with Section D.1 above. These samples shall be separate from those collected for sediment analyses.

Table 18. Infauna Monitoring Requirements

Determination	Units	Minimum Frequency
Benthic Biota	Identification and enumeration	3 grabs, Year 4

If the Discharger does not comply with effluent limitations of the Order, the Regional Water Board may require the Discharger to perform the sediment monitoring, described above, on a year-round basis during the term of Order No. R9-2005-0219.

MRP No. R9-2005-0219 retain the requirements of Order No. 2000-036 for benthic monitoring.

2. Demersal Fish and Macroinvertebrate Monitoring

Monitoring of demersal fish and macroinvertebrates is intended to assess the populations of such organisms, to assess bioaccumulation of toxic pollutants, and to determine whether a significant difference exists between those populations near the outfall diffuser and those in reference areas.

Order No. R9-2005-0219 requires the Discharger to conduct duplicate standardized trawls at all "Trawl Stations" (during August or September). A standardized trawl shall be a Marinovich 7.62 m (25 ft) head rope otter trawl, towed along the 150-foot depth contour for a minimum duration of ten minutes at a uniform speed between 2.0 and 2.5 knots.

During 12-month period for the period July 2008 through June 2009 of Order No. R9-2005-0219, the Discharger shall conduct standardized trawls to survey demersal fish and macroinvertebrates within the trawl stations. If duplicate standardized trawls have been performed after the effective date of this Order but before the specified monitoring period, then duplicate standardized trawls during the specified period will not be required. If the Discharger does not comply with effluent limitations of the Order, the Regional Water Board may also require the Discharger to perform this monitoring, one time each year during the term of Order No. R9-2005-0219.

MRP No. R9-2005-0219 retain the requirements of Order No. 2000-036 for demersal fish and macroinvertebrate monitoring.

3. Solids Monitoring

The Discharger shall report, annually, the volume of screenings, sludges, grit, and other solids generated and/or removed during wastewater treatment and the locations where these waste materials are placed for disposal.

4. Kelp Bed Monitoring

To assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds, Order No. R9-2005-0219 requires the Discharger to participate with other ocean Dischargers in the San Diego Region in an annual regional kelp bed photographic survey.

Order and MRP No. R9-2005-0219 retain the requirements of Order No. 2000-036 for kelp bed monitoring.

5. Intensive Monitoring

The Discharger shall perform the intensive monitoring as described by MRP No. R9-2005-0219 for year 4 of the Order and participate in the Southern California Coastal Water Research Project (SCCWRP) Bight Study in year 5 of this Order.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR 122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

B. Special Provisions

1. Re-opener Provisions

Order No. R9-2005-0219 may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Sections 122, 124, and 125.

2. Special Studies and Additional Monitoring Requirements

a. Encina Ocean Outfall Capacity

Order No. R9-2005-0219 retains the provision contained in Order No. 2000-036 with minor modifications.

b. Treatment Plant Capacity

The treatment plant capacity study required by Order No. R9-2005-0219 shall serve as an indicator for the Regional Water Board the Facility's increasing hydraulic capacity and growth in the service area.

c. Solids Monitoring

Order No. R9-2005-0219 retains the requirements from Order No. 2000-036.

d. Pretreatment Program

Pretreatment requirements established in Order No. 2000-036 are retained by this Order.

e. Single Operational Upset

1) The term "upset" has broad and narrow definitions in *Attachment A – Definitions* because the term is used both to refer to an "upset" in the general sense as any

malfunction or operational failure at a treatment facility and also in a more specific sense to refer to an "upset" as defined at 40 CFR 122.41 (n). The determination that the term "upset" has broad and narrow definitions is discussed further below.

2) Regulatory Upset Defense.
Provision 8 of *Attachment D – Standard Provisions* addresses the use of the regulatory upset defense to completely relieve dischargers of liability for violations under specific situations. According to the US EPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989), upset events that fit the definition of "upset" under 40 CFR 122.41 (n) "provide those who violate technology-based effluent limitations . . . with an affirmative defense to allegations of permit noncompliance, if the exceedance results from an exceptional, unintentional incident which is beyond the control of the party who discharges in violation of his permit. A party who successfully claims upset is not legally liable for the exceedances at issue, and has not violated the (Clean Water Act), his NPDES permit, or categorical pretreatment standards." 40 CFR 122.41 (n) states that the regulatory upset defense does not apply to those events caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless or improper operation. Provision 8 of Attachment D specifies the conditions that the Discharger must satisfy to claim the regulatory upset defense.

3) Single Operational Upset Defense.
Compliance Determination section VII.P of Order No. R9-2005-0219 addresses how a Discharger may be able to limit his liability in the event of a single operational upset (SOU) resulting in multiple violations. The US EPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989) provides the necessary regulatory guidance in case of SOU except for purposes of California Water Code Section 13385 (h) and (i). The US EPA SOU guidance memo spells out that multiple violations due to an SOU are treated as one violation for each day only. For example, an SOU that results in multiple violations each day over a period of seven days will result in counting seven violations because the multiple violations on each of the seven days are treated as one violation for each day only. If the State or Regional Water Board is taking enforcement in accordance with CWC 13385 (h) and (i), commonly referred to as Mandatory Minimum Penalties, CWC Section 13385 (f)(2) expands a POTW discharger's ability to limit liability in the case of an SOU by allowing all violations that occur within a 30-day period, instead of each day, due to an SOU to be counted as one violation.

The regulatory upset defense completely relieves a discharger of all liability for violations of technology-based effluent limitations but not in cases where the violations are caused by operator error. In contrast, according to the US EPA SOU guidance memo, the SOU defense serves to only limit a discharger's liability for violations but applies to both technology-based and water quality-based effluent limitations even if caused by unknowing and unintentional operator error. For purposes of Mandatory Minimum Penalties in accordance with CWC Section 13385 (f)(2), the SOU defense does not apply when the upset was caused by operator error.

The effect of CWC Section 13385 (f)(2) on reducing a POTW discharger's liability is illustrated in the following example:

> A POTW discharged 20,000 gallons of treated effluent each day over two days, and the effluent quality exceeded the concentration effluent limitations and the mass emission rate limitations of the POTW's NPDES permit for iron and copper on both days. The POTW reported to the Regional Water Board that despite its best efforts, increased filamentous bacteria growth in the aeration tank due to a single operational upset resulted in a slight reduction in settling in the secondary clarifier which in turn resulted in the increased iron and copper content of the effluent. The Regional Water Board determined that four serious violations occurred on each day for a total of eight serious violations over the two days due to a single operational upset. Taking the SOU defense into account according to US EPA guidance, the Regional Water Board would determine that the four violations on each day collapse to one violation on each day and the POTW can be civilly liable for up to $10,000 per day of violation plus up to $10 per gallon discharged over 1,000 gallons [in accordance with CWC Section 13385 (c)] for a total possible maximum civil liability of $410,000 (i.e., $20,000 for two days of violations and $390,000 for the 39,000 gallons discharged over the initial 1,000 gallons). However, if the Regional Water Board determines mandatory minimum penalties in accordance with CWC Sections 13385 (h) and (i), the Regional Water Board must also consider the SOU defense in accordance with CWC Section 13385 (f)(2). In that case, the eight serious violations collapse to one violation with a Mandatory Minimum Penalty of $3,000.

4) Twenty-four Hour Reporting for Upsets.
Provision V.E.2.b of *Attachment D – Standard Provisions* requires that "any upset that exceeds any effluent limitation in this Order" must be reported within 24 hours from the time the discharger becomes aware of the circumstances. This standard provision is authorized at 40 CFR 122.41(l)(6)(ii)(B) and is interpreted to require reporting of any upset, in the broad sense, that results in an exceedance of any effluent limitation. The term "upset" in this provision cannot be limited to the meaning of the term "upset" within 40 CFR 122.41 (n), which only applies to exceedances of technology-based effluent limitations, and must be interpreted broadly because an "upset", in the broad sense, can result in exceedance of water quality-based effluent limitations. Therefore, this provision also applies to the reporting of single operational upsets.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, San Diego 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 Encina Wastewater Authority. 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 publication in the North County Times on September 5, 2005 and by letters mailed to interested parties on September 2, 2005.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should 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 should be received at the Regional Water Board offices by 5:00 p.m. on October 5, 2005.

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:	October 12, 2005
Time:	9:00 AM
Location:	Rancho California Water District District Board Room 42135 Winchester Road Temecula, CA 92590

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 internet website address is **http://www.waterboards.ca.gov/sandiego** where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 858-467-2952.

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 Victor Vasquez at (858) 636-3155.

ATTACHMENT G – DILUTION MODEL INFORMATION

The Regional Board determined the minimum initial dilution factor for the discharge of up to 43.31 mgd of effluent through the Encina Ocean Outfall (EOO) to be 144 using the US EPA-approved computer modeling package Visual Plumes with the UM3 model. The computer modeling was performed using EOO design characteristics and receiving water density data provided by the discharger for the 12-month period July 2003 through June 2004 and average effluent temperature characteristics. The Visual Plumes model package is limited to modeling diffusers with ports all pointing in one direction, while the EOO features ports discharging on both sides of the outfall diffuser. To determine minimum EOO minimum initial dilution (lowest average initial dilution in any month of the year), the Regional Board used the Visual Plumes and UM3 model package to simulate initial dilution under two scenarios. Scenario 1 simulated conditions on each side of the EOO by applying half of the EOO flow through the diffuser ports on that respective half of the outfall; this scenario is appropriate when the discharges from each side of the diffuser do not interact. Scenario 2 simulated conditions in which the total EOO flow is discharged through all of the EOO diffuser ports discharging in the same direction; this scenario simulates conditions when the discharges from each side of the diffuser strongly interact and is a more conservative approach. Minimum initial dilution factors under these two modeling scenarios were approximately the same; however, the results from Scenario 2 modeling were used to determine the minimum initial dilution factor for this permit renewal. These dilution model results are summarized in Table G.1 below.

Table 1: Summary of Visual Plumes dilution model results.

Ambient Profile	Effluent Temperature (^oC)	Dilution Factor at last Trap level	Dilution Factor at Surface
Jan-04	21.3	No result	261.2
Feb-04	21.1	125.3	148.2
Mar-04	22.0	152.8	No result
Apr-04	22.5	143.9	No result
May-04	23.7	152.4	No result
Jun-04	24.4	185.7	194.4
Jul-03	25.4	162.7	191.5
Aug-03	25.6	158.7	189.1
Sep-03	25.5	148.8	181.5
Oct-03	24.6	137	157.7
Nov-03	23.3	126.3	147.2
Dec-03	21.9	**143.5**	No result

For each month and for each Visual Plumes run, initial dilution was interpreted to occur either when the plume first reaches the surface, or at the last trapping level when the plume does not surface. The

minimum initial dilution was the lowest dilution factor attained using the December 2003 ambient profile.

Information about the EOO and the outfall diffuser were obtained from the Encina Wastewater Authority (EWA) Report of Waste Discharge Supplemental Information (October 2005) and EWA Ocean Outfall Disposal Capacity report (February 28, 1996). The following information and assumptions were used for the input into the model:

Port diameter – 2.775 inches - Average of forty-four 2.5-inch diameter ports, forty-four 2.75-inch diameter ports, forty-eight 3-inch diameter ports, and two 4-inch diameter ports

Port elevation – 4 feet

Vertical angle – -5 degrees

Horizontal angle – 0 degrees – The EWA indicated that diffuser ports alternated facing 0 degrees and 180 degrees. This model does not have input abilities for a diffuser with ports facing various directions. A single direction for all ports was assigned. This will result in a conservative dilution factor.

Number of ports – 38 ports

Port spacing – 6 feet (half of true spacing between ports on each side of the diffuser)

Acute mix zone - Not relevant, value does not affect dilution factor as defined by the SWRCB.

Chronic mix zone - Not relevant, value does not affect dilution factor as defined by the SWRCB.

Port depth – 151.5 feet

Effluent flow – 43.3 mgd – This is the total projected wastewater flow generated within the service areas of the EWA member agencies. This is also the total treated effluent flow from the EWPCF and VMWRP that would be discharged through the EOO if none of the treated effluent is used for water recycling purposes.

Effluent salinity – 1.48 practical salinity unit (psu) – This value is based on total dissolved solids concentration information contained in the March 2003 Report of Waste Discharge submitted by EWA in support of Addendum no. 2 to Order No. 2000-036..

Effluent temp – See Table 1. The effluent used for modeling for each month is the average of monthly temperature data for the period 2002-2003.

Effluent concentration - Not relevant, input does not affect dilution factor.

Ambient data - Monthly ambient data for July 2003 through June 2004 obtained for the 2003-2004 offshore intensive receiving water monitoring program conducted by EWA. Salinity and temperature data taken at offshore monitoring stations G1, G2, Z1 and Z2 were averaged at each depth and the

average values were used in Visual Plumes.

Far-field diffusion coefficient - 0.0003 m0.67/s2 - recommended in the Visual Plumes manual as a conservative value.

Special Settings Tab, Farfield Diffusivity Option - 4/3 Power Diffusivity was chosen based on the fact that the discharge is occurring in open water.

Special Settings Tab, Diffuser Port Contraction Coefficient - 0.61 - based on the use of cylindrical ports in the diffuser.

Special Settings Tab, Standard Light Adsorption Coefficient - 0.16 - recommended in the manual as a conservative value.