Attachment 1 to Order No. R9-2017-0013

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

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Secretary for
Environmental Protection

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Edmund G. Brown, Jr.
Governor

ORDER NO. R9-2012-0012 as Amended by Orders Nos. R9-2014-0105 and R9-2017-0013
NPDES NO. CA0107417

WASTE DISCHARGE REQUIREMENTS FOR THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY DISCHARGE TO THE PACIFIC OCEAN THROUGH THE SAN JUAN CREEK OCEAN OUTFALL

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

Table 1. Discharger Information

Discharger	South Orange County Wastewater Authority (SOCWA)	
Name of Facility	San Juan Creek Ocean Outfall	
Facility Address	SOCWA J.B. Latham Wastewater Plant	34156 Del Obispo Street Dana Point, CA 92629 Orange County
	Santa Margarita Water District Chiquita Water Reclamation Plant	28793 Ortega Highway San Juan Capistrano, CA 92675 Orange County
	SOCWA 3A Reclamation Plant	26801 Camino Capistrano Mission Viejo, CA 92653 Orange County
	City of San Clemente Water Reclamation Plant	380 Avenida Pico San Clemente, CA 92672 Orange County
	Santa Margarita Water District Oso Creek Water Reclamation Plant	27402 East La Paz Road Mission Viejo, CA 92692 Orange County
	San Juan Capistrano Groundwater Treatment Plant	32470 Paseo Adelanto San Juan Capistrano, CA 92675 Orange County
	South Coast Water District Groundwater Recovery Facility	33750 Stonehill Drive Dana Point, CA 92629 Orange County
	City of San Clemente Segunda Deshecha Runoff Plant	311.5 Avenida Pico San Clemente, CA 92672 Orange County
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region have classified this discharge as a major discharge.		

Discharges by the South Orange County Wastewater Authority from the Facilities listed in Table 1 at the discharge point identified in Table 2 are subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated municipal wastewater, waste brine, and dry weather nuisance discharges	33º 26' 10" N	117º 41' 53" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the California Regional Water Quality Control Board, San Diego Region on:	**April 11, 2012**
This Order shall become effective on:	**May 31, 2012**
This Order as amended by Order No. R9-2014-0105 shall become effective on	**April 1, 2015**
This Order as amended by Order No. R9-2017-0013 shall become effective on	**March 8, 2017**
This Order shall expire on:	**May 31, 2017**
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.	

I, David W. Gibson, 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 **April 11, 2012 as amended by Order No. R9-2014-0105 on December 11,-2014 and as amended by Order No. R9-2017-0013 on March 8, 2017**.

TENTATIVE
David W. Gibson
Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	South Orange County Wastewater Authority (SOCWA)	
Name of Facility	San Juan Creek Ocean Outfall	
Facility Address	SOCWA J.B. Latham Wastewater Plant	34156 Del Obispo Street Dana Point, CA 92629 Orange County
	Santa Margarita Water District Chiquita Water Reclamation Plant	28793 Ortega Highway San Juan Capistrano, CA 92675 Orange County
	SOCWA 3A Reclamation Plant	26801 Camino Capistrano Mission Viejo, CA 92653 Orange County
	City of San Clemente Water Reclamation Plant	380 Avenida Pico San Clemente, CA 92672 Orange County
	Santa Margarita Water District Oso Creek Water Reclamation Plant	27402 East La Paz Road Mission Viejo, CA 92692 Orange County
	San Juan Capistrano Groundwater Treatment Plant	32470 Paseo Adelanto San Juan Capistrano, CA 92675 Orange County
	South Coast Water District Groundwater Recovery Facility	33750 Stonehill Drive Dana Point, CA 92629 Orange County
	City of San Clemente Segunda Deshecha Runoff Plant	311.5 Avenida Pico San Clemente, CA 92672 Orange County
Facility Contact, Title, and Phone	Betty Burnett, General Manager, (949) 234-5421	
Mailing Address	34156 Del Obispo Street, Dana Point, CA 92629	
Type of Facility	Publicly Owned Treatment Works (POTW), Ground Water Desalination Facilities, and Urban Runoff Treatment Facility	
Facility Flow Rate	• SOCWA J.B. Latham Wastewater Plant – 13.0 million gallons per day (MGD) • Santa Margarita Water District Chiquita Water Reclamation Plant – 9.0 MGD • SOCWA 3A Reclamation Plant – 6.0 MGD • San Clemente Water Reclamation Plant – 6.98 MGD • San Juan Capistrano Groundwater Treatment Plant - 2.2 MGD • South Coast Water District Groundwater Recovery System – 0.60 MGD • San Clemente Segunda Deshecha Runoff Plant – 1.0 MGD	

II. FINDINGS

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

A. Background. SOCWA, hereinafter referred to as Discharger, is currently discharging pursuant to Order No. R9-2006-0054 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107417. The Discharger submitted a Report of Waste Discharge and one amendment (dated March 31, 2011 and January 24, 2012) and applied for a NPDES permit reissuance to discharge up to 38.78 MGD of treated municipal wastewater from four publicly owned treatment works (POTWs), brine from two ground water desalination facilities, and dry weather nuisance flow from an urban runoff treatment facility through the San Juan Creek Ocean Outfall (SJCOO) to the Pacific Ocean. All of these facilities discharging to the SJCOO are collectively referred to as the Facilities. The original application was deemed complete on April 30, 2011.

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

B. Facility Description. SOCWA is a joint powers authority formed to reduce duplication and provide operational efficiency through consolidation. SOCWA is the legal successor to the Aliso Water Management Agency, the South East Regional Reclamation Authority, and the South Orange County Reclamation Authority. SOCWA is comprised of 10 member agencies including the City of Laguna Beach, the City of San Clemente, the City of San Juan Capistrano, El Toro Water District, Emerald Bay Service District, Irvine Ranch Water District, Moulton Niguel Water District (MNWD), Santa Margarita Water District (SMWD), South Coast Water District (SCWD), and Trabuco Canyon Water District.

SOCWA operates the SJCOO, which receives treated effluent from the following POTWs; the SOCWA J.B. Latham Wastewater Plant (WP), the SMWD Chiquita Water Reclamation Plant (WRP), the SOCWA 3A Reclamation Plant (RP), and the City of San Clemente WRP. In addition, a number of dry-weather nuisance discharges from a number of sources to the Segunda Deshecha (M02) Flood Control Channel are treated and discharged through the City of San Clemente Segunda Deshecha Runoff Plant, and brine discharges from the City of San Juan Capistrano and the South Coast Water District groundwater treatment plants are also routed to the SJCOO. Facility descriptions for the Facilities that discharge to the SJCOO are summarized below.

The SOCWA J.B. Latham WP is a conventional activated sludge treatment facility. The SOCWA J.B. Latham WP provides wastewater treatment for four SOCWA member agencies, MNWD, SMWD, SCWD and the City of San Juan Capistrano. The J.B. Latham WP provides treatment for wastewater from the SMWD Oso Creek WRP when this treatment facility is off-line. The SOCWA J.B. Latham WP headworks also receives dry-weather nuisance flows from a variety of projects designed to prevent dry-weather nuisance flows in specific storm drains from crossing the beaches to the ocean. All effluent from the SOCWA J.B. Latham WP is discharged to the Pacific Ocean through the SJCOO. The plant's design treatment capacity is 13.0 MGD.

The SMWD Chiquita WRP treats wastewater from the SMWD. Wastewater treatment processes at the plant include screening, grit removal, primary clarification and secondary treatment using a combination of high-rate trickling filtration, recirculation, solids contact, activated sludge, secondary clarification, and filtration. SMWD constructed advanced wastewater treatment facilities at the Chiquita WRP to provide recycled water for irrigation. Effluent not sent to the advanced treatment facilities for recycled water is discharged through the SJCOO via the Chiquita Land Outfall. The plant's design treatment capacity is 9.0 MGD.

The SOCWA 3A RP, formerly MNWD 3A RP, treats wastewater from the SMWD and the MNWD. Wastewater treatment processes at the plant include screening, grit removal, primary clarification, secondary treatment with activated sludge aeration, and secondary clarification. Secondary effluent is directed to an on-site advanced water reclamation facility for further treatment to produce recycled water or is discharged through the SJCOO via the San Juan Basin Authority Bypass, jointly owned by MNWD and SMWD, which connects to the Chiquita Land Outfall. The design capacity for treatment is 6.0 MGD.

The City of San Clemente WRP treats wastewater from the City of San Clemente and a small portion of the SMWD. Wastewater treatment processes at the plant include screening, grit removal, primary clarification and secondary treatment with activated sludge aeration, and secondary clarification. Secondary effluent is directed to an on-site advanced water reclamation facility for further treatment to produce recycled water or discharged through the SJCOO via the San Clemente Land Outfall. The design capacity for treatment is 6.98 MGD.

The San Juan Capistrano GTP treats extracted groundwater to produce a potable water supply. Pretreatment at the San Juan Capistrano GTP for the removal of iron, manganese, and hardness includes sand separators; the addition of potassium permanganate and sodium hypochlorite; filters; the addition of scale inhibitor, sodium bisulfite, and sulfuric acid; and cartridge filters. Pretreatment is followed by reverse osmosis (RO), aeration within the clearwell, pH adjustment (sodium hydroxide and ammonium hydroxide), and disinfection (sodium hypochlorite). Filter washwater is recycled. Potable water from the plant is distributed for use in the City's potable water system. The resulting RO brine discharge of up to 2.2 MGD is discharged through the SJCOO.

The South Coast Water District Groundwater Recovery Facility (GRF) treats extracted groundwater to produce approximately 800 gallons per minute (gpm) of potable water from the Lower San Juan Groundwater Basin. Pretreatment at the GRF includes the addition of threshold inhibitor and cartridge filters. Pretreatment is followed by RO; decarbonation; the addition of sodium hypochlorite, aqueous ammonia, and sodium hydroxide; mechanical mixer; and clearwell. A portion of the groundwater bypasses pretreatment and RO to an iron and manganese removal system. The resulting RO brine and Iron & Manganese backwash discharge of approximately 0.22 MGD is directed the SMWD Chiquita Land Outfall Line for conveyance to the SJCOO. SOCWA plans to expedite the GRF production to 1,200 gpm, which would increase the daily average RO brine flow discharge to the SJCOO to 0.60 MGD.

The City of San Clemente operates an urban runoff treatment process as part of a management program to mitigate the adverse effects of dry weather nuisance flow from the Segunda Deshecha (M02) Flood Control Channel. This management program involves diversion of dry weather flows through the City's Segunda Deshecha Runoff Plant for treatment including screens and pressure filtration. The filter backwash water from the treatment facility is discharged into the City of San Clemente WRP sewer collection system. The treated urban

runoff is discharged to the San Clemente Land Outfall for conveyance to the SJCOO. The urban runoff treatment process at the City of San Clemente Segunda Deshecha Runoff Plant has a design capacity of 1 MGD and currently treats an average urban runoff flow of 0.30 MGD.

The combined discharge from the SJCOO enters the Pacific Ocean, a water of the United States, at Discharge Point No. 001 (see table on cover page). Attachment B provides a map of the area in the vicinity of the SJCOO. Attachment C provides a flow schematic for each of the Facilities..

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by USEPA and chapter 5.5, division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from the Facilities to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

D. Background and Rationale for Requirements. The San Diego Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E, G, and H are also incorporated into this Order.

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

F. Technology-Based Effluent Limitations (TBELs). Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR 122.44), require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. 40 CFR Part 133 establishes the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), and the instantaneous minimum and maximums for pH. The POTW discharges authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133. TBELs contained in Table A of the 2005 *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (hereinafter Ocean Plan), which include grease and oil, TSS, settleable solids (SS), turbidity, and pH, are also applicable to discharges from the Facilities. A detailed discussion of the TBELs development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations (WQBELs). Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Region* (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. 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 San Diego Water Board and approved by the State Water Board. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table 5. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

Requirements of this Order implement the Basin Plan.

I. California Ocean Plan. The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point No.	Receiving Water Name	Beneficial Use
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 the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

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

K. Stringency of Requirements for Individual Pollutants. This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on $CBOD_5$, TSS, pH, grease and oil, SS, and turbidity. Restrictions on these pollutants are discussed in section IV.B.2 of the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on October 8, 2010. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Water quality objectives contained in the Ocean Plan submitted to EPA after May 30, 2000 have subsequently been approved by EPA. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. Antidegradation Policy. 40 CFR 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F), the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

M. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 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 that those in the previous Order. As discussed in Section IV.D.1 of the Fact Sheet (Attachment F), this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

N. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 USCA sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

O. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorizes the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

P. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The San Diego 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).

Q. Provisions and Requirements Implementing State Law. Some of the provisions and requirements in subsections VI.C of this Order are included to implement State law only. These provisions and requirements are not required or authorized under the federal CWA; consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are available for NPDES violations.

R. Executive Officer Delegation of Authority. The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to CWC section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under CWC section 13223 or this Order explicitly states otherwise.

S. Notification of Interested Parties. The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs 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).

T. Consideration of Public Comment. The San Diego 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).

THEREFORE, IT IS HEREBY ORDERED, that Order No. R9-2006-0054 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of waste from the SOCWA J.B. Latham WP, the SMWD Chiquita WRP, the SOCWA 3A RP, the City of San Clemente WRP, San Clemente Segunda Deshecha Runoff Plant, South Coast Water District GRF, and the San Juan Capistrano GTP to a location other than the SJCOO (Discharge Point No. 001), unless specifically regulated by this Order or separate waste discharge requirements, is prohibited.

B. The Discharger must comply with Ocean Plan Discharge Prohibitions, summarized in Attachment G, as a condition of this Order.

C. The Discharger must comply with Discharge Prohibitions contained in Chapter 4 of the Basin Plan, summarized in Attachment G, as a condition of this Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals – Discharge Point No. 001

1. Final Effluent Limitations

a. The Discharger shall maintain compliance with the following effluent limitations at Monitoring Locations M-001A (for SOCWA J.B. Latham WP), M-001B (for SMWD Chiquita WRP), M-001C (for SOCWA 3A RP), and M-001D (for City of San Clemente RP). Compliance shall be monitored at the same locations as described in the attached MRP (Attachment E).

Table 7. SOCWA J.B. Latham WP Effluent Limitations at M-001A

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	13.0					
Carbonaceous Biochemical Oxygen Demand (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	2,711	4,337	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	3,253	4,879	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	2,711	4,337	--	--	8,132	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table 8. SMWD Chiquita WRP Effluent Limitations at M-001B

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	9.0					
Carbonaceous Biochemical Oxygen Demand (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,877	3,002	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	2,252	3,378	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,877	3,002	--	--	5,630	
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table 9. SOCWA 3A RP Effluent Limitations at M-001C

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	6.0					
Carbonaceous Biochemical Oxygen Demand (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,251	2,002	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	1,501	2,252	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,251	2,002	--	--	3,753	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table 10. City of San Clemente WRP Effluent Limitations at M-001D

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	6.98					
Carbonaceous Biochemical Oxygen Demand (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,455	2,329	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	1,746	2,620	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,455	2,329	--	--	4,366	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

b. The Discharger shall maintain compliance with the following effluent limitations at Monitoring Locations M-001E (for City of San Juan Capistrano GTP), M-001G (for San Clemente Segunda Deshecha Runoff Plant), and ~~M-001/~~M-001F (for SCWD GRF). Compliance shall be monitored at the same locations as described in the attached MRP (Attachment E).

Table 11. City of San Juan Capistrano GTP Effluent Limitations at M-001E

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	2.2					
Total Suspended Solids[1]	mg/L	60	--	--	--	--	--
	lbs/day	1,101	--	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	459	734	--	--	1,376	
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

Table 12. San Clemente Segunda Deshecha Runoff Plant Effluent Limitations at M-001G

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	1.0					
Total Suspended Solids[1]	mg/L	60	--	--	--	--	--
	lbs/day	500	--	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	209	334	--	--	626	
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

Table 13. SCWD GRF Effluent Limitations at M-001F~~/M-001~~

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow~~[1]~~	MGD	0.6					
Total Suspended Solids[2]	mg/L	60	--	--	--	--	--
	lbs/day	~~10,654~~300~~[3]~~					
Oil and Grease[2]	mg/L	25	40	--	--	75	--
	lbs/day	~~8,086~~125~~[3]~~	~~12,937~~200~~[3]~~			~~24,257~~375~~[3]~~	
Settleable Solids[2]	ml/L	1.0	1.5	--	--	3.0	--
Turbidity[2]	NTU	75	100	--	--	225	--
pH[2]	standard units	--	--	--	6.0	9.0	--

~~[1] at Monitoring Location M-001F~~
~~[2] at Monitoring Location M-001~~
~~[3][1] Mass limits for each facility were calculated by using the following equation: lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34. Mass limits for the SCWD GRF with compliance point at M-001 were calculated by adding the mass limits for all the facilities discharging to the SJCOO.~~

c. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location M-001 as described in the attached MRP (Attachment E).

Table 14. Effluent Limitations at Discharge Point No. 001 (M-001)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE							
Flow	MGD	38.78					
TCDD Equivalents[1]	µg/L	3.9E-07	--	--	--	--	--
	lbs/day	1.3E-07	--	--	--	--	--

[1] 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

2. Performance Goals

a. Constituents that do not have reasonable potential to cause or contribute to an exceedance of water quality objectives, or for which reasonable potential to cause or contribute to an exceedance of water quality objectives cannot be determined, are referred to as performance goal constituents and are assigned the performance goals listed in the following table. Performance goal constituents shall be monitored at Monitoring Location M-001, but the results will be used for informational purposes only, not compliance determination.

Table 15. Performance Goals

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	5.1E+02	2.9E+03	7.8E+03	--
	lbs/day	1.6E+02	9.5E+02	2.5E+03	--
Cadmium, Total Recoverable	µg/L	1.0E+02	4.0E+02	1.0E+03	--
	lbs/day	3.3E+01	1.3E+02	3.3E+02	--
Chromium VI, Total Recoverable[2]	µg/L	2.0E+02	8.1E+02	2.0E+03	--
	lbs/day	6.5E+01	2.6E+02	6.5E+02	--
Copper, Total Recoverable	µg/L	1.0E+02	1.0E+03	2.8E+03	--
	lbs/day	3.3E+01	3.3E+02	9.2E+02	--
Lead, Total Recoverable	µg/L	2.0E+02	8.1E+02	2.0E+03	--
	lbs/day	6.5E+01	2.6E+02	6.5E+02	--
Mercury, Total Recoverable	µg/L	4.0E+00	1.6E+01	4.0E+01	--
	lbs/day	1.3E+00	5.2E+00	1.3E+01	--
Nickel, Total Recoverable	µg/L	5.1E+02	2.0E+03	5.1E+03	--
	lbs/day	1.6E+02	6.5E+02	1.6E+03	--
Selenium, Total Recoverable	µg/L	1.5E+03	6.1E+03	1.5E+04	--
	lbs/day	4.9E+02	2.0E+03	4.9E+03	--
Silver, Total Recoverable	µg/L	5.5E+01	2.7E+02	6.9E+02	--
	lbs/day	1.8E+01	8.6E+01	2.2E+02	--
Zinc, Total Recoverable	µg/L	1.2E+03	7.3E+03	1.9E+04	--
	lbs/day	3.9E+02	2.4E+03	6.3E+03	--
Cyanide, Total Recoverable	µg/L	1.0E+02	4.0E+02	1.0E+03	--
	lbs/day	3.3E+01	1.3E+02	3.3E+02	--
Chlorine, Total Residual	µg/L	2.0E+02	8.1E+02	6.1E+03	--
	lbs/day	6.5E+01	2.6E+02	2.0E+03	--
Ammonia (expressed as nitrogen)	µg/L	6.1E+04	2.4E+05	6.1E+05	--
	lbs/day	2.0E+04	7.8E+04	2.0E+05	--
Chronic Toxicity[3]	TUc	--	101	--	--

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Phenolic Compounds (non-chlorinated)[4]	µg/L	3.0E+03	1.2E+04	3.0E+04	--
	lbs/day	9.8E+02	3.9E+03	9.8E+03	--
Chlorinated Phenolics[5]	µg/L	1.0E+02	4.0E+02	1.0E+03	--
	lbs/day	3.3E+01	1.3E+02	3.3E+02	--
Endosulfan[6]	µg/L	9.1E-01	1.8E+00	2.7E+00	--
	lbs/day	2.9E-01	5.9E-01	8.8E-01	--
Endrin	µg/L	2.0E-01	4.0E-01	6.1E-01	--
	lbs/day	6.5E-02	1.3E-01	2.0E-01	--
HCH[7]	µg/L	4.0E-01	8.1E-01	1.2E+00	--
	lbs/day	1.3E-01	2.6E-01	3.9E-01	--
Radioactivity	pCi/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	2.2E+04
	lbs/day	--	--	--	7.2E+03
Antimony	µg/L	--	--	--	1.2E+05
	lbs/day	--	--	--	3.9E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	4.4E+02
	lbs/day	--	--	--	1.4E+02
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.2E+05
	lbs/day	--	--	--	3.9E+04
Chlorobenzene	µg/L	--	--	--	5.8E+04
	lbs/day	--	--	--	1.9E+04
Chromium (III), Total Recoverable	µg/L	--	--	--	1.9E+07
	lbs/day	--	--	--	6.2E+06
Di-n-butyl Phthalate	µg/L	--	--	--	3.5E+05
	lbs/day	--	--	--	1.1E+05
Dichlorobenzenes[8]	µg/L	--	--	--	5.2E+05
	lbs/day	--	--	--	1.7E+05
Diethyl Phthalate	µg/L	--	--	--	3.3E+06
	lbs/day	--	--	--	1.1E+06
Dimethyl Phthalate	µg/L	--	--	--	8.3E+07
	lbs/day	--	--	--	2.7E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	2.2E+04
	lbs/day	--	--	--	7.2E+03

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
2,4-dinitrophenol	µg/L	--	--	--	4.0E+02
	lbs/day	--	--	--	1.3E+02
Ethylbenzene	µg/L	--	--	--	4.1E+05
	lbs/day	--	--	--	1.3E+05
Fluoranthene	µg/L	--	--	--	1.5E+03
	lbs/day	--	--	--	4.9E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	5.9E+03
	lbs/day	--	--	--	1.9E+03
Nitrobenzene	µg/L	--	--	--	4.9E+02
	lbs/day	--	--	--	1.6E+02
Thallium, Total Recoverable	µg/L	--	--	--	2.0E+02
	lbs/day	--	--	--	6.5E+01
Toluene	µg/L	--	--	--	8.6E+06
	lbs/day	--	--	--	2.8E+06
Tributyltin	µg/L	--	--	--	1.4E-01
	lbs/day	--	--	--	4.6E-02
1,1,1-trichloroethane	µg/L	--	--	--	5.5E+07
	lbs/day	--	--	--	1.8E+07
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	1.0E+01
	lbs/day	--	--	--	3.3E+00
Aldrin	µg/L	--	--	--	2.2E-03
	lbs/day	--	--	--	7.2E-04
Benzene	µg/L	--	--	--	6.0E+02
	lbs/day	--	--	--	1.9E+02
Benzidine	µg/L	--	--	--	7.0E-03
	lbs/day	--	--	--	2.3E-03
Beryllium	µg/L	--	--	--	3.3E+00
	lbs/day	--	--	--	1.1E+00
Bis(2-chloroethyl) Ether	µg/L	--	--	--	4.5E+00
	lbs/day	--	--	--	1.5E+00
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	3.5E+02
	lbs/day	--	--	--	1.1E+02
Carbon Tetrachloride	µg/L	--	--	--	9.1E+01
	lbs/day	--	--	--	2.9E+01
Chlordane	µg/L	--	--	--	2.3E-03
	lbs/day	--	--	--	7.5E-04

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Chlorodibromomethane	µg/L	--	--	--	8.7E+02
	lbs/day	--	--	--	2.8E+02
Chloroform	µg/L	--	--	--	1.3E+04
	lbs/day	--	--	--	4.2E+03
DDT[9]	µg/L	--	--	--	1.7E-02
	lbs/day	--	--	--	5.6E-03
1,4-dichlorobenzene	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	5.9E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	8.2E-01
	lbs/day	--	--	--	2.6E-01
1,2-dichloroethane	µg/L	--	--	--	2.8E+03
	lbs/day	--	--	--	9.1E+02
1,1-dichloroethylene	µg/L	--	--	--	9.1E+01
	lbs/day	--	--	--	2.9E+01
Dichlorobromomethane	µg/L	--	--	--	6.3E+02
	lbs/day	--	--	--	2.0E+02
Dichloromethane	µg/L	--	--	--	4.5E+04
	lbs/day	--	--	--	1.5E+04
1,3-dichloropropene	µg/L	--	--	--	9.0E+02
	lbs/day	--	--	--	2.9E+02
Dieldrin	µg/L	--	--	--	4.0E-03
	lbs/day	--	--	--	1.3E-03
2,4-dinitrotoluene	µg/L	--	--	--	2.6E+02
	lbs/day	--	--	--	8.5E+01
1,2-diphenylhydrazine	µg/L	--	--	--	1.6E+01
	lbs/day	--	--	--	5.2E+00
Halomethanes[10]	µg/L	--	--	--	1.3E+04
	lbs/day	--	--	--	4.2E+03
Heptachlor	µg/L	--	--	--	5.1E-03
	lbs/day	--	--	--	1.6E-03
Heptachlor Epoxide	µg/L	--	--	--	2.0E-03
	lbs/day	--	--	--	6.5E-04
Hexachlorobenzene	µg/L	--	--	--	2.1E-02
	lbs/day	--	--	--	6.9E-03
Hexachlorobutadiene	µg/L	--	--	--	1.4E+03
	lbs/day	--	--	--	4.6E+02
Hexachloroethane	µg/L	--	--	--	2.5E+02
	lbs/day	--	--	--	8.2E+01

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Isophorone	µg/L	--	--	--	7.4E+04
	lbs/day	--	--	--	2.4E+04
N-nitrosodimethylamine	µg/L	--	--	--	7.4E+02
	lbs/day	--	--	--	2.4E+02
N-nitrosodi-N-propylamine	µg/L	--	--	--	3.8E+01
	lbs/day	--	--	--	1.2E+01
N-nitrosodiphenylamine	µg/L	--	--	--	2.5E+02
	lbs/day	--	--	--	8.2E+01
PAHs[11]	µg/L	--	--	--	8.9E-01
	lbs/day	--	--	--	2.9E-01
PCBs[12]	µg/L	--	--	--	1.9E-03
	lbs/day	--	--	--	6.2E-04
1,1,2,2-tetrachloroethane	µg/L	--	--	--	2.3E+02
	lbs/day	--	--	--	7.5E+01
Tetrachloroethylene	µg/L	--	--	--	2.0E+02
	lbs/day	--	--	--	6.5E+01
Toxaphene	µg/L	--	--	--	2.1E-02
	lbs/day	--	--	--	6.9E-03
Trichloroethylene	µg/L	--	--	--	2.7E+03
	lbs/day	--	--	--	8.8E+02
1,1,2-trichloroethane	µg/L	--	--	--	9.5E+02
	lbs/day	--	--	--	3.1E+02
2,4,6-trichlorophenol	µg/L	--	--	--	2.9E+01
	lbs/day	--	--	--	9.5E+00
Vinyl Chloride	µg/L	--	--	--	3.6E+03
	lbs/day	--	--	--	1.2E+03

1 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

2 Dischargers may, at their option, apply this performance goal as a total chromium performance goal.

3 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.

4 Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

5 Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

6 Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

7 HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

8 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

9 DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

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

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average

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

[12] PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

3. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The receiving water limitations set forth below for ocean waters are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge of waste shall not cause violation of these limitations in the Pacific Ocean. Compliance with these limitations shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

1. Bacterial Characteristics

a. Within a zone bounded by the shoreline and a distance of three nautical miles from the shoreline, including all kelp beds, the following bacterial objectives shall be maintained throughout the water column. The zone of initial dilution for the ocean outfall is excluded.

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

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

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

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

Single Sample Maximum:

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

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

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

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

b. 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.

c. At all areas where shellfish may be harvested for human consumption, as determined by the San Diego 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.

2. Physical Characteristics

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

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

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

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

3. Chemical Characteristics

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

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

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

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

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

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

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

4. **Biological Characteristics**

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

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

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

5. **Radioactivity**

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

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

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

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

   a. The 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 (CCR).

   b. 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-ratings, 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:

      i. Identify the design capacity of the treatment facility, including the daily and 30-day design capacity,

      ii. Certify the adequacy of each component of the treatment facility, and

      iii. 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.

iv. Contain the signature and engineering license number of the engineer preparing the certification report 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:

(a) The certification report is received by the San Diego Water Board,

(b) The San Diego Water Board has received written notification of completion of construction (new treatment facilities and expansions only),

(c) An inspection of the facility has been made by staff of the San Diego Water Board or their designated representatives (new treatment facilities and expansions only), and

(d) The San Diego Water Board has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.

c. 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.

d. 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.

e. This Order expires on May 31, 2017, 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 Title 23, section 2235.4 of the CCR regarding the continuation of expired permits and waste discharge requirements are met.

f. 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.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an Ocean Plan Table B water quality objective.

b. This Order may be reopened for modification of the receiving waters monitoring requirements, as the San Diego Water Board determines. The modification(s) can

include, but is (are) not limited to, recommendations from Southern California Coastal Water Research Project (SCCWRP) or creation of a Regional Monitoring Program.

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

i. Violation of any terms or conditions of this Order.

ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant fact.

iii. 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 does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes, or anticipated noncompliance with this Order does not stay any condition of this Order.

d. 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 San Diego 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.

e. 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.

f. 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 (MLs).

g. 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 (TMDL) for the receiving water.

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

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

j. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR 122.44, 122.62 to 122.64, 125.62, and 125.62. 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.

k. This Order may be re-opened and modified to revise effluent limitations, compliance locations, or other provisions to conform to future amendments to the California Ocean Plan.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Spill Prevention and Response Plans

i. For purposes of this section, a spill is a discharge of treated or untreated wastewater that occurs at or downstream of the SOCWA J.B. Latham WP, SMWD Chiquita WRP, SOCWA 3A RP, and the City of San Clemente WRP headworks, or influent intake location(s) at the San Juan Capistrano GTP and the San Clemente Segunda Deshecha Runoff Plant, in violation of Discharge Prohibitions III.A of this Order, or a discharge of other materials related to the Facilities. This section does not include sanitary sewer overflows from the sewage collection system that are reportable under separate waste discharge requirements.

ii. The Discharger shall maintain a Spill Prevention Plan (SPP) for the Facilities in an up-to-date condition and shall amend the SPP whenever there is a change (e.g., in the design, construction, operation, or maintenance of the sewerage system or sewerage facilities) which materially affects the potential for spills. The Discharger shall review and amend the SPP as appropriate after each spill from the Facilities. The SPP and any amendments thereto shall be subject to the approval of the San Diego Water Board and shall be modified as directed by the San Diego Water Board. The Discharger shall submit the SPP and any amendments thereto to the San Diego Water Board upon request of the San Diego Water Board. The Discharger shall ensure that the up-to-date SPP is readily available to the sewerage system personnel at all times and that the sewerage system personnel are familiar with it.

iii. The Discharger shall maintain a Spill Response Plan (SRP) for the Facilities in an up-to-date condition and shall amend the SRP, as necessary. The Discharger shall review and amend the SRP as appropriate after each spill from the Facilities. The SRP and any amendments thereto shall be subject to the approval of the San Diego Water Board and shall be modified as directed by the San Diego Water Board. The Discharger shall submit the SRP and any amendments thereto to the San Diego Water Board upon request of the San Diego Water Board. The Discharger shall ensure that the up-to-date SRP is readily available to the sewerage system personnel at all times and that the sewerage system personnel are familiar with it.

b. Spill Reporting Requirements

The Discharger shall report spills as defined in section VI.C.2.a.i above in accordance with the following procedures:

i. If a spill results in a discharge of treated or untreated wastewater that is equal to or exceeds 1,000 gallons, and/or results in a discharge to a drainage channel and/or surface water; or results in a discharge to a storm drain that was not fully captured and returned to the sanitary sewer system, the Discharger shall:

(a) Report the spill to the San Diego 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 San Diego 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 San Diego Water Board no later than 5 days from the time the Discharger becomes aware of the spill.

(c) The San Diego 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.

ii. If a spill results in a discharge of treated or untreated wastewater under 1,000 gallons and the discharge does not reach a drainage channel, surface waters, or storm drain, the Discharger is not required to notify the San Diego Water Board within 24 hours, or provide a 5-day written report.

iii. 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 San Diego 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 San Diego 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.

iv. For all spills, the Discharger shall include a detailed summary of spills in the monthly self-monitoring report for the month in which the spill occurred.

v. The spill reporting requirements contained in this Order do not relieve the Discharger of responsibilities to report to other agencies, such as the California Emergency Management Agency (EMA) and the Orange County Health Care Agency, Environmental Health.

c. Toxicity Reduction Requirements

If the performance goal for chronic toxicity is exceeded in any one test, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period.

If the toxicity performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the San Diego Water Board. If the San Diego Water Board determines that the discharge consistently exceeds a performance goal, then the Discharger shall initiate a TRE/TIE in accordance with the TRE workplan, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (USEPA 833-B-99-002, 1999), and USEPA TIE guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity performance goal identified in section IV.A.2 of this Order.

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 the toxicity performance goals of this Order and prevent recurrence of exceedances of those performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the San Diego Water Board.

If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

d. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop a TRE workplan in accordance with TRE procedures established by USEPA in the following guidance manuals.

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

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

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

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

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

e. Treatment Feasibility Study

The Discharger shall conduct a Treatment Feasibility Study for the GRF brine discharge to assess the costs of providing additional treatment to meet the California Ocean Plan's Table A technology-based effluent limitations at Monitoring Location M-001F, prior to commingling with other dischargers for 0.60 MGD reverse osmosis brine flow. The study shall also identify the amounts and characteristics of the pollutants in the discharge and the degree of pollutant reduction attainable through the application of best practicable control technology. Factors relating to the assessment of best practicable control technology shall include the age of equipment and facilities involved; the process employed; the engineering aspects of applying various types of treatment control techniques for the source water, brine, or combination of both; process changes; the cost of achieving such effluent reduction; non-water quality environmental impact (including energy requirements); and such other factors as the San Diego Water Board deems appropriate. A technical report containing the results of the Treatment Feasibility Study shall be submitted to the San Diego Water Board within six months of the effective date of this Order.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Wastewater Facilities (POTWs Only)

a. San Juan Creek Ocean Outfall Capacity

No later than 180 days prior to this Order's expiration date, the Discharger shall submit a written report to the San Diego Water Board regarding capacity of the SJCOO that addresses the following items:

i. Most current report on the SJCOO capacity conducted within 1 year of the expiration date of this Order;

ii. The Discharger's best estimate of when the average daily flow will equal or exceed the SJCOO capacity;

iii. The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the SJCOO and/or to control the flow rate before the flow rate is equal to the current outfall capacity;

iv. A certified statement signed by a California Licensed Engineer that states that the capacity of the SJCOO is at least 38.78 MGD;

v. Report on the physical condition of the SJCOO; and

vi. The report must be signed and agreed upon by each of the parties discharging through the SJCOO.

b. Treatment Plant Capacity

For each POTW regulated under this Order and four years prior to reaching plant design capacity, the Discharger shall submit a Treatment Plant Capacity report to the San Diego Water Board showing how flow volumes will be prevented from exceeding existing capacity or how capacity will be increased. A notification and copy of the report shall be sent to appropriate local elected officials, local permitting agencies, and the press. The required technical report shall be reviewed, approved, and jointly submitted by all planning and building departments having jurisdiction in the area served by the POTW. . Opportunities for public participation and involvement are required during the preparation and development of the technical report. The report shall be accompanied by a statement outlining how interested persons were involved in the preparation of the technical report.

c. Pretreatment Program

i. The Discharger shall be responsible for the performance of all pretreatment requirements contained in 40 CFR Part 403, including any subsequent revisions in 40 CFR Part 403. 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 comes 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 San Diego Water Board, as provided in the CWA and/or the CWC.

ii. 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.

iii. 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).

iv. By March 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board; USEPA Region 9; the State Water Board, Division of Public Water Quality, Regulations Unit; and the Orange County Health Care Agency, Environmental Health, 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. This will include 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 of this Order). 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 Attachment E of this Order. 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 effluent limitations and/or 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.

v. The Discharger shall submit a semiannual SIU compliance status report to the San Diego Water Board, the State Water Board, and the USEPA. The reports shall cover the periods of January 1 through June 30, and July 1 through December 31 and shall be submitted no later than September 1 and March 1, respectively. 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 noncompliance identified in previous reports.

vi. The Discharger shall provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) following permit reissuance (40 CFR 122.44(j)(2)(ii)).

d. Sludge (Biosolids) Disposal Requirements

i. 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.

ii. Sludge and wastewater solids must be disposed of in a municipal solid waste landfill, reused by land application, disposed of in a sludge-only landfill, or used in an application approved by the San Diego Water Board in accordance with 40 CFR Parts 258 and 503 and Title 23, Chapter 15 of the CCR. 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 San Diego Water Board at least 180 days prior to beginning the alternative means of disposal.

iii. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR Part 258 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.

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

v. 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.

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

vii. 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.

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

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

e. Collection System

On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, a Statewide General WDR for Sanitary Sewer Systems. SOCWA's member agencies shall be subject to all applicable requirements of Order No. 2006-0003-DWQ and any future revisions thereto. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR.

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

f. Fats, Oils, Grease, or Food Processing Wastes

If the Discharger receives fats, oils, grease, or food processing wastes for injection into an anaerobic digester, the Discharger shall develop and implement standard operating procedures (SOPs) for this activity. The SOPs shall address spill prevention; spill response; introduction of materials that could cause interference, pass through, or upset of the treatment processes; vector control; and operation and maintenance. The Discharger shall provide training to its staff on the SOPs and shall maintain records on site for a minimum of 3 years for each load received, describing the hauler, waste type, and amount.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. Compliance with 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 noncompliance 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 the 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. Compliance with 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 noncompliance. 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. Compliance with Maximum Daily Effluent Limitation (MDEL)

The MDEL shall apply to flow weighted 24-hour composite samples, or grab, as specified in the MRP (Attachment E). 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 one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

D. Compliance with 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 noncompliance with the instantaneous minimum effluent limitation.)

E. Compliance with 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 noncompliance with the instantaneous maximum effluent limitation).

F. Compliance with 6-Month Median Effluent Limitation

If the median of daily discharges over any 180-day period exceeds the 6-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 6-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-day period during which no sample is taken, no compliance determination can be made for the 6-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 "Not Detected" (ND) or "Detectable but not quantifiable" (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 percent removal requirements for monthly average percent removal of biochemical oxygen demand and total suspended solids 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 location specified in the MRP (Attachment E) within a calendar month.

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

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

I. Ocean Plan Provisions for Table B Constituents

1. Sampling Reporting Protocols

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

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

i. 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).

ii. 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 shorted to Est. Conc.").

iii. 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

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

c. Multiple Sample Data Reduction.

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

d. Mass Emission Rate

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

Mass Emission Rate (lbs/day) = 8.34 x Q x C

In which Q and C are the flow rate in million gallons per day and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of water). 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.

e. Bacterial Standards and Analysis

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

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 (CFU/100 mL) found on each day of sampling.

ii. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 CFU (colony-forming units). 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 Part 136 or any improved method determined by the San Diego 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 Part 136, and any other method approved by the San Diego Water Board.

f. Single Operational Upset

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

i. A SOU 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.

ii. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Section I.H of Attachment D.

iii. 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).

iv. 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).

J. 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.A.2 of this Order for Discharge Point No. 001 shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2005) and restated in the MRP (Attachment E). Chronic toxicity 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.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

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

b. Lethal Concentration 50% (LC_{50})

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

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

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

where:

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

Antidegradation
Policies which ensure protection of water quality for a particular 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.

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

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

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

Beneficial Uses of waters of the State 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)
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
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.

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 notices of intent (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.

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

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

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

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

b. No Observed Effect Level (NOEL)

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

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, Total Suspended Solids (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.

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

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

Detected, but Not Quantified (DNQ)
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's Method Detection Limit (MDL).

Dilution Credit
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
The critical low flow of the upstream receiving water divided by the flow of the effluent discharged.

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

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.

Downstream Ocean Waters
Waters downstream with respect to ocean currents.

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

Effluent Limitation
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.

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

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

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

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.

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

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

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

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

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

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

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

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

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

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

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

Method Detection Limit (MDL)
The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in Title 40 of the Code of Federal Regulations (CFR), Part 136, Attachment B.

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

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

Not Detected (ND)
Those sample results less than the laboratory's MDL.

Nuisance
CWC section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:

1. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

2. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
3. Occurs during, or as a result of, the treatment or disposal of wastes.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

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

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

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level
The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a of the Ocean Plan or established in accordance with section III.C.5.b of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Sanitary Sewer Overflow (SSO)
Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

1. Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;

2. Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
3. Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly/federally-owned portion of a sanitary sewer system.

SSO Categories

1. **Category 1** - All discharges of sewage resulting from a failure in the Discharger's sanitary sewer system that:

   a. Equal or exceed 1000 gallons, or

   b. Result in a discharge to a drainage channel and/or surface water; or

   c. Discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.

2. **Category 2** – All other discharges of sewage resulting from a failure in the Discharger's sanitary sewer system.

3. **Private Lateral Sewage Discharges** – Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

SSO Reporting System
Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is http://ciwqs.waterboards.ca.gov. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

Sanitary Sewer System
Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the wastewater treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

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).

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

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

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

State Water Quality Protection Areas (SWQPAs)
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

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 study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation using aquatic organism toxicity tests).

Untreated or Partially Treated Wastewater
Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

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

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

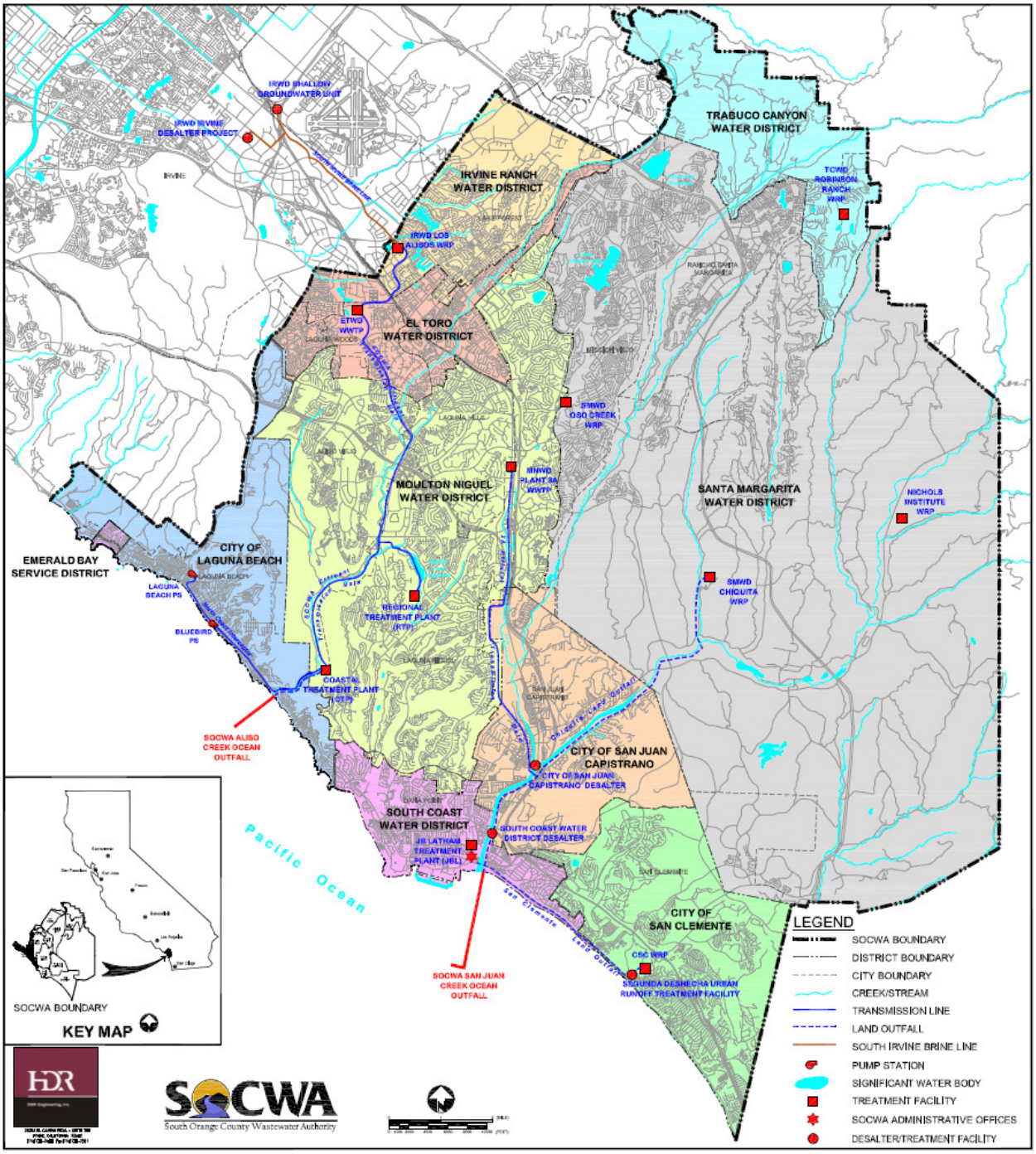
1. Beneficial uses to be protected.
2. Water quality objectives.
3. A program of implementation needed for achieving water quality objectives.

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.

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

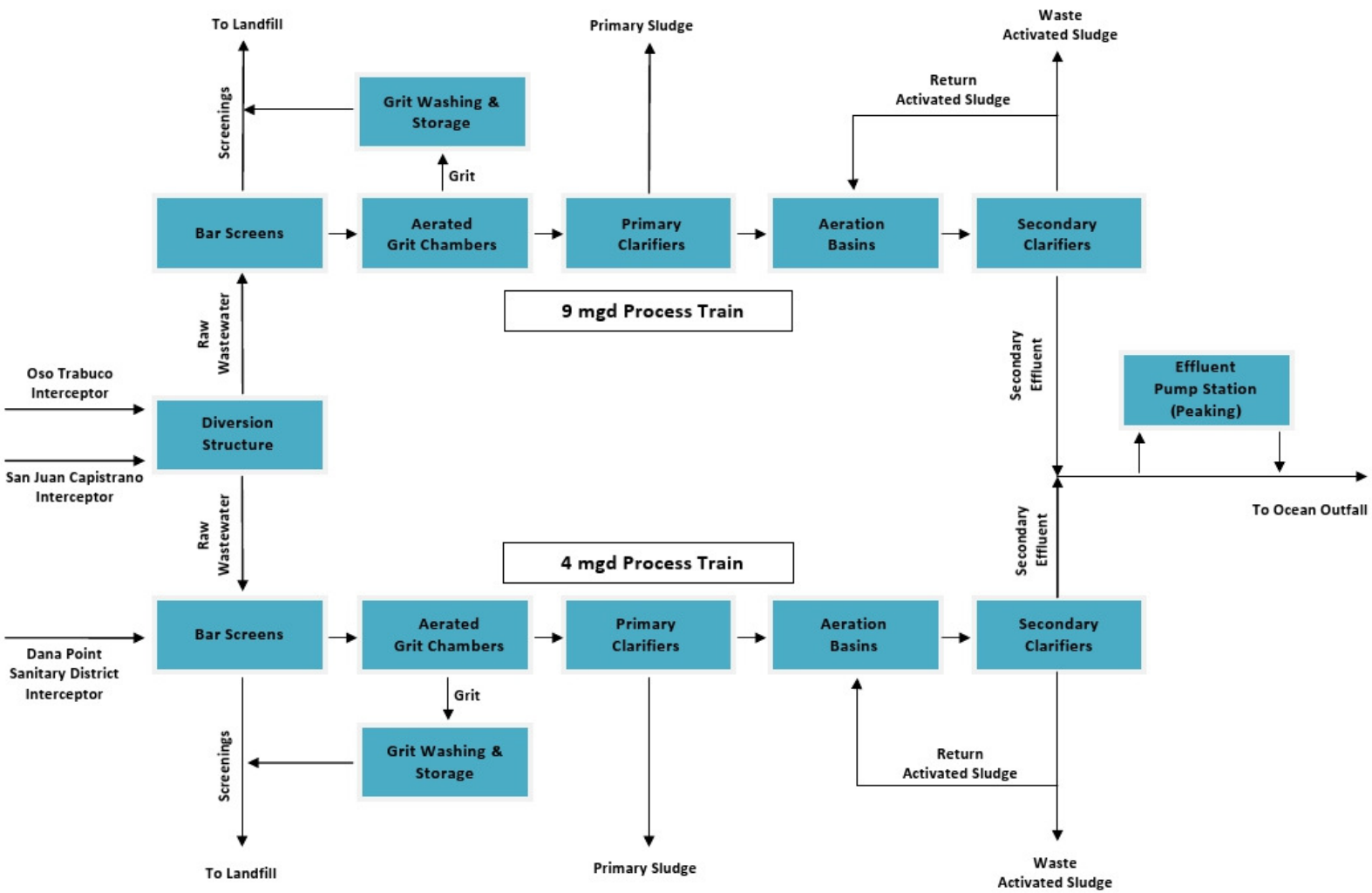
Whole Effluent Toxicity (WET)
The total toxic effect of an effluent measured directly with a toxicity test.

ATTACHMENT B – MAP

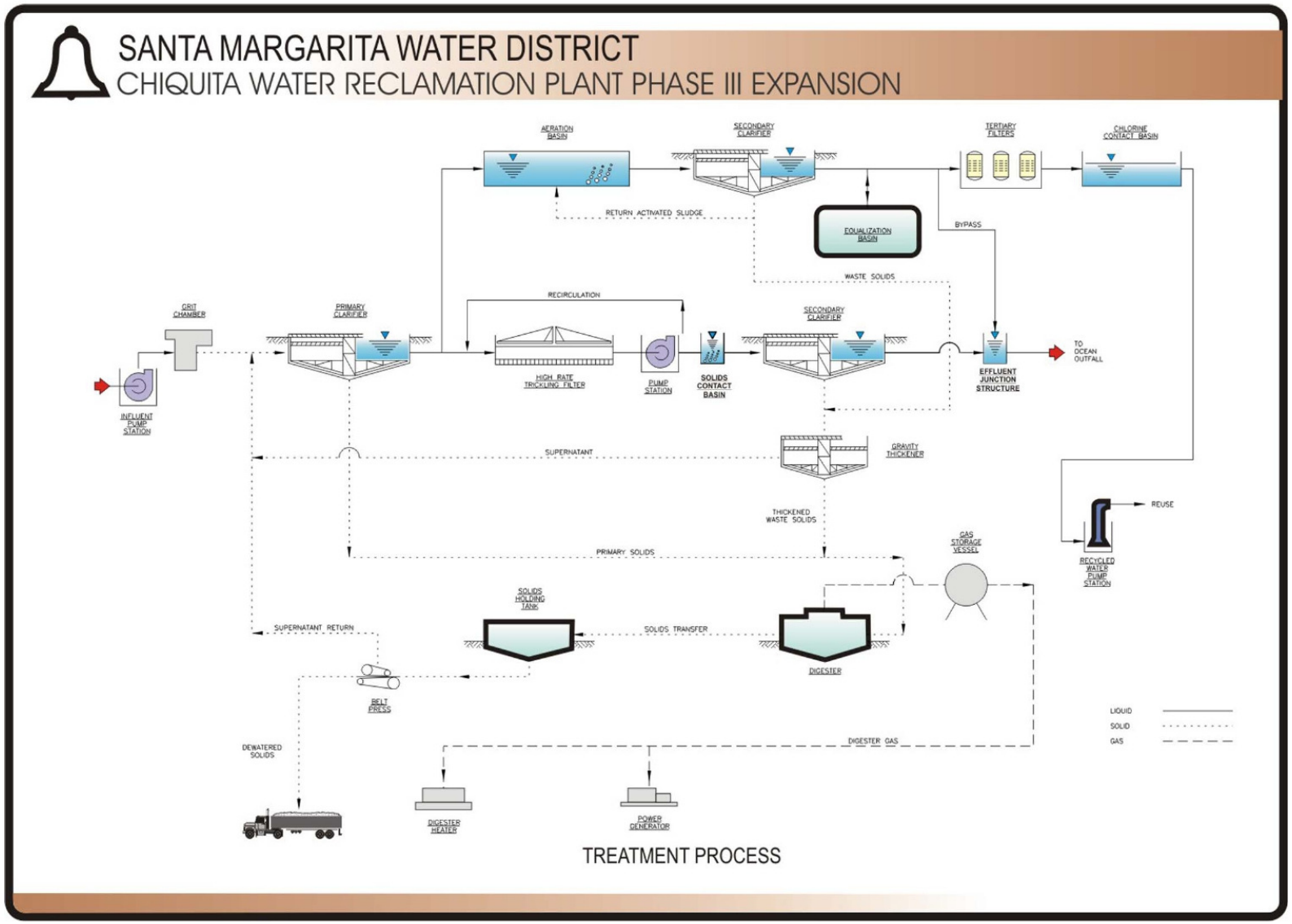


ATTACHMENT C – FLOW SCHEMATIC

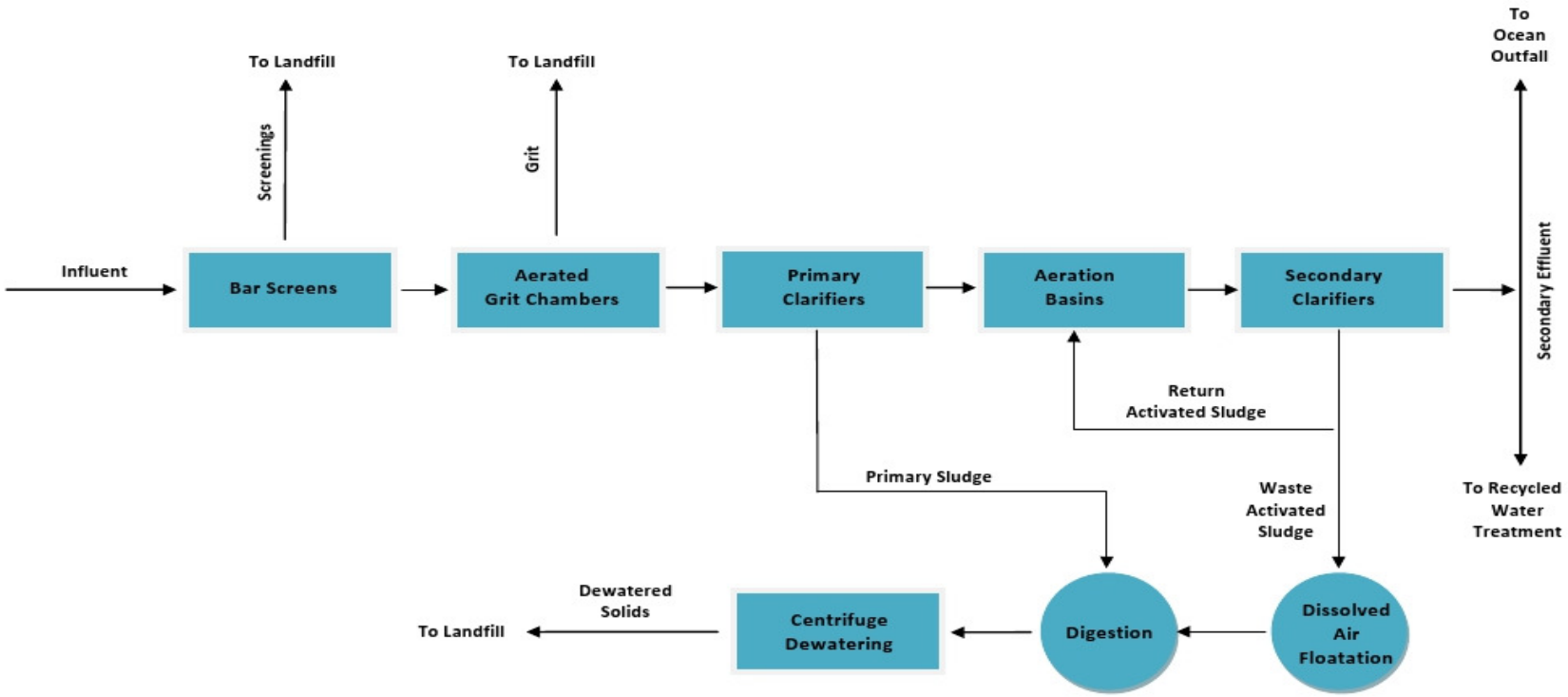
SOCWA J.B. Latham Wastewater Plant Flow Schematic



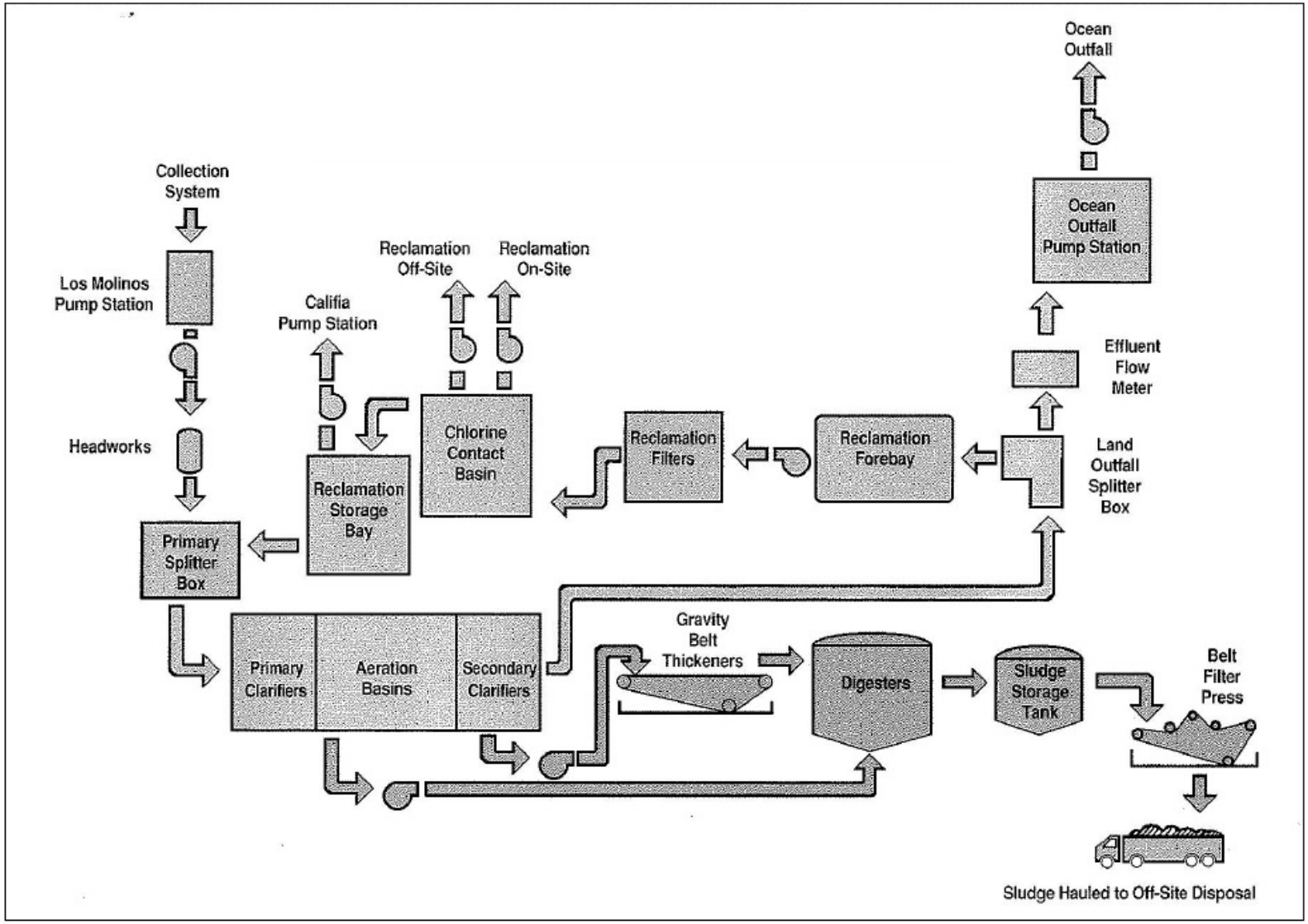
SMWD Chiquita Water Reclamation Plant Flow Schematic



SOCWA 3A Reclamation Plant Flow Schematic



City of San Clemente Water Reclamation Plant Flow Schematic

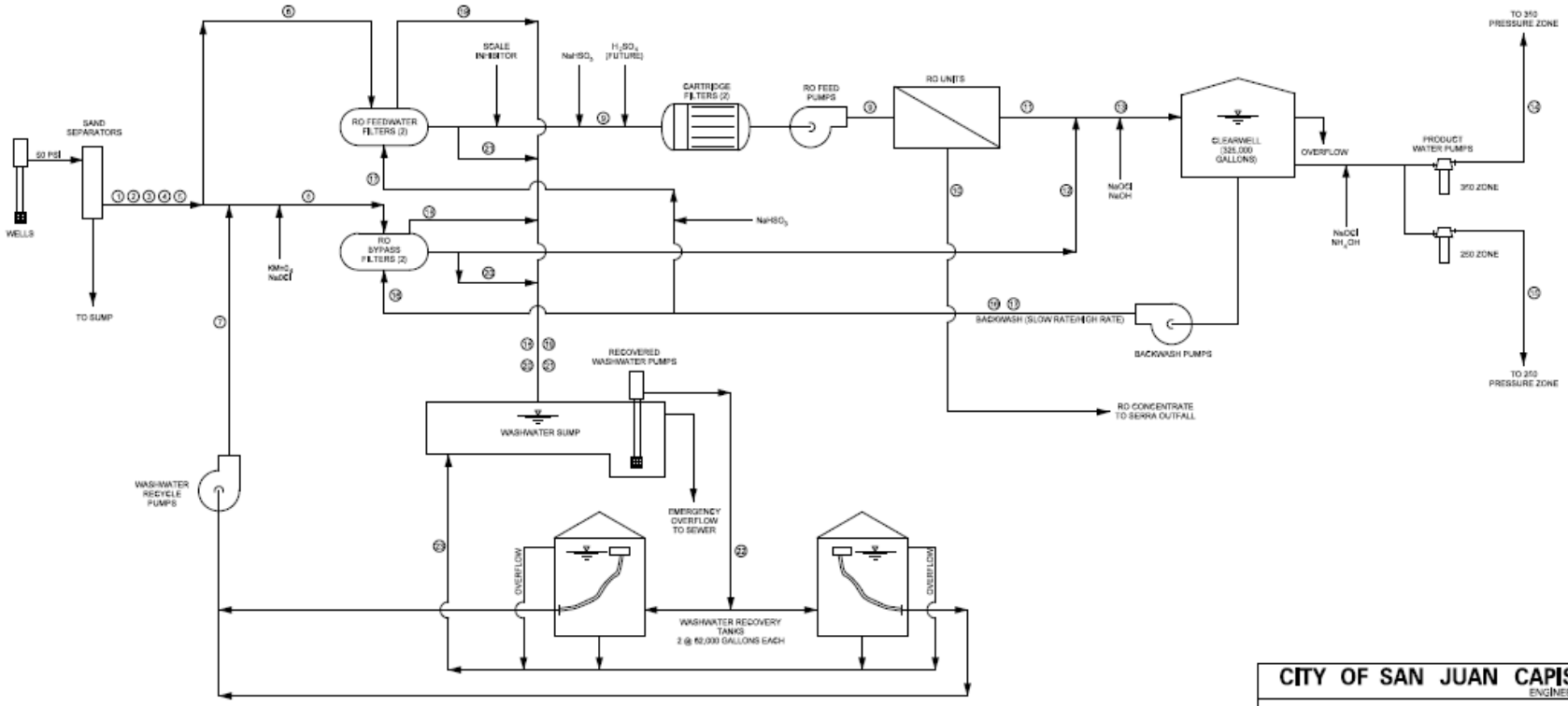


City of San Juan Capistrano Groundwater Treatment Plant Flow Schematic

DESIGN OPERATION • 2 R.O. TRAINS IN OPERATION

STREAM NUMBER	1	2	3 *	4 *	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
STREAM DESCRIPTION	WELL WATER					RO FEEDWATER FILTER INFLUENT 4 AND 3 + 3	RO BYPASS FILTERS		RO STREAMS			RO BYPASS FILTER EFFLUENT	PRODUCT WATER			BACKWASH SUPPLY		SPENT WASHWATER				RECOVERED WASHWATER TO TANKS	DRAIN AND OVERFLOW TO WASHWATER SUMP
	RO FEEDWATER FILTER (RO FEED)	RO BYPASS FILTER FEED (TO CLEARWELL)	RO FEEDWATER FILTER TO WASTE	RO BYPASS FILTER TO WASTE	TOTAL WELL WATER NORM/PEAK	NORM/PEAK	RECYCLED WASHWATER	TOTAL 2 + 7 AND 2 + 7 + 4 NORM/PEAK	FEEDWATER	CONCENTRATE	PERMEATE		TO CLEARWELL	TO 350 ZONE	TO 250 ZONE	TO RO BYPASS FILTERS NORM/PEAK	TO RO FEEDWATER FILTERS NORM/PEAK	BACKWASH TO RECOVERY: FROM RO BYPASS FILTERS NORM/PEAK	BACKWASH TO RECOVERY: FROM RO FEEDWATER FILTERS NORM/PEAK	FILTER TO WASTE TO RECOVERY: FROM RO BYPASS FILTERS	FILTER TO WASTE TO RECOVERY: FROM RO FEEDWATER FILTERS		
FLOW, gpm	3470	750	550	400	4220/5110	3470/4960	150	900/1300	3470	894	2776	600	3676	0-3672	0-1748	670/2450	670/2450	670/2450	670/2450	400	550	500	N/A
MGD (NORMAL)	5.00	1.08	0.07	0.03	6.06	5.00	0.22	1.30	5.00	1.00	4.00	1.30	5.30	0-5.14	0-2.51	0.07	0.07	0.07	0.07	0.03	0.07	0.24	0.02
PRESSURE, psig	40	40	40	40	40	40	40	40	140	120	20	20	20	120-150	70-70	40	40	40	40	30	30	15	0
TDS, mg/L	1750	1750	1750	1750	1750	1750	1000	1705	1750	6500	100	1530	450	450	450	450	450	450	450	1705	1705	1530	450
SIZE (INCHES)	20	20	20	20	20	14	20	16	16	4	14	12	16	16	16	4	14	12	12	6	4	8	12

* FOLLOWING FILTER BACKWASH ONLY
** 4210/5510 = MIN. FLOW/MAX. FLOW (TYPICAL)



CITY OF SAN JUAN CAPISTRANO
ENGINEERING DIVISION

GROUNDWATER RECOVERY PLANT UPGRADES

EXISTING PROCESS FLOW DIAGRAM

AKM Consulting Engineers
553 Wald
Irvine CA. 92618
(949) 753-7333

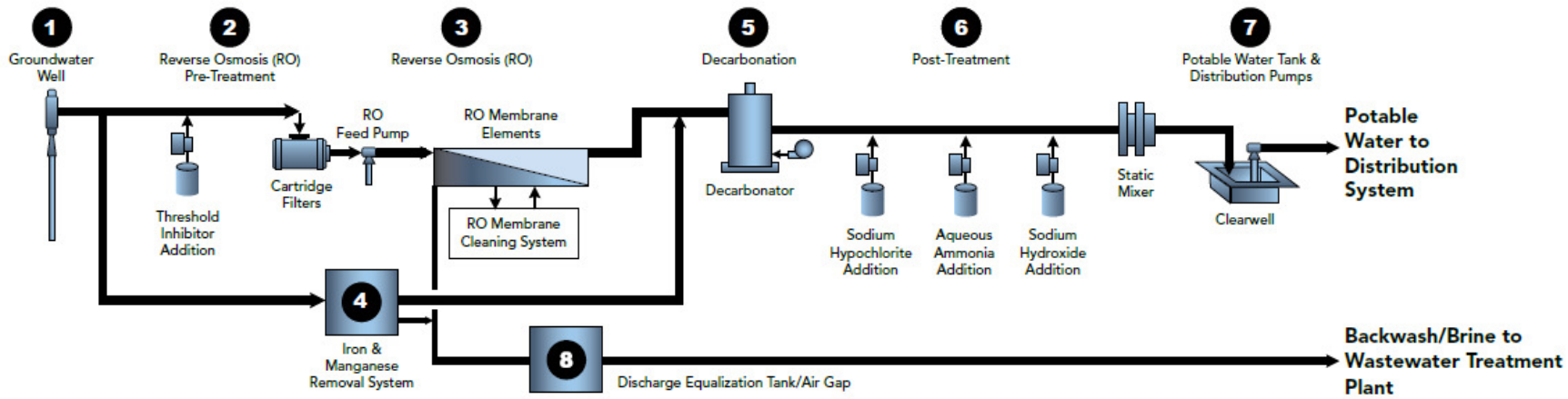
SHEET 4 OF 20

Underground Service Alert
Call: TOLL FREE 811
TWO WORKING DAYS BEFORE YOU DIG

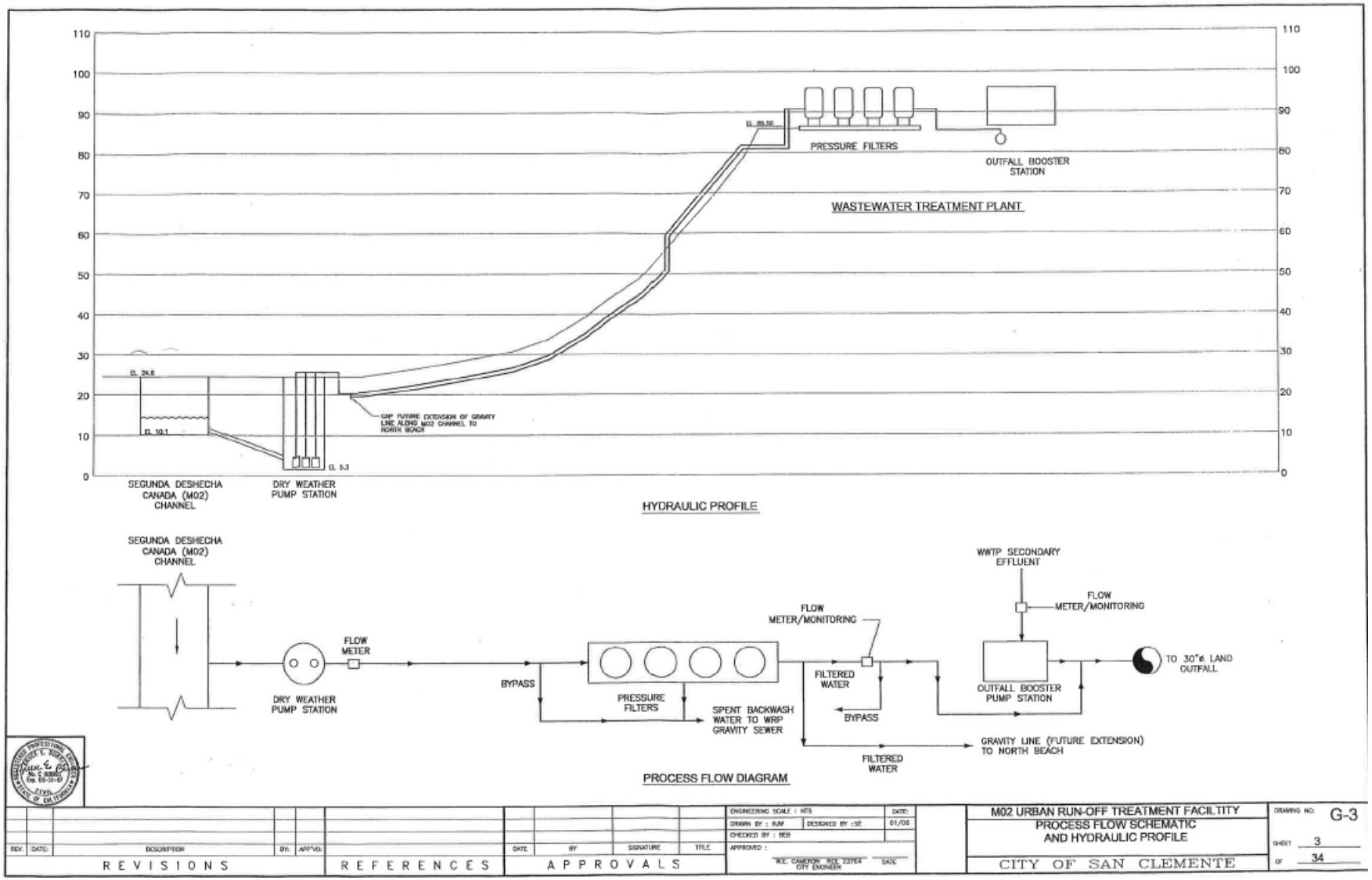
CITY OF SAN JUAN CAPISTRANO

South Coast Water District Groundwater Recovery Facility Flow Schematic

SOUTH COAST WATER DISTRICT
GROUNDWATER RECOVERY FACILITY
33750 Stonehill Drive
Dana Point, CA 92629
Permit #3010055



Flow Schematic of San Clemente Segunda Deshecha Runoff Plant



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit reissuance application. (section 122.41(a), title 40 of the Code of Federal Regulations, 40 CFR 122.41(a))

2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 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 California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), State Water Resources Control Board (State Water Board), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR 122.41(i); CWC, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 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)); and

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, I.G.4, and I.G.5 below. (40 CFR 122.41(m)(2))

3. Prohibition of bypass. Bypass is prohibited, and the San Diego 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)(i)(A));

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

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

4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego 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 (24-hour notice). (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 Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 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 Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 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)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (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 San Diego Water Board. The San Diego 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); 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); 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 San Diego Water Board 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 San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, 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 San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR 122.41(k))
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR 122.22(a)(3)).
3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR 122.22(b)(1));

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

c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR 122.22(b)(3))

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board and State Water Board 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 Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 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 San Diego Water Board or State Water Board 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 San Diego 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))

3. The San Diego 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 San Diego 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 that are not subject to effluent limitations in this Order. (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 San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 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 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (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 San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8))

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the San Diego 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))

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Regulations at section 122.48, title 40 of the Code of Federal Regulations (40 CFR 122.48) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. Sections 13267 and 13383 of the California Water Code (CWC) also authorize the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring 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 San Diego Water Board. Samples shall be collected at times representative of "worst case" conditions with respect to compliance with the requirement of Order No. R9-2012-0012.

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 measurement is 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 U.S. 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. R9-2012-0012 and/or in this MRP and/or by the San Diego Water Board.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health (DPH) or a laboratory approved by the San Diego Water Board.

E. Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.

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 10 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 San Diego 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 chronic toxicity, with effluent limits or performance goals based on water quality objectives of the California Ocean Plan shall be conducted in accordance with procedures described in the California Ocean Plan 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

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-INFA	At the South Orange County Wastewater Authority (SOCWA) J.B. Latham Wastewater Plant (WP) and at a location where all influent flows to the treatment plant are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-INFB	At the Santa Margarita Water District (SMWD) Chiquita Water Reclamation Plant (WRP) and at a location where all influent flows to the treatment plant are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-INFC	At the SOCWA 3A Reclamation Plant (RP) and at a location where all influent flows to the treatment plant are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-INFD	At the City of San Clemente WRP and at a location where all influent flows to the treatment plant are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
001	M-001	At a location where representative samples of commingled effluent from all contributors to the San Juan Creek Ocean Outfall (SJCOO). Monitoring shall be performed in the sampling vault in the Doheny State Beach Park through a sampling port in the outfall pipe.
--	M-001A	Final effluent from the SOCWA J.B. Latham WP and downstream of any in-plant return flows and disinfection units where representative samples of effluent treated solely at the treatment plant can be collected.
--	M-001B	Final effluent from the SMWD Chiquita WRP and downstream of any in-plant return flows and disinfection units where representative samples of effluent treated solely at the treatment plant can be collected.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-001C	Final effluent from the SOCWA 3A RP and downstream of any in-plant return flows and disinfection units where representative samples of effluent treated solely at the treatment plant can be collected.
--	M-001D	Final effluent from the City of San Clemente WRP and downstream of any in-plant return flows and disinfection units where representative samples of effluent treated solely at the treatment plant can be collected.
--	M-001E	Brine discharge from the City of San Juan Capistrano Groundwater Treatment Plant (GTP) prior to mixing with any other flows directed to the SJCOO.
--	M-001F	Brine discharge from the South Coast Water District Groundwater Recovery Facility (GRF) prior to mixing with any other flows directed to the SJCOO.
--	M-001G	Treated effluent from the San Clemente Segunda Deshecha Runoff Plant (urban runoff treatment process) prior to mixing with flows in the San Clemente Land Outfall.
NEAR SHORE STATIONS		
--	N1	At the 30-foot depth contour, 6,000 feet down-coast from the outfall
--	N2	At the 30-foot depth contour, 4,000 feet down-coast from the outfall
--	N3	At the 30-foot depth contour, 2,000 feet down-coast from the outfall
--	N4	At the 30-foot depth contour, 2,000 feet up-coast from the outfall
--	N5	At the 30-foot depth contour, 4,000 feet up-coast from the outfall
--	N6	At the 30-foot depth contour, 6,000 feet up-coast from the outfall
OFFSHORE STATIONS		
--	A1 – A4	At the corners of a 2,000 feet x 2,000 feet square having one side parallel to shore and the intersection of its diagonals located at the center of the outfall diffuser sections. Station A1 shall be located at the east corner and Stations A2 through A4 at successive corners in a clockwise direction.
--	A5	At the intersection of the diagonals of the above square.
--	B1	1 mile down-coast from the outfall, and over the same depth contour as Station A5
--	B2	1 mile up-coast from the outfall, and over the same depth contour as Station A5
TRAWL STATIONS		
--	T0	At the 20, 40, 60, and 80 foot depth contours along the transect located 50 feet down-coast of and parallel to the outfall
--	T1	At the 20, 40, 60, and 80 foot depth contours along the transect located 1 mile down-coast of and parallel to the outfall
--	T2	At the 20, 40, 60, and 80 foot depth contours along the transect located 1.5 miles up-coast of and parallel to the outfall

B. Monitoring station locations may be modified with the approval of the San Diego Water Board.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-INFA, M-INFB, M-INFC, and M-INFD

1. The Discharger shall monitor at Monitoring Locations M-INFA, M-INFB, M-INFC, and M-INFD upstream of any in-plant return flows, and where representative samples of the influent can be obtained. Influent samples shall be collected on the same day as, and shortly before the collection of effluent samples. Sampling shall be monitored as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	1/Week	[1]
	lbs/day	Calculate[2]	1/Week	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	1/Month	[1]
	lbs/day	Calculate[2]	1/Month	--
Total Suspended Solids	mg/L	24-hr Composite	1/Week	[1]
	lbs/day	Calculate[2]	1/Week	--

[1] As required under 40 CFR Part 136.

[2] The Discharger shall calculate and report the Mass Emission Rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001A, M-001B, M-001C, and M-001D

1. The Discharger shall monitor the effluent at Monitoring Locations M-001A, M-001B, M-001C, and M-001D as follows.

Table E-3. Effluent Monitoring at M-001A, M-001B, M-001C, and M-001D

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Carbonaceous Biochemical Oxygen Demand (5-day @ 20ºC)	mg/L	24-hr Composite	1/Day[2]	[1]
	lbs/day	Calculate[3]	1/Day[2]	--
	% Removal	Calculate[4]	1/Day[2]	--
Biochemical Oxygen Demand (5-day @ 20ºC)	mg/L	24-hr composite	1/Month	[1]
	lbs/day	Calculate[3]	1/Month	--
	% Removal	Calculate[4]	1/Month	--
Total Suspended Solids	mg/L	24-hr Composite	1/Day[2]	[1]
	lbs/day	Calculate[3]	1/Day[2]	--
	% Removal	Calculate[4]	1/Day[2]	--
Settleable Solids	mL/L	Grab	1/Day[2]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Oil and Grease	mg/L	Grab	1/Month	[1]
	lbs/day	Calculate[3]	1/Month	
Turbidity	NTU	Grab	1/Week	[1]
pH	standard units	Grab	1/Day[2]	[1]

1 As required under 40 CFR Part 136.
2 Five days per week except seven days per week for at least one week during July or August of each year.
3 The Discharger shall calculate and report the Mass Emission Rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.
4 The Discharger shall calculate the daily percent average removal and report the monthly average percent removal for $CBOD_5$, BOD_5 and TSS in accordance with section VII.H of this Order.

B. Monitoring Location M-001

1. The Discharger shall monitor the effluent from Monitoring Location M-001 (Discharge Point No. 001) as follows.

Table E-4. Effluent Monitoring at M-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Temperature	°F	Grab	1/Week	[1]
Dissolved Oxygen	mg/L	Grab	1/Week	[1]
~~Total Suspended Solids[17]~~	~~mg/L~~	~~24-hr Composite~~	~~1/Month~~	~~[1]~~
~~Oil and Grease[17]~~	~~mg/L~~	~~Grab~~	~~1/Month~~	~~[1]~~
~~Settleable Solids[17]~~	~~ml/L~~	~~Grab~~	~~1/Month~~	~~[1]~~
~~Turbidity[17]~~	~~NTU~~	~~Grab~~	~~1/Month~~	~~[1]~~
~~pH[17]~~	~~standard units~~	~~Grab~~	~~1/Month~~	~~[1]~~
Conductivity	mmhos/cm	Grab	1/Month	[1]
TABLE B PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Cadmium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Chromium (VI), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[2,3]	[1]
Copper, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Lead, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Mercury, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Nickel, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Selenium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Silver, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Zinc, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Cyanide, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1,5]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chlorine, Total Residual	µg/L	Grab	1/Day[2,6]	[1]
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	1/Month[2,3]	[1]
Phenolic Compounds (nonchlorinated)[7]	µg/L	Grab	2/Year[2,3]	[1]
Phenolic Compounds (chlorinated)[8]	µg/L	Grab	2/Year[2,3]	[1]
Endosulfan[9]	µg/L	Grab	2/Year[2,3]	[1]
Endrin	µg/L	Grab	2/Year[2,3]	[1]
HCH[10]	µg/L	Grab	2/Year[2,3]	[1]
Radioactivity	pCi/L	24-hr Composite	2/Year[2,3]	[1]
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS				
Acrolein	µg/L	Grab	2/Year[2,3]	[1]
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Bis (2-chloroethoxy) Methane	µg/L	Grab	2/Year[2,3]	[1]
Bis (2-chloroisopropyl) Ether	µg/L	Grab	2/Year[2,3]	[1]
Chlorobenzene	µg/L	Grab	2/Year[2,3]	[1]
Chromium (III), Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Di-n-butyl Phthalate	µg/L	Grab	2/Year[2,3]	[1]
Dichlorobenzenes[11]	µg/L	Grab	2/Year[2,3]	[1]
Diethyl Phthalate	µg/L	Grab	2/Year[2,3]	[1]
Dimethyl Phthalate	µg/L	Grab	2/Year[2,3]	[1]
4,6-dinitro-2-methylphenol	µg/L	Grab	2/Year[2,3]	[1]
2,4-dinitrophenol	µg/L	Grab	2/Year[2,3]	[1]
Ethylbenzene	µg/L	Grab	2/Year[2,3]	[1]
Fluoranthene	µg/L	Grab	2/Year[2,3]	[1]
Hexachlorocyclopentadiene	µg/L	Grab	2/Year[2,3]	[1]
Nitrobenzene	µg/L	Grab	2/Year[2,3]	[1]
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Toluene	µg/L	Grab	2/Year[2,3]	[1]
Tributyltin	µg/L	24-hr Composite	2/Year[2,3]	[1]
1,1,1-trichloroethane	µg/L	Grab	2/Year[2,3]	[1]
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	Grab	2/Year[2,3]	[1]
Aldrin	µg/L	Grab	2/Year[2,3]	[1]
Benzene	µg/L	Grab	2/Year[2,3]	[1]
Benzidine	µg/L	Grab	2/Year[2,3]	[1]
Beryllium, Total Recoverable	µg/L	24-hr composite	2/Year[2,3]	[1]
Bis (2-chloroethyl) Ether	µg/L	Grab	2/Year[2,3]	[1]
Bis (2-ethlyhexyl) Phthalate	µg/L	Grab	2/Year[2,3]	[1]
Carbon Tetrachloride	µg/L	Grab	2/Year[2,3]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chlordane	µg/L	Grab	2/Year[2,3]	[1]
Chlorodibromomethane	µg/L	Grab	2/Year[2,3]	[1]
Chloroform	µg/L	Grab	2/Year[2,3]	[1]
DDT[12]	µg/L	Grab	2/Year[2,3]	[1]
1,4-dichlorobenzene	µg/L	Grab	2/Year[2,3]	[1]
3,3'-dichlorobenzidine	µg/L	Grab	2/Year[2,3]	[1]
1,2-dichloroethane	µg/L	Grab	2/Year[2,3]	[1]
1,1-dichloroethylene	µg/L	Grab	2/Year[2,3]	[1]
Dichlorobromomethane	µg/L	Grab	2/Year[2,3]	[1]
Dichloromethane	µg/L	Grab	2/Year[2,3]	[1]
1,3-dichloropropene	µg/L	Grab	2/Year[2,3]	[1]
Dieldrin	µg/L	Grab	2/Year[2,3]	[1]
2,4-dinitrotoluene	µg/L	Grab	2/Year[2,3]	[1]
1,2-diphenylhydrazine	µg/L	Grab	2/Year[2,3]	[1]
Halomethanes[13]	µg/L	Grab	2/Year[2,3]	[1]
Heptachlor	µg/L	Grab	2/Year[2,3]	[1]
Heptachlor Epoxide	µg/L	Grab	2/Year[2,3]	[1]
Hexachlorobenzene	µg/L	Grab	2/Year[2,3]	[1]
Hexachlorobutadiene	µg/L	Grab	2/Year[2,3]	[1]
Hexachloroethane	µg/L	Grab	2/Year[2,3]	[1]
Isophorone	µg/L	Grab	2/Year[2,3]	[1]
N-nitrosodimethylamine	µg/L	Grab	2/Year[2,3]	[1]
N-nitrosodi-N-propylamine	µg/L	Grab	2/Year[2,3]	[1]
N-nitrosodiphenylamine	µg/L	Grab	2/Year[2,3]	[1]
PAHs[14]	µg/L	Grab	2/Year[2,3]	[1]
PCBs[15]	µg/L	Grab	2/Year[2,3]	[1]
TCDD equivalents[16]	µg/L	Grab	2/Year[2,3]	[1]
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year[2,3]	[1]
Tetrachloroethylene	µg/L	Grab	2/Year[2,3]	[1]
Toxaphene	µg/L	Grab	2/Year[2,3]	[1]
Trichloroethylene	µg/L	Grab	2/Year[2,3]	[1]
1,1,2-trichloroethane	µg/L	Grab	2/Year[2,3]	[1]
2,4,6-trichlorophenol	µg/L	Grab	2/Year[2,3]	[1]
Vinyl Chloride	µg/L	Grab	2/Year[2,3]	[1]

[1] As required under 40 CFR Part 136.

[2] The Discharger shall calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.

[3] The Discharger shall monitor quarterly, except ammonia, which shall be twice per month, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. 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 applicable effluent limitations or performance goals specified in this Order.

[4] The Discharger may, at their option, apply this performance goal as a total chromium performance goal.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method

[5] If a Discharger can demonstrate to the satisfaction of the San Diego 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 the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic 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 Part 136, as revised May 14, 1999.

[6] Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to this Order 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.

[7] Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

[8] Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

[9] Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

[10] HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

[11] Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

[12] DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

[13] Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

[14] PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 4,5-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

[15] PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

[16] TCDD equivalents represent 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. USEPA Method 8280 may be used to analyze TCDD equivalents.

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
2,4,5,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
Octa CDF	0.001

~~These parameters are for measuring compliance with the SCWD GRF Effluent Limitations (Table 13 of Order No. R9-2012-0012)~~

C. Monitoring Locations M-001E, M-001F, and M-001G

1. The Discharger shall monitor the effluent from Monitoring Locations M-001E, M-001F, and M-001G as follows.

Table E-5. Effluent Monitoring at M-001E, M-001F, and M-001G

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Total Suspended Solids	mg/L	24-hr Composite	1/Month	[1]
	lbs/day	Calculate[2]	1/Month	--
Settleable Solids	mL/L	Grab	1/Month	[1]
Oil and Grease	mg/L	Grab	1/Month	[1]
	lbs/day	Calculate[2]	1/Month	--
Turbidity	NTU	Grab	1/Month	[1]
pH	standard units	Grab	1/Month	[1]
Conductivity	mmhos/cm	Grab	1/Month	[1]

[1] As required under 40 CFR Part 136.
[2] The Discharger shall calculate and report the Mass Emission Rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.

V. WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS

The Discharger shall conduct chronic toxicity testing on effluent samples collected at Monitoring Location M-001, in accordance with the following schedule and requirements:

Table E-6. Whole Effluent Toxicity Testing

Test	Unit	Sample Type	Minimum Test Frequency
Screening period for chronic toxicity	TU_c	24-hr Composite	Every other year for 3 months, beginning with the calendar year 2012
Chronic Toxicity	TU_c	24-hr Composite	1/Quarter

Critical life stage toxicity tests shall be performed to measure chronic toxicity. Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine 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* (State Water Resources Control Board 1996).

A screening period for chronic toxicity shall be conducted every other year, beginning with the calendar year 2012. Each screening period shall consist of 3 consecutive months of WET tests, using a minimum of three test species with approved test protocols, from the list provided in Table E-7 below (from the Ocean Plan). Repeat screening periods may be terminated after the first month if the most sensitive species is the same as the species previously found to be most sensitive. Other tests may be used, if they have been approved for such testing by the State Water

Resources Control Board (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 quarterly testing. Control and dilution water should be receiving water or lab water as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

Table E-7. Approved Test for Chronic Toxicity

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

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

[2] Protocol References:

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

If the performance goal for chronic toxicity is exceeded in any one test, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the toxicity performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the San Diego Water Board. If the San Diego Water Board determines that the discharge consistently exceeds a toxicity performance goal, then the Discharger shall initiate a TRE/TIE in accordance with the TRE workplan, Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (USEPA 833-B-99-002, 1999), and USEPA TIE guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity performance goal identified in section IV.A.2 of this Order.

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 the toxicity performance goal of this Order and prevent recurrence of exceedances of those performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the San Diego Water Board.

If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

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

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

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. Near Shore Water Quality Monitoring

All near shore stations shall be monitored as follows.

1. Reduced Monitoring

If the San Diego Water Board determines that the effluent at all times complies with the effluent limitations and performance goals at section IV.A of this Order and the receiving water limitations at section V.A of this Order, only reduced near shore water quality monitoring specified below is required.

Table E-8. Near Shore Water Quality Reduced Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enterococcus	Number / 100 mL	Grab[1]	1/Month

[1] At the surface.

2. Intensive Monitoring

The intensive near shore water quality monitoring specified below is required during the 12-month period beginning July 1, 2013 through June 30, 2014, and must be submitted by October 1, 2016. The intensive near shore water quality monitoring specified below is also required if the San Diego Water Board determines that 1) the effluent does not at all times comply with the effluent limitations and performance goals at section IV.A of this Order, or 2) the receiving water limitations at section V.A of this Order are not being consistently achieved.

Table E-9. Near Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enterococcus	Number / 100 mL	Grab[1]	1/Month

[1] At the surface and mid-depth.

B. Off Shore Water Quality Monitoring

All off shore stations shall be monitored as follows.

1. Reduced Monitoring

If the San Diego Water Board determines that the effluent at all times complies with the effluent limitations and performance goals at section IV.A of this Order and the receiving water limitations at section V.A of this Order, only reduced off shore water quality monitoring specified below is required.

Table E-10.Off Shore Water Quality Reduced Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enterococcus	Number / 100 mL	Grab[1]	1/Month

[1] At surface and mid-depth.

2. Intensive Monitoring

The intensive off shore water quality monitoring specified below is required during the 12-month period beginning July 1, 2013 through June 30, 2014, and must be submitted by October 1, 2016. The intensive off shore water quality monitoring specified below may also be required if the San Diego Water Board determines that 1) the effluent does not at all times comply with the effluent limitations and performance goals at section IV.A of this Order or 2) the receiving water limitations section V.A of this Order are not being consistently achieved.

Table E-11. Off Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enteroccoccus	Number / 100 mL	Grab[1]	1/Month
Salinity, Temperature, and Depth	Practical Salinity Units, °F, feet	Grab[2]	1/Month
Dissolved Oxygen	mg/L	Grab[3]	1/Month
Light Transmittance	percent	Instrument[3]	1/Month
pH	standard units	Grab[4]	1/Month

1 At the surface and mid-depth.
2 At 1-meter intervals, surface to bottom.
3 At the surface, mid-depth, and bottom.
4 At the surface.

C. Benthic Monitoring

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2013 through June 30, 2014, and must be submitted by October 1, 2016. The sediment monitoring specified below may also be required if the San Diego Water Board determines that 1) the effluent does not at all times comply with Effluent Limitations and Performance Goals at section IV.A of this Order or 2) the receiving water limitations section V.A of this Order are not being consistently achieved. Benthic monitoring shall be conducted at all off shore monitoring stations.

1. **Sediment Characteristics**. Analyses shall be performed on the upper 2 inches of core.

Table E-12. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	Core	2/Year
Total Chlorinated Hydrocarbons	mg/kg	Core	2/Year
Biochemical Oxygen Demand (5-day @ 20°C)	mg/kg	Core	2/Year
Chemical Oxygen Demand	mg/kg	Core	2/Year
Particle Size Distribution	mg/kg	Core	2/Year
Arsenic	mg/kg	Core	1/Year
Cadmium	mg/kg	Core	1/Year
Total Chromium	mg/kg	Core	1/Year
Copper	mg/kg	Core	1/Year
Lead	mg/kg	Core	1/Year
Mercury	mg/kg	Core	1/Year
Nickel	mg/kg	Core	1/Year
Silver	mg/kg	Core	1/Year
Zinc	mg/kg	Core	1/Year
Cyanide	mg/kg	Core	1/Year
Phenolic Compounds (non-chlorinated)	mg/kg	Core	1/Year
Chlorinated Phenolics	mg/kg	Core	1/Year
Aldrin and Dieldrin	mg/kg	Core	1/Year
Chlordane and Related Compounds	mg/kg	Core	1/Year
DDT and Derivatives	mg/kg	Core	1/Year
Endrin	mg/kg	Core	1/Year
HCH	mg/kg	Core	1/Year

Determination	Units	Type of Sample	Minimum Frequency
PCBs	mg/kg	Core	1/Year
Toxaphene	mg/kg	Core	1/Year
Radioactivity	pCi/kg	Core	1/Year

2. **Infauna.** Unless authorized by the San Diego Water Board to use an alternative method, samples shall be collected with a Paterson, Smith-McIntyre, or orange-peel type dredge, having an open sampling area of not less than 124 square inches and a sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a 1-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

Table E-13. Infauna Monitoring Requirements

Determination	Units	Sample Type	Minimum Frequency
Benthic Biota	Identification and enumeration	3 Grabs	2/Year

D. Additional Biological Monitoring – Demersal Fish and Macroinvertebrates

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2013 through June 30, 2014, and must be submitted by October 1, 2016. The biological monitoring specified below is also required if the San Diego Water Board determines that 1) the effluent does not at all times comply with effluent limitations and performance goals of this Order or 2) the receiving water limitations of this Order are not being consistently achieved.

Table E-14. Demersal Fish and Macroinvertebrates Monitoring Requirements

Determination	Units	Minimum Frequency
Biological Transects	Identification and enumeration	1/Year

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.

In rocky or cobble 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) enumeration by estimate of the larger plants and animals in the band transect area; (4) development of a representative photographic record of the sample area; and (5) within each band, three one-quarter meter square areas shall be randomly selected, and all macroscopic plant and animal life shall be identified within each square to as low a taxon as possible, and measured. 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 square centimeters (cm^2) in area shall be randomly taken to a depth of 15 centimeters (cm) where possible, (the three cores may be taken from a boat) and the material removed sifted through at least a 1 millimeter (mm) mesh screen, and all organisms identified to as low a taxon as possible, enumerated, measured, and reproductive conditions assessed where feasible. Sampling techniques will follow those employed by biologist divers of the California State Department of Fish and Game.

For each epifauna and infauna, size frequency and distribution shall be shown for at least the three numerically largest populations identified to the lowest possible taxon and appropriate graphs showing the relationship between species frequency and population shall be plotted from each sample.

IX. OTHER MONITORING REQUIREMENTS

A. Kelp Bed Canopy

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 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 mean lower low water (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The aerial 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.

B. Regional Monitoring

The Discharger shall, as directed by the San Diego Water Board, participate with other regulated entities, other interested parties, and the San Diego Water Board in development, refinement, implementation, and coordination of regional monitoring and assessment programs to:

1. Determine the status and trends of conditions in ocean waters with regard to beneficial uses, e.g.
   a. Are fish and shellfish safe to eat?
   b. Is water quality safe for swimming?
   c. Are ecosystems healthy?
2. Identify the stressors causing / contributing to conditions of concern;
3. Identify the sources of the stressors causing / contributing to conditions of concern; and

4. Evaluate the effectiveness (i.e., environmental outcomes) of actions taken to address such stressors and sources.

C. Solids Monitoring

Each POTW contributing treated effluent to the SJCOO shall report, annually, the volume of screenings, sludge [biosolids], 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 Part 503 shall be submitted to the San Diego Water Board at the same time they are submitted to the USEPA.

D. Unified Beach Water Quality Monitoring and Assessment Program

The Discharger shall participate in and, together with the south Orange County MS4 copermittees and Orange County Health Care Agency, shall share responsibility for implementation of a unified regional beach water quality monitoring and assessment program in south Orange County as directed by the San Diego Water Board Executive Officer pursuant to Water Code section 13383.

Future revisions to the unified program may be made by the San Diego Water Board Executive Officer, provided that the unified program, as revised, remains consistent with and meets the requirements of state law, including the California Ocean Plan, for beach water quality monitoring and related public notification and reporting. Revisions to the section 13383 letter directive are subject to a thirty-day public comment period, subject to a request for a hearing before the San Diego Water Board, and may be appealed to the State Water Board.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of this MRP shall include, as a minimum, the following information:

a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).

b. A description of sampling stations, including differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.).

c. A description of the sample collection and preservation procedures used in the survey.

d. A description of the specific method used for laboratory analysis.

e. An in-depth discussion of the results of the survey. All tabulations and computations shall be explained.

f. Annual reports will include detailed statistical analyses of all data. Methods may include, but are not limited to, various multivariate analyses such as cluster analysis, ordination, and regression. The Discharger should also conduct additional analyses, as appropriate, to elucidate temporal and spatial trends in the data.

3. The Discharger shall report all instances of noncompliance not reported under Attachment D, Sections V.E, V.G, and V.H, of this Order at the time monitoring reports are submitted.

4. By March 1 of each year, the Discharger shall submit an annual report to the San Diego 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 this Order and this MRP.

B. Self Monitoring Reports (SMRs)

1. The Discharger shall electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

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

3. Unless otherwise noted in the MRP, monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-15. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	All	First day of second calendar month following month of sampling.
1/Day	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling.
1/Week	First Sunday of the calendar month following the permit effective date or on permit effective date if on a Sunday.	Sunday through Saturday	First day of second calendar month following month of sampling.

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
1/Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month.	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date.	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
2/Year	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30 July 1 through December 31	September 1 March 1
Significant Industrial User Compliance Status Report	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30 July 1 through December 31	September 1 March 1
1/Year Pretreatment Program Biosolids Report	January 1 following (or on) permit effective date.	January 1 through December 31	March 1 (Biosolids Report – February 19)
Intensive Monitoring	July 1, 2013	July 1, 2013 through June 30, 2014	October 1, 2016

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136. For each numeric effluent limitation or performance goal for a parameter identified in Table B of the Ocean Plan, the Discharger shall not use a ML greater than that specified in Appendix II of the Ocean Plan.

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

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

   b. Sample results less than the ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. Compliance Determination. Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

6. Multiple Sample Data. When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. The Discharger shall submit SMRs in accordance with the following requirements:

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

b. The Discharger shall attach a cover letter to the SMR.

c. The Discharger shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions within CIWQS. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

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

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

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

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

D. Other Reports

1. The Discharger shall report the results of any chronic toxicity testing, TRE/TIE, San Juan Creek Ocean Outfall Capacity Study, Treatment Plant Capacity Report (if needed), Sludge Disposal Report, Significant Industrial User Compliance Status Report, Intensive Monitoring, and Pretreatment Report, as required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	**9 000000175**	
Discharger	South Orange County Wastewater Authority (SOCWA)	
Name of Facility	San Juan Creek Ocean Outfall	
Facility Address	SOCWA J.B. Latham Wastewater Plant	34156 Del Obispo Street Dana Point, CA 92629 Orange County
	Santa Margarita Water District Chiquita Water Reclamation Plant	28793 Ortega Highway San Juan Capistrano, CA 92675 Orange County
	SOCWA 3A Reclamation Plant	26801 Camino Capistrano Mission Viejo, CA 92653 Orange County
	City of San Clemente Water Reclamation Plant	380 Avenida Pico San Clemente, CA 92672 Orange County
	Santa Margarita Water District Oso Creek Water Reclamation Plant	27402 East La Paz Road Mission Viejo, CA 92692 Orange County
	San Juan Capistrano Groundwater Treatment Plant	32470 Paseo Adelanto San Juan Capistrano, CA 92675 Orange County
	South Coast Water District Groundwater Recovery Facility	33750 Stonehill Drive Dana Point, CA 92629 Orange County
	City of San Clemente Segunda Deshecha Runoff Plant	311.5 Avenida Pico San Clemente, CA 92672 Orange County
Facility Contact, Title and Phone	Betty Burnett, General Manager, 949-234-5421	
Authorized Person to Sign and Submit Reports	Betty Burnett, General Manager	
Mailing Address	34156 Del Obispo Street Dana Point, CA 92629	
Billing Address	Same as Mailing Address	
Type of Facility	Publicly Owned Treatment Works (POTW), Ground Water Desalination Facilities, and , and Urban Runoff Treatment Facility	

Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Producer and Distributor (regulated under separate waste discharge requirements (WDRs))
Facility Permitted Flow	• SOCWA J.B. Latham Wastewater Plant – 13.0 million gallons per day (MGD) • SMWD Chiquita Water Reclamation Plant – 9.0 MGD • SOCWA 3A Reclamation Plant – 6.0 MGD • San Clemente Water Reclamation Plant – 6.98 MGD • San Juan Capistrano Groundwater Treatment Plant - 2.2 MGD • South Coast Water District Groundwater Recovery System – 0.60 MGD • San Clemente Segunda Deshecha Runoff Plant – 1.0 MGD
Facility Design Flow	Ocean outfall: 24 MGD (gravity flow) and 80 MGD (pumped flow)
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

A. The SOCWA (hereinafter Discharger) is a joint powers authority formed to reduce duplication and provide operational efficiency through consolidation. SOCWA is the legal successor to the Aliso Water Management Agency, the South East Regional Reclamation Authority, and the South Orange County Reclamation Authority. SOCWA is comprised of 10 member agencies including the City of Laguna Beach, the City of San Clemente, the City of San Juan Capistrano, El Toro Water District, Emerald Bay Service District, Irvine Ranch Water District, Moulton Niguel Water District (MNWD), Santa Margarita Water District (SMWD), South Coast Water District (SCWD) and Trabuco Canyon Water District.

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

C. SOCWA operates the San Juan Creek Ocean Outfall (SJCOO), which receives treated effluent from the following municipal wastewater treatment plants; the SOCWA J.B. Latham Wastewater Plant (WP), the SMWD Chiquita Water Reclamation Plant (WRP), the SOCWA 3A Reclamation Plant (RP), and the City of San Clemente WRP. In addition, a number of dry-weather nuisance discharges from a number of sources to the Segunda Deshecha (M02) Flood Control Channel are treated and discharged through the City of San Clemente Segunda Deshecha Runoff Plant, and brine discharges from the City of San Juan Capistrano and the South Coast Water District groundwater treatment plants are also routed to the SJCOO. All the discharges to the SJCOO are collectively referred to as the Facilities.

D. The Discharger discharges effluent from a variety of sources through the SJCOO to the Pacific Ocean, a water of the United States, and is currently regulated by Order No. R9-2006-0054, which was adopted on August 16, 2006 and expired on October 1, 2011. In accordance with 40 CFR 122.6, the terms of the existing Order automatically continued in effect after the permit expiration date.

E. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its WDRs and National Pollutant Discharge Elimination System (NPDES) permit on March 31, 2011.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The following describes each of the facilities that discharge to the SJCOO.

1. SOCWA J.B. Latham Wastewater Plant

The SOCWA J.B. Latham WP, located at 34156 Del Obispo Street in the City of Dana Point, adjacent to San Juan Creek, is a conventional activated sludge treatment facility that services a population of 120,000 in four SOCWA member agencies: MNWD, SMWD, SCWD and the City of San Juan Capistrano. Wastewater treatment unit operations and processes are screening, grit removal, primary clarification, and secondary treatment using an activated sludge process consisting of aeration and clarification. The liquid handling portion of the plant is normally operated as two separate plants, referred to as the 9 MGD side and the 4 MGD side. The plant has chlorination facilities which are not being used at this time. Waste sludge is anaerobically digested and then dewatered using centrifuges. Dewatered biosolids are hauled to a sanitary landfill for disposal or composted by a contractor for reuse. It should be noted that the SOCWA J.B. Latham WP also receives municipal wastewater flows for treatment from the SMWD Oso Creek WRP when this treatment facility is off-line. All effluent from the SOCWA J.B. Latham WP is discharged to the Pacific Ocean through the SJCOO. The plant's design treatment capacity is 13.0 MGD.

The SOCWA J.B. Latham WP also receives dry-weather nuisance flows from a variety of projects designed to keep dry-weather low-volume stormwater flows in specific storm drains from crossing the beaches to the ocean by diverting the untreated flows to the headworks of the SOCWA J.B. Latham WP. The table below summarizes the sources of these untreated dry weather nuisance flows to the SOCWA J.B. Latham WP.

Table F-2. Dry-Weather Nuisance Flows Diverted to the SOCWA J.B. Latham WP

SOCWA Member Agency	Diversion Facility	Flow Limit[1] (gpd)
City of San Juan Capistrano	Alipaz Diversion Facility	72,000
South Coast Water District	Capistrano Beach Locations (including, Beach St., Beach Road, and Camino De Estrella)	80,000
	North Creek Diversion Facility	72,000
	Del Obispo Diversion Facilities	72,000
	Salt Creek	10,000
	Headlands	10,000
Total		**244,000**

[1] These are flow limitations placed on these discharges by SOCWA.

2. SMWD Chiquita Wastewater Reclamation Plant

The SMWD Chiquita WRP, located at 28793 Ortega Highway in the City of San Juan Capistrano, is a high-rate trickling filter treatment facility that services a population of 60,000 in the SMWD. Wastewater treatment unit operations and processes are screening, grit removal, primary clarification and secondary treatment using a combination of high-rate trickling filtration, recirculation, solids contact, activated sludge, secondary clarification, and filtration. The plant has chlorination facilities which are not being used at this time. Primary and secondary sludges are mixed, thickened, digested, dewatered, and transported either to a privately owned and operated composting facility in Riverside County or to a sanitary landfill for disposal. SMWD constructed advanced wastewater treatment facilities at the SMWD Chiquita WRP to provide recycled water for irrigation. Effluent not sent to the advanced treatment facilities for production of recycled water is discharged to the SJCOO via the SMWD Chiquita Land Outfall. The plant's design treatment capacity is 9.0 MGD.

3. SOCWA 3A Reclamation Plant

The SOCWA 3A RP, formerly MNWD 3A RP, located at 26801 Camino Capistrano, Mission Viejo, adjacent to Oso Creek, is a conventional activated sludge treatment facility that services a population of 41,000 in the SMWD and the MNWD. Wastewater treatment unit operations and processes are screening, aerated grit removal, primary sedimentation, aeration and secondary treatment using an activated sludge process consisting of aeration and clarification. Waste activated sludge is thickened by air flotation, pumped to an anaerobic digester for stabilization and subsequently dewatered using centrifuges. Dewatered sludge is either hauled to a sanitary landfill or to a privately owned and operated composting facility. This plant has chlorinating facilities, but only effluent intended to be used for irrigation is chlorinated. Secondary effluent is either directed to an on-site advanced water reclamation facility for further treatment or is discharged through the SJCOO via the San Juan Basin Authority Bypass, jointly owned by MNWD and SMWD, which connects to the SMWD Chiquita Land Outfall. The design capacity for treatment is 6.0 MGD.

4. SWMD Oso Creek Water Reclamation Plant

The SMWD Oso Creek WRP, located at 27402 East La Paz Road, Mission Viejo, adjacent to Oso Creek, treats wastewater flows from the SMWD. The Oso Creek WRP is an activated biofilter process treatment facility. Wastewater treatment unit operations and processes at the Oso Creek WRP are microscreening and secondary treatment using a combination of biofilters and clarification. This plant has chlorination facilities, but only effluent intended to be used for irrigation is chlorinated. Waste solids and filter backwash is returned to the Oso Trabuco Interceptor Sewer. Secondary effluent is directed to an onsite advanced water reclamation facility for further treatment and pumped to the Upper Oso Reservoir. There is no connection from the Oso Creek WRP to the SJCOO. In situations when the plant is off-line, the raw wastewater flows to the SOCWA J.B. Latham WP, where it is treated and then discharged through the SJCOO. The design capacity for treatment is 3.0 MGD.

5. City of San Clemente Water Reclamation Plant

The City of San Clemente WRP, located at 380 Avenida Pico, San Clemente, is a conventional activated sludge treatment facility that services a population of 68,000 in the City of San Clemente and a small portion of the SMWD. Wastewater treatment and unit operations and processes are screening, grit removal, primary clarification, and secondary treatment using an activated sludge process consisting of aeration and clarification. The plant has chlorination facilities, but only effluent intended to be used for irrigation is chlorinated. Settled primary sludges and skimmings are pumped to a two-stage anaerobic digestion process. Waste sludge is thickened, digested, dewatered, and transported to a sanitary landfill for disposal. Secondary effluent is either directed to an on-site advanced water reclamation facility for further treatment or discharged through the SJCOO via the San Clemente Land Outfall. The design capacity for treatment is 6.98 MGD.

6. San Juan Capistrano Groundwater Treatment Plant

The San Juan Capistrano GTP treats extracted groundwater to produce a potable water supply. Pretreatment at the San Juan Capistrano GTP for the removal of iron, manganese, and hardness includes sand separators; the addition of potassium permanganate and sodium hypochlorite; filters; the addition of scale inhibitor, sodium bisulfite, and sulfuric acid; and cartridge filters. Pretreatment is followed by reverse osmosis (RO), aeration within the clearwell, pH adjustment (sodium hydroxide and ammonium hydroxide), and disinfection (sodium hypochlorite). Filter washwater is recycled. Potable water from the plant is distributed for use in the City's potable water system. The resulting RO brine discharge of up to 2.2 MGD is discharged through the SJCOO.

7. South Coast Water District Groundwater Recovery Facility

The South Coast Water District Groundwater Recovery Facility (GRF) treats extracted groundwater to produce approximately 800 gallons per minute (gpm) of potable water from the Lower San Juan Groundwater Basin. Pretreatment at the GRF includes the addition of threshold inhibitor and cartridge filters. Pretreatment is followed by RO; decarbonation; the addition of sodium hypochlorite, aqueous ammonia, and sodium hydroxide; mechanical mixer; and clearwell. A portion of the groundwater bypasses pretreatment and RO to an iron and manganese removal system. The resulting RO brine and Iron & Manganese backwash discharge of approximately 0.22 MGD is directed the SMWD Chiquita Land Outfall Line for conveyance to the SJCOO. SOCWA plans to expedite the GRF production to 1,200 gpm, which would increase the daily average RO brine flow discharge to the SJCOO to 0.60 MGD.

8. San Clemente Segunda Deshecha Runoff Plant

The City of San Clemente operates an urban runoff treatment processes as part of a management program to mitigate the adverse effects of dry weather nuisance flow from the Segunda Deshecha (M02) Flood Control Channel. This management program involves diversion of dry weather flows through the Segunda Deshecha Runoff Plant for treatment (including screens and pressure filtration), and then discharge to the San Clemente Land Outfall. The filter backwash water from the treatment facility is discharged into the City of San Clemente WRP sewer collection system. The treatment system is located at the City of San Clemente WRP. The treated urban runoff is discharged to the San Clemente Land

Outfall for conveyance to the SJCOO. The urban runoff treatment process at the City of San Clemente Segunda Deshecha Runoff Plant has a design capacity of 1 MGD and currently treats an average urban runoff flow of 0.30 MGD. Segunda Deshecha Runoff Plant is designed to treat 1 MGD; the plant currently treats an average of 0.3 MGD. The backwash water from the treatment facility is discharged into the City of San Clemente WRP sewer collection system.

9. San Juan Creek Ocean Outfall (SJCOO)

Wastewaters from a number of sources are directed to the SJCOO through several means:

- The San Clemente Land Outfall routes treated wastewater from the City of San Clemente WRP and treated urban runoff from the Segunda Deshecha Runoff Plant northwesterly to the junction with the SJCOO. This land outfall is approximately 4.4 miles long with a capacity of 14 MGD.

- The SMWD Chiquita Land Outfall extends from the SMWD Chiquita WRP southwesterly past the junction with the San Juan Basin Authority Bypass, to the junction with the SJCOO. This land outfall is 6 miles long with a capacity of 42 MGD. This land outfall routes all effluent from the SMWD Chiquita WRP to the SJCOO.

- The San Juan Basin Authority Bypass pipeline begins at the SMWD Oso Creek Barrier past the SOCWA 3A RP and continues in a southerly direction to the junction with the SMWD Chiquita Land Outfall. This land outfall is 5.9 miles long with a capacity of 6 MGD. This land outfall routes all effluent from the SOCWA 3A RP to the SJCOO.

A summary of the flows from the municipal wastewater treatment plants and other miscellaneous wastewater flows, as reported in the ROWD, is provided in the table below. These facilities discharge wastes, or have the potential to discharge wastes, to the Pacific Ocean through the SJCOO, and, as such, are subject to the requirements of this Order.

Table F-3. Effluent Flows Discharging to the SJCOO

Treatment Facility	Nature of Discharge	Existing Treatment Design Capacity (MGD)
SOCWA J.B. Latham Wastewater Plant	Secondary Effluent	13.0
SMWD Chiquita Water Reclamation Plant	Secondary Effluent	9.0
SOCWA 3A Reclamation Plant	Secondary Effluent	6.0
City of San Clemente Water Reclamation Plant	Secondary Effluent	6.98
City of San Juan Capistrano Groundwater Treatment Plant	Waste Brine	2.2
South Coast Water District Groundwater Treatment Facility	Waste Brine	0.60
San Clemente Segunda Deshecha Runoff Plant	Treated Urban Runoff	1.0
Total		38.78

B. Discharge Points and Receiving Waters

The Discharger operates the SJCOO, which has been in existence since 1978 and extends southwesterly approximately 10,550 feet (ft) offshore in a southwest direction from Doheny State Beach at San Juan Creek. The inshore end of the diffuser is located approximately 10,334 feet offshore at a depth of approximately 100 ft. The SJCOO terminates with a 216 foot diffuser collinear with the rest of the outfall and extends 1,272 feet in a northwesterly direction perpendicular to the rest of the outfall and terminates at Latitude 33°26'10" North, Longitude 117°41'53" West. The 216 foot diffuser pipe is configured with sixteen 2.85-inch ports; the 1,272-foot diffuser pipe is configured with one hundred and seven 3.03-inch ports and two 5-inch ports at the terminal end. Ports on the diffuser pipes are spaced 24 inches apart on each side of the diffuser pipe and staggered.

The design capacity of the SJCOO is 24 MGD for gravity flow. Order No. 2000-13 and R9-2006-0054 stated that the design capacity of the SJCOO using pumping facilities is 107 MGD, based on based on SOCWA's past engineering evaluations of the outfall capacity. SOCWA's recent engineering evaluation, however, show that the design capacity of the SJCOO using pumping facilities is 80 MGD. Effluent pumping to the SJCOO is required when peak flow conditions coincide with extreme high tide conditions. In the previous Order, the Discharger was subject to a flow limitation of 36.385 MGD. The average flow rate discharging through the SJCOO was 17.24 MGD in 2009 and 17.60 MGD in 2010; the maximum monthly flow was reported as 22.48 MGD.

For Order No. 2000-13 SOCWA determined the minimum initial dilution for the Ocean Outfall, using the computer model Visual Plumes, to be 100. The Visual Plumes initial dilution factor is based on 30.00 MGD of secondary effluent and 1.05 MGD of brine wastes.

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

Effluent limitations contained in Order No. R9-2006-0054 for major constituents and properties of wastewater for discharges from the SJCOO, and representative monitoring data for January 2007 through December 2010 (unless otherwise noted) are provided in the table below.

Table F-4. Historic Effluent Limitations and Monitoring Data at M-001

Parameter	Units	Effluent Limitation[1]			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	36.385	17.78	39.7
Chronic Toxicity[2]	TUc	--	--	101	41.7[3]	50
TCDD Equivalents	µg/L	3.94E-07	--	--	4.5E-07[4]	< 2.5E-06
	lbs/day	1.21E-07	--	--	2.1E-05	< 3.1 E-7

1 Concentration limits are based on Ocean Plan objectives using a dilution ratio of 100 parts of seawater to 1 part effluent.
2 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.
3 January 2009 to December 2010 monthly data. Results below detection are assumed as ½ the detection limit for calculation purposes.
4 Results below detection are assumed as ½ the detection limit for calculation purposes. Detection limit for July 2009 not available and not included in calculation.

Table F-5. Historic Effluent Limitations and Monitoring Data at M-001A (J.B. Latham WP)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	9.21	21.0
Total Suspended Solids (TSS)	mg/L	30	45	--	8.2	66.7
	% removal	The average monthly percent removal shall not be less than 85 percent			97.9	93.9[1]
Carbonaceous Biochemical Oxygen Demand (5-day @ 20ºC) ($CBOD_5$)	mg/L	25	40	--	6.9	34.3
	% removal	The average monthly percent removal shall not be less than 85 percent			97.1	90.9[1]
Turbidity	NTU	75	100	225[3]	4.13	37.7
pH	Standard Units	--	--	6.0[4] – 9.0[3]	7.3	6.5 – 7.8[2]
Settleable Solids (SS)	ml/L	1.0	1.5	3.0[3]	0.16	7.5
Oil and Grease	mg/L	25	40	75[3]	< 2.0	5.0

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

Table F-6. Historic Effluent Limitations and Monitoring Data at M-001B (SMWD Chiquita WRP)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	4.41	15.68
TSS	mg/L	30	45	--	11.7	78.0
	% removal	The average monthly percent removal shall not be less than 85 percent			97.6	86.9[1]
$CBOD_5$ (5-day @ 20ºC)	mg/L	25	40	--	8.8	50.0
	% removal	The average monthly percent removal shall not be less than 85 percent			97.2	81.9[1]
Turbidity	NTU	75	100	225[3]	6.03	23.3
pH	Standard Units	--	--	6.0[4] – 9.0[3]	7.6	7.2 – 8.0
SS	ml/L	1.0	1.5	3.0[3]	0.21	8.0
Oil and Grease	mg/L	25	40	75[3]	5.7	13.0

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

Table F-7. Historic Effluent Limitations and Monitoring Data at M-001C (SOCWA 3A RP)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	1.27	4.46
TSS	mg/L	30	45	--	6.52	73.6
	% removal	The average monthly percent removal shall not be less than 85 percent			98.5	81.0[1]
$CBOD_5$ (5-day @ 20ºC)	mg/L	25	40	--	7.8	36
	% removal	The average monthly percent removal shall not be less than 85 percent			98.0	81.8[1]
Turbidity	NTU	75	100	225[3]	6.03	23.3
pH	Standard Units	--	--	6.0[4] – 9.0[3]	7.2	6.6 – 7.9[2]
SS	ml/L	1.0	1.5	3.0[3]	0.13	2.5
Oil and Grease	mg/L	25	40	75[3]	2.0	3.7

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

Table F-8. Historic Effluent Limitations and Monitoring Data at M-001D (City of San Clemente WRP)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	3.54	8.96
TSS	mg/L	30	45	--	9.2	60.8
	% removal	The average monthly percent removal shall not be less than 85 percent			96.7	75.1[1]
$CBOD_5$ (5-day @ 20ºC)	mg/L	25	40	--	9.8	22
	% removal	The average monthly percent removal shall not be less than 85 percent			96.0	90.6[1]
Turbidity	NTU	75	100	225[3]	4.78	28.2
pH	Standard Units	--	--	6.0[4] – 9.0[3]	7.3	6.0 – 7.9[2]
SS	ml/L	1.0	1.5	3.0[3]	0.17	12.5
Oil and Grease	mg/L	25	40	75[3]	< 2.0	5.0

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

Table F-9. Historic Effluent Limitations and Monitoring Data at M-001E (City of San Juan Capistrano GTP)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	0.48	1.2
TSS	mg/L	60		--	24.6	127
Turbidity	NTU	75	100	225[3]	9.67	64.8
pH	Standard Units	--	--	6.0[4] – 9.0[3]	7.5	6.8 – 8.1[2]
SS	ml/L	1.0	1.5	3.0[3]	0.15	1.0
Oil and Grease	mg/L	25	40	75[3]	2.3	6.7

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

Table F-10. Historic Effluent Limitations and Monitoring Data at M-001F (South Coast Water District GRF)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	0.39	1.14
TSS	mg/L	60		--	77.7	232
Turbidity	NTU	75	100	225[3]	187	480
pH	Standard Units	--	--	6.0[4] – 9.0[3]	7.0	6.5 – 7.4[2]
SS	ml/L	1.0	1.5	3.0[3]	1.84	11.7
Oil and Grease	mg/L	25	40	75[3]	< 2.02	< 5.0

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

Table F-11. Historic Effluent Limitations and Monitoring Data at M-001G (San Clemente Segunda Deshecha Runoff Plant)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2007 – December 2010)	
		Average Monthly	Average Weekly	Maximum Daily	Mean	Maximum
Flow	MGD	--	--	--	0.30	0.66
TSS	mg/L	60		--	16.9	67.7
Turbidity	NTU	75	100	225[3]	3.3	11.0
pH	Standard Units	--	--	6.0[4] – 9.0[3]	8.2	7.9 – 8.6[2]
SS	ml/L	1.0	1.5	3.0[3]	< 0.10	0.2
Oil and Grease	mg/L	25	40	75[3]	< 2.0	< 2.0

1 Minimum value.
2 Minimum and maximum range of values during 2007 through 2010 (according to March 31, 2011 ROWD).
3 Instantaneous maximum.
4 Instantaneous minimum.

D. Compliance Summary

1. Compliance Evaluation Inspections (CEIs) of the City of San Clemente WRP were conducted on three occasions between 2007 and 2010. Compliance issues noted by the inspectors were as follows:

   a. On January 9, 2007, the inspector did not note any major findings.

   b. On October 21, 2008, the inspector did not note any major findings.

   c. On March 3, 2010, the inspector did not note any major findings.

2. CEIs of the SOCWA J.B. Latham WP were conducted on four occasions between 2007 and 2011. Compliance issues noted by inspectors were as follows:

   a. On January 9, 2007:

   i. The Discharger failed to properly document sampling and analysis times on three occasions in December 2006, and failed to document the names of individuals performing sampling and analysis tasks on two occasions in December 2006.

   b. On January 12, 2009:

   i. The Discharger failed to submit the Facility's 2007 Annual Report by the required submittal date.

   ii. The Discharger failed to properly maintain calibration records for two flow meters.

   iii. Influent and effluent composite sampler thermostats had not been calibrated on an annual basis in compliance with the Facility's Annual Laboratory Quality Assurance Monitoring Program.

   iv. The analytical method used to analyze cyanide was not an approved method as required under 40 CFR 136.

   c. On March 2, 2010:

   i. The Discharger was found to have violated Special Provision VI.C.2.a of the previous Order, which requires the Discharger to submit a written report to the Executive Officer once the Facility's monthly average influent flow rate equals or exceeds 75 percent of the design secondary treatment capacity. The Facility exceeded the 75 percent levels in four months in the 2009 calendar year.

   d. On April 28, 2011:

   i. During the period reviewed by the inspector (December 2010 through February 2011), it was found that the transmittal letters for the monthly self-monitoring reports (SMRs) submitted to the San Diego Water Board contained a certification statement that was different than the one specified by the permit.

ii. The Discharger was found to have violated Special Provision VI.C.2.a of the previous Order, which requires the Discharger to submit a written report to the Executive Officer once the Facility's monthly average influent flow rate equals or exceeds 75 percent of the design secondary treatment capacity. The Facility exceeded the 75 percent levels in ten months in the 2010 calendar year.

iii. The Discharger exceeded an instantaneous effluent limitation for SS on December 22, 2010.

iv. The inspector determined that the on-site laboratory deviated from the approved method for the measurement of pH, TSS, and turbidity.

3. CEIs of the SOCWA 3A RP were conducted on three occasions between 2007 and 2011. Compliance issues noted by inspectors were as follows:

a. On January 10, 2007:

i. Effluent flow was not continuously monitored as required under the previous Order.

b. On January 13, 2009:

i. Effluent flow was not continuously monitored as required under the previous Order.

ii. The Discharger failed to properly maintain calibration records for its influent flow meter.

c. On March 5, 2010:

i. Sampling and analysis records were not properly maintained for pH measurements.

4. CEIs of the SMWD Chiquita WRP were conducted on three occasions between 2007 and 2010. Compliance issues noted by inspectors were as follows:

   a. On January 1, 2007:

      i. The Discharger failed to accurately record measurements for effluent total residual chlorine.

   b. On January 14, 2009:

      i. The inspector determined that the on-site laboratory deviated from the approved method for the measurement of pH.

   c. On March 4, 2010:

      i. The Discharger failed to accurately record all on-site spills on their monthly SMRs.

      ii. The Discharger was not adequately recording the date of analyses for TSS on the Facility's laboratory bench sheets for November 2009.

      iii. The inspector determined that the on-site laboratory deviated from the approved method for the measurement of pH.

E. Planned Changes

The Discharger has indicated that they plan to expand the SCWD GRF from its current potable water production capacity of 800 gpm to a 1,200 gpm production rate. SOCWA has requested and the proposed Order authorizes the increase in GRF brine flow discharge from 0.125 MGD to 0.6 MGD.

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

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed in the plan. 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 San Diego Water Board and approved by the State Water Board. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table F-12. Basin Plan Beneficial Uses

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table F-13. Ocean Plan Beneficial Uses

Discharge Point No.	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration, fish spawning and shellfish harvesting.

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

3. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes.

The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

4. **Antidegradation Policy.** 40 CFR 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

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

On June 28, 2007, 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 (TBELs) for point sources. The 303(d) list for waters in the vicinity of the SJCOO for indicator bacteria include:

1. 1.0 miles of Pacific Ocean shoreline at San Juan Creek.

2. 0.03 miles of Pacific Ocean of coastal and bay shoreline at Dana Point Harbor (impairment located at Baby Beach).

3. 6.3 acres of Pacific Ocean shoreline at the mouth of San Juan Creek.

Impairment has been detected at the shorelines indicated above; however, the receiving waters in the immediate vicinity of the Discharge Point No. 001 (SJCOO) are not included on the current 303(d) list. An applicable total maximum daily load (TMDL) has not been adopted for this discharge.

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** 40 CFR Part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into this Order, 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), WDRs for Dischargers of Storm Water Associated with Industrial Activity, Excluding Construction Activities.

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 dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the CFR: 40 CFR 122.44(a) requires that permits include applicable TBELs and standards; and 40 CFR 122.44(d) requires that permits include water-quality based effluent limits (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

This Order retains the discharge prohibitions from Order No. R9-2006-0054, as described below. Compliance determination language is included in section VII of this Order to accurately describe how violations of these prohibitions are determined. Discharges from the Facilities to surface waters in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facilities to land in violation of prohibitions contained in this Order are violations of the CWC and are not subject to third party lawsuits under the CWA because the CWC does not contain provisions allowing third party lawsuits.

1. Prohibition III.A of this Order is retained from Order No. R9-2006-0054. Prohibition III.A were included in Order No. R9-2006-0054 to clearly define what types of discharges are prohibited.

2. Order No. R9-2006-0054 included the discharge prohibitions of the Basin Plan and the Ocean Plan, all of which are now included in this Order as a Prohibition III.B and C and incorporated in Attachment G.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133.

Regulations promulgated in 40 CFR 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

a. Federal Regulations. 40 CFR Part 133 establishes the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. 40 CFR 133.102(a)(4) allows for effluent limitations for $CBOD_5$ to be applied in lieu of effluent limitations for BOD_5 where BOD_5 may not provide a reliable measure of the oxygen demand of the effluent. USEPA has determined that a 30-day average effluent limitation of 25 mg/L and a 7-day average effluent limitation of 40 mg/L for $CBOD_5$ are effectively equivalent to the secondary treatment standards for BOD_5. As such, the $CBOD_5$ limitations from Order No. R9-2006-0054 are carried over to this Order.

40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal of BOD_5 and TSS shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of $CBOD_5$ and TSS over each calendar month.

The secondary treatment regulations at 40 CFR Part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

As described in section II of this Fact Sheet, SOCWA operates the SJCOO which receives treated effluent from the following municipal wastewater treatment plants; the SOCWA J.B. Latham WP, the SMWD Chiquita WRP, the SOCWA 3A RP, and the City of San Clemente WRP. In accordance with the definition contained in 40 CFR 122.2, each of these wastewater treatment plants are considered a POTW. The TBELs based on secondary treatment standards are applicable to each of these facilities, prior to the commingling of their respective effluents with any other wastewater. Thus, compliance with these effluent limitations must be determined at internal outfall locations upstream of the location where these wastewaters commingle with other wastewaters.

In the ROWD, the Discharger requested effluent limitations for total organic carbon (TOC) in lieu of effluent limitations for BOD_5 or $CBOD_5$. TOC, however, has not been approved by USEPA to be used in lieu of BOD_5 or $CBOD_5$. Based on this consideration the San Diego Water Board did not incorporate an effluent limitation for TOC in this Order.

TBELs based on secondary treatment standards for $CBOD_5$, TSS, and pH are summarized in the following table.

Table F-14. Summary of Technology-Based Effluent Limitations Based on Secondary Treatment Standards

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$CBOD_5$ (5-day @ 20ºC)	mg/L	25	40	--	--	--
	% Removal	85	--	--	--	--
TSS	mg/L	30	45	--	--	--
	% Removal	85	--	--	--	--
pH	standard units	--	--	--	6.0	9.0

b. Ocean Plan. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Therefore, the discharge of wastewater to the Pacific Ocean at Discharge Point No. 001 is subject to the Ocean Plan.

The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table A of the Ocean Plan establishes TBELs for POTWs and industrial discharges for which Effluent Limitation Guidelines have not been established pursuant to Sections 301, 302, or 306 of the federal CWA.

Order No. R9-2006-0054, established numeric effluent limitations based on Table A of the Ocean Plan applicable to each of the contributing municipal wastewater treatment plants. As the TSS percent removal requirement and standards under 40 CFR Part 133 for POTWs, however, are more stringent than the Ocean Plan requirement, the more stringent TSS requirements were included in Order No. R9-2006-0054 for the discharges from the SOCWA J.B. Latham WP, the SMWD Chiquita WRP, the MNWD 3A RP (currently SOCWA 3A RP), and the City of San Clemente WRP. These same requirements remain applicable, and the effluent limitations are carried over to this Order.

The Ocean Plan Table A effluent limitations were also applied to the industrial discharges to the ocean through the SJCOO, including discharges from the San Clemente Segunda Deshecha Runoff Plant and the City of San Juan Capistrano GTP. Table A of the Ocean Plan requires dischargers to, as a monthly average, achieve a percent removal of 75 percent for suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L. The discharges generated at the San Clemente Segunda Deshecha Runoff Plant and the City of San Juan Capistrano GTP are considered industrial discharges and are subject to Table A limits prior to commingling at the SJCOO. Therefore an effluent TSS limitation of 60 mg/L is appropriate.

The Table A limits apply to the discharge from the SCWD GRF under this Order~~; however, compliance monitoring for the Table A parameters for the GRF discharge will be conducted at a location where representative samples of commingled effluent from all contributors to the SJCOO can be obtained~~. The 2006 permit established compliance monitoring for the

Table A parameters for the GRF discharge at a location within the individual GRF discharge prior to commingling with effluent from all contributors to the SJCOO. After the GRF experienced exceedances of the 2006 permit limits resulting in imposition of mandatory minimum penalties, the San Diego Water Board expressed to the State Water Board its concern and frustration with failure of the California Ocean Plan to provide a distinct classification for brine discharges separate from the broader "industrial" category of discharges. Waste brine discharges from desalination processes have been regulated through a default classification as an industrial waste under both the Clean Water Act and the California Ocean Plan because they do not provide specific regulatory distinction for waste byproducts from desalination facilities. While TBELs are appropriate for pollutants associated with industrial wastes, the constituents of concern in brine waste are primarily mineral salts and turbidity, which present a far less significant threat to the ocean than most industrial wastes that are regulated through TBELs. The State Water Board has recognized that amendment of the California Ocean Plan is an appropriate means to address issues affecting desalination facilities throughout the state. The State Water Board's 2005 California Ocean Plan Triennial Review and Workplan (State Water Board Resolution No. 2005—2008) identified brine discharges from desalination as a high priority issue and the State Water Board is currently in the process of developing amendments to the California Ocean Plan to address discharges of brine waste from desalination facilities.

Against this backdrop, the State Water Board's Chief Deputy Director stated in a letter to the San Diego Water Board's Executive Officer, dated March 8, 2012, that the San Diego Water Board could consider, on an interim basis, moving the compliance point for SCWD's GRF brine discharge in this permit reissuance from the independent GRF discharge point to a point within the commingled waste streams discharged through the San Juan Creek Ocean Outfall to the Pacific Ocean. Once the State Water Board completes its Ocean Plan amendment process, this permit may be reopened if it is necessary to revise the compliance point for SCWD's GRF to conform to the amended Ocean Plan. The Chief Deputy Director also stated that the San Diego Water Board should require SOCWA to collect performance data for the purposes of determining the SCWD's GRF existing treatment capability, and submit a feasibility study that assesses the costs of providing additional treatment to comply with Table A of the California Ocean Plan prior to commingling.

For the 2012 NPDES permit reissuance, the TBEL compliance point for the Table A parameters for the GRF discharge was required to be conducted at a location where representative samples of commingled effluent from all Facilities discharging to the SJCOO can be obtained. By letter dated May 20, 2016, SOCWA requested that Monitoring Location M-001F, rather than Monitoring Location M-001, be used to determine compliance with the applicable TBELs for the GRF. SOCWA stated that this change would make the GRF's TBEL compliance point consistent with the TBEL compliance points for all other discharges to the SJCOO. In accordance with amending Order No. R9-2017-0013, the San Diego Water Board amended this Order to change the TBEL compliance point for the Table A parameters for the GRF discharge from the commingled effluent sampling point (Monitoring Location M-001) to a sampling point where the GRF TBEL compliance can be measured (Monitoring Location M-001F) prior to commingling with any other Facility discharges to the SJCOO.

Table F-15. Summary of Technology-Based Effluent Limitations Based on Table A of the Ocean Plan

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--	75
TSS	mg/L	60[1]	--	--	--	--
	% Removal	[1]	--	--	--	--
SS	mL/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	standard units	--	--	--	6.0	9.0

[1] Table A of the Ocean Plan requires that the Discharger shall, as a monthly average, remove 75 percent of suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs is intended to protect the designated uses of the receiving water as specified in the Basin Plan and Ocean Plan and achieve applicable water quality objectives and criteria that are contained in the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establishes water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters.

a. Basin Plan. The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet.

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: "*The dissolved oxygen concentration in ocean waters 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*".

The Basin Plan includes water quality objectives for pH applicable to the receiving water. The Basin Plan states, "*The terms and conditions of the State Board's "Water Quality Control Plan for Ocean Waters of California" (Ocean Plan), "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan), and any revisions thereto are incorporated into this Basin Plan by reference. The terms and conditions of the Ocean Plan and Thermal Plan apply to the ocean waters within this Region.*"

b. Ocean Plan. The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section III.C.2 of 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.

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

i. 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.

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

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

iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

Order No. R9-2006-0054 evaluated the need for effluent limitations for non-conventional and toxic pollutant parameters in Table B of the California Ocean Plan. For this Order, 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 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 amount 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 probably initial dilution) can then be compared to the appropriate objective to determine potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the RPA 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 San Diego Water Board may require monitoring; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

The implementation provisions for Table B in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge.

As described in the fact sheet for Order No. R9-2006-0054, SOCWA had previously determined the minimum initial dilution for the SJCOO, using the computer model Visual Plumes, to be 100. The Visual Plumes initial dilution factor was based on 30.00 MGD of secondary effluent and 1.05 MGD of brine wastes. Although the San Diego Water Board considered reevaluation of the initial dilution factors for reissuance of Order No. R9-2006-0054, inadequate ambient and effluent salinity data were available to provide accurate results. Therefore, the initial dilution of 100 was used for the RPA and calculating effluent limitations for Order No. R9-2006-0054, and monitoring requirements were included to ensure adequate salinity data is available for reevaluation of the initial dilution. Based on the data collected by the Discharger during the term of Order No. R9-2006-0054, the San Diego Water Board re-evaluated the initial dilution using Visual Plumes. Based on this reevaluation, the minimum initial dilution was determined to be 162:1 (see Attachment H). The 162:1 initial dilution value represents an increase from the 100:1 initial dilution value assigned in Order No. R9-2006-0054. The use of the 162:1 initial dilution value in establishing WQBELs would result in WQBELs that are higher (more relaxed) than those established in the prior Order. In the absence of a demonstration of compliance of such relaxed WQBELs with federal antidegradation regulations, a Dm of 100:1 has been used in the current Order and applied to WQBELs established herein.

Conventional pollutants were not considered as part of the RPA. Technology-based effluent limitations for these pollutants are included in this Order as described in section IV.B of this Fact Sheet

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board has conducted the RPA for the constituents listed in Table F-16. For constituents that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were derived using the effluent limitation determination procedure described below and are referred to in this Order as “performance goals”. A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Discharger is required to monitor for these constituents as stated in the MRP (Attachment E) in order to gather data for use in reasonable potential analyses for future permit reissuance.

Effluent data provided in the Discharger's monitoring reports for the Facilities from March 2007 through December 2010 were used in the RPA for the majority of parameters. For ammonia, acute toxicity, and chronic toxicity, data were available for the period January 2009 through December 2010. A minimum probable initial dilution of 100 to 1 was considered in this evaluation.

A summary of the RPA results is provided below:

Table F-16. RPA Results Summary

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Arsenic	µg/L	16	< 25	8[5]	3[6]	2
Cadmium	µg/L	16	< 4.5	1[5]	0	2
Chromium (Hexavalent)	µg/L	16	< 10	2[5]	0	2
Copper	µg/L	16	49	3[5]	2[6]	2
Lead	µg/L	16	< 19	2[5]	0	2
Mercury	µg/L	16	< 0.7	0.04[5]	0.0005[6]	2
Nickel	µg/L	16	18	5[5]	0	2
Selenium	µg/L	16	< 26	15[5]	0	2
Silver	µg/L	16	< 10	0.7[5]	0.16[6]	2
Zinc	µg/L	16	61	20[5]	8[6]	2
Cyanide	µg/L	16	< 20	1[5]	0	2
Total Residual Chlorine	µg/L	--	--	2[5]	0	[10]
Ammonia	µg/L	24	23,100	600[5]	0	2
Acute Toxicity	TUa	24	1.57	0.3[7]	0	2
Chronic Toxicity[11]	TUc	24	50	1[7]	0	2
Phenolic Compounds[12]	µg/L	16	< 5.5	30[5]	0	2
Chlorinated Phenolics[13]	µg/L	16	< 7.5	1[5]	0	2
Endosulfan[14]	µg/L	16	< 0.060	0.009[5]	0	2
Endrin	µg/L	16	< 0.8	0.002[5]	0	3
HCH[15]	µg/L	16	< 0.20	0.004[5]	0	2
Radioactivity	pCi/L	6	31.73	[8]	0	[8]
Acrolein	µg/L	8	< 10	220[9]	0	3
Antimony	µg/L	8	< 31	1,200[9]	0	3
Bis(2-chloroethoxyl)methane	µg/L	8	< 5.0	4.4[9]	0	3
Bis(2-chloroisopropyl)ether	µg/L	8	< 6.0	1,200[9]	0	3
Chlorobenzene	µg/L	8	< 1.0	570[9]	0	3
Chromium (III)	µg/L	8	< 10	190,000[9]	0	3
Di-n-butyl phthalate	µg/L	8	< 5.0	3,500[9]	0	3
Dichlorobenzenes[16]	µg/L	8	< 1.0	5,100[9]	0	3
Diethyl phthalate	µg/L	8	< 5.0	33,000[9]	0	3
Dimethyl phthalate	µg/L	8	< 5.0	820,000[9]	0	3
4,6-Dinitro-2-methylphenol	µg/L	8	< 5.0	220[9]	0	3
2,4-Dinitrophenol	µg/L	8	< 1.0	4.0[9]	0	3

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Ethylbenzene	µg/L	8	< 1.0	4,100[9]	0	3
Fluoranthene	µg/L	8	< 5.0	15[9]	0	3
Hexachlorocyclopentadiene	µg/L	8	< 5.0	58[9]	0	3
Nitrobenzene	µg/L	8	< 5.0	4.9[9]	0	3
Thallium	µg/L	8	< 11	2[9]	0	3
Toluene	µg/L	8	< 1.0	85,000[9]	0	3
Tributyltin	µg/L	8	< 0.005	0.0014[9]	0	3
1,1,1-Trichloroethane	µg/L	8	< 1.0	540,000[9]	0	3
Acrylonitrile	µg/L	8	< 10	0.10[9]	0	3
Aldrin	µg/L	8	< 0.075	0.000022[9]	0	3
Benzene	µg/L	8	< 1.0	5.9[9]	0	3
Benzidine	µg/L	8	< 5.0	0.000069[9]	0	3
Beryllium	µg/L	7	< 9.0	0.033[9]	0	3
Bis(2-chloroethyl) ether	µg/L	8	< 1.0	0.045[9]	0	3
Bis(2-ethylhexyl) phthalate	µg/L	8	< 5.0	3.5[9]	0	3
Carbon tetrachloride	µg/L	8	< 1.0	0.90[9]	0	3
Chlordane	µg/L	8	< 0.050	0.000023[9]	0	3
Chlorodibromomethane	µg/L	8	< 1.0	8.6[9]	0	3
Chloroform	µg/L	8	< 1.0	130[9]	0	3
DDT[17]	µg/L	8	< 0.010	0.00017[9]	0	3
1,4-Dichlorobenzene	µg/L	8	< 1.0	18[9]	0	3
3,3-Dichlorobenzidine	µg/L	8	< 5.0	0.0081[9]	0	3
1,2-Dichloroethane	µg/L	8	< 1.0	28[9]	0	3
1,1-Dichloroethylene	µg/L	8	< 1.0	0.9[9]	0	3
Dichlorobromomethane	µg/L	8	< 1.0	6.2[9]	0	3
Dichloromethane	µg/L	8	< 1.0	450[9]	0	3
1,3-Dichloropropene	µg/L	8	< 1.0	8.9[9]	0	3
Dieldrin	µg/L	8	< 0.02	0.00004[9]	0	3
2,4-Dinitrotoluene	µg/L	8	< 5.0	2.6[9]	0	3
1,2-Diphenylhydrazine	µg/L	8	< 5.0	0.16[9]	0	3
Halomethanes[18]	µg/L	8	< 1.0	130[9]	0	3
Heptachlor	µg/L	8	< 1.0	0.00005[9]	0	3
Heptachlor Epoxide	µg/L	8	< 1.0	0.00002[9]	0	3
Hexachlorobenzene	µg/L	8	< 5.0	0.00021[9]	0	3
Hexachlorobutadiene	µg/L	8	< 5.0	14[9]	0	3
Hexachloroethane	µg/L	8	< 5.0	2.5[9]	0	3
Isophorone	µg/L	8	< 5.0	730[9]	0	3
N-nitrosodimethylamine	µg/L	8	< 5.0	7.3[9]	0	3
N-nitrosodi-N-propylamine	µg/L	8	< 5.0	0.38[9]	0	3
N-nitrosodiphenylamine	µg/L	8	< 5.0	2.5[9]	0	3
PAHs[19]	µg/L	8	< 5.0	0.0088[9]	0	3

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
PCBs[20]	µg/L	8	< 0.50	0.000019[9]	0	3
TCDD equivalents[21]	µg/L	7	<0.0000025	0.0000000039[9]	0	1
1,1,2,2-Tetrachoroethane	µg/L	8	< 1.0	2.3[9]	0	3
Tetrachloroethylene	µg/L	8	< 1.0	2.0[9]	0	3
Toxaphene	µg/L	8	< 1.0	0.00021[9]	0	3
Trichloroethylene	µg/L	8	< 1.0	27[9]	0	3
1,1,2-Trichloroethane	µg/L	9	< 1.0	9.4[9]	0	3
2,4,6-Trichlorophenol	µg/L	8	< 1.0	0.29[9]	0	3
Vinyl Chloride	µg/L	8	< 1.0	36[9]	0	3

1. Number of data points available for the RPA.
2. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3. End Point 1 – RP determined, limit required, monitoring required.
   End Point 2 – Discharger determined not to have RP, monitoring may be established.
   End Point 3 – RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.
4. Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a RP (i.e., Endpoint 1).
5. Based on the 6-Month Median in the Table B of the Ocean Plan.
6. Background concentrations contained in Table C of the Ocean Plan.
7. Based on the Daily Maximum in Table B of the Ocean Plan.
8. Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge and therefore no reasonable potential exists.
9. Based on 30-Day Average in Table B of the Ocean Plan.
10. Chlorination of effluent only occurs prior to recycling; no chlorination occurs prior to discharge through the SJCOO. Therefore, no reasonable potential exists.
11. Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent of receiving water that causes no observable effect on a test organism.
12. Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,3-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitropheneol, 4-nitrophenol, and phenol.
13. Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
14. Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
15. HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
16. Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
17. DDT represents the sum of 4,4'-DDT; 2,4'-DDT; 4,4'-DDE; 2,4'-DDE; 4,4'-DDD; and 2,4'-DDD.
18. Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
19. PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
20. PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]

21. TCDD equivalents represent 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. USEPA Method 8280 may be used to analyze TCDD equivalents.

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

Consistent with 40 CFR 122(I)(2)(i)(B), effluent limitations from Order No. R9-2006-0054 will not be retained for constituents for which the RPA results indicated Endpoint 2. Instead, performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters..

For parameters for which Endpoint 3 was concluded, reasonable potential was inconclusive. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, reasonable potential was not determined. For parameters for which new data is available and reasonable potential cannot be determined, effluent limitations have been retained. The monitoring and reporting program (MRP) in Attachment E of this Order is intended to facilitate collection of additional information for these constituents to determine if reasonable potential exists in future permit reissuances and/or updates.

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e., Endpoint 1) was determined for TCDD equivalents, thus effluent limitations for TCDD equivalents have been established in this Order based on the minimum probable dilution of 100 to 1, as discussed below.

4. WQBEL Calculations

a. From the Table B water quality objectives of the Ocean Plan, effluent limitations and 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 (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

b. As discussed in Section IV.C.3 above, the minimum initial dilution of 100:1 from the previous Order No. 2000-13, was used for the initial dilution (Dm) for the Ocean Outfall.

c. Table C of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table B implementing procedures, Cs equals zero for all pollutants not established in Table C. The background concentrations provided in Table C are summarized below:

Table F-17. 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

d. As an example of how effluent limitations and performance goals have been calculated, the effluent limit for TCDD Equivalents are determined as follows:

Water quality objectives from the Ocean Plan for TCDD Equivalents are:

Table F-18. Example Parameter Water Quality Objectives

Parameter	Units	30-Day Average
TCDD Equivalents	µg/L	3.9E-09

Using the equation, Ce = Co + Dm (Co – Cs), effluent limitations/performance goals are calculated as follows.

<u>TCDD Equivalents</u>

Ce = 3.9E-09 + 100 (3.9E-09 – 0) = 3.9E-07 (30-Day Average)

Based on the implementing procedures described above, effluent limitations and performance goals have been calculated for all Table B pollutants from the California

Ocean Plan and incorporated into this Order, except for acute toxicity as explained below.

e. 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and Maximum Contaminant Levels or MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:

lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34

f. A summary of the WQBELs established in this Order are provided below:

Summary of Water Quality-based Effluent Limitations
Discharge Point No. 001

Table F-19. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
TCDD Equivalents	µg/L	--	--	--	3.9E-07
	lbs/day	--	--	--	1.3E-07

g. A summary of the performance goals is provided in Table F-27 of this Fact Sheet.

5. Whole Effluent Toxicity (WET)

a. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan states that the Discharger shall conduct chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors that ranging from 100:1 to 350:1. Using monthly chronic WET testing data conducted between January 2009 and December 2010, the RPA resulted in Endpoint 2, and an effluent limitation for chronic toxicity is not required. However, consistent with the approach for other Table B parameters, a performance goal for chronic toxicity has been included in this Order. In addition, the monitoring frequency has been reduced from monthly to quarterly.

b. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan states that the Regional Water Quality Control Boards may require that acute toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters. The Discharger has been granted a dilution ratio of 100:1 at Discharge Point No. 001, the results of the RPA do not indicate reasonable potential for chronic or

acute toxicity; therefore the existing performance goals and monitoring for acute toxicity are not being carried over to this Order.

D. Final Effluent Limitations

The following tables list the effluent limitations established by this Order. Where this Order establishes mass emission rates (MERs), these limitations have been derived based on flows of 13.0 MGD (SOCWA J.B. Latham WP), 9.0 MGD (SMWD Chiquita WRP), 6.0 MGD (SOCWA 3A RP), 6.98 MGD (San Clemente WRP), 2.2 MGD (San Juan Capistrano GTP), and 1.0 MGD (San Clemente Segunda Deshecha Runoff Plant). MERs for the combined flows are based on 38.78 MGD total flow through the SJCOO.

Table F-20. Technology-based Effluent Limitations for SOCWA J.B. Latham WP (M-001A)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	13.0					
$CBOD_5$ (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	2,711	4,337	--	--	--	--
TSS [1]	mg/L	30	45	--	--	--	--
	lbs/day	3,253	4,879	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	2,711	4,337	--	--	8,132	--
SS	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-21. Technology-based Effluent Limitations for SMWD Chiquita WRP (M-001B)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	9.0					
$CBOD_5$ (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,877	3,002	--	--	--	--
TSS [1]	mg/L	30	45	--	--	--	--
	lbs/day	2,252	3,378	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
	lbs/day	1,877	3,002	--	--	5,630	
SS	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-22. Technology-based Effluent Limitations for SOCWA 3A RP (M-001C)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	6.0					
$CBOD_5$ (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,251	2,002	--	--	--	--
TSS [1]	mg/L	30	45	--	--	--	--
	lbs/day	1,501	2,252	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,251	2,002	--	--	3,753	--
SS	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-23. Technology-based Effluent Limitations for the San Clemente WRP (M-001D)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	6.98					
$CBOD_5$ (5-day @ 20ºC)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,455	2,329	--	--	--	--
TSS [1]	mg/L	30	45	--	--	--	--
	lbs/day	1,746	2,620	--	--	--	--

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,455	2,329	--	--	4,366	--
SS	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-24. Technology-based Effluent Limitations for the City of San Juan Capistrano GTP (M-001E)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	2.2					
TSS [1]	mg/L	60	--	--	--	--	--
	lbs/day	1,101	--	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	459	734	--	--	1,376	
SS	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

Table F-25. Technology-based Effluent Limitations for the San Clemente Segunda Deshecha Runoff Plant (M-001G)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow	MGD	1.0					
TSS [1]	mg/L	60	--	--	--	--	--
	lbs/day	500	--	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	209	334	--	--	626	
SS	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

Table F-26. South Coast Water District GRF Effluent Limitations at M-001F~~/M-001~~

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Flow[1]	MGD	0.6					
Total Suspended Solids[2]	mg/L	60	--	--	--	--	
	lbs/day	~~10,654~~[3]300					
Oil and Grease[2]	mg/L	25	40	--	--	75	
	lbs/day	~~8,086~~[3]125	~~12,937~~[3]200			~~24,257~~[3]375	
Settleable Solids[2]	ml/L	1.0	1.5	--	--	3.0	
Turbidity[2]	NTU	75	100	--	--	225	
pH[2]	standard units	--	--	--	6.0	9.0	

~~[1]Mass limits for each facility were calculated by using the following equation: lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34. Mass limits for the SCWD GRF with compliance point at M-001 were calculated by adding the mass limits for all the facilities discharging to the SJCOO.~~

Table F-27. Effluent Limitations for SJCOO Combined Flow, Based on Table B of the Ocean Plan (M-001)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE							
TCDD Equivalents	µg/L	3.9E-07	--	--	--	--	--
	lbs/day	1.3E-07	--	--	--	--	--

1. Satisfaction of Anti-Backsliding Requirements

The TBELs in this Order are at least as stringent as the effluent limitations in the previous Order.

Effluent limitations from Order No. R9-2006-0054 are not retained for constituents for which RPA results indicated Endpoint 2, or Endpoint 3 when previous effluent limitations had not been established: Instead performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, reasonable potential was not determined. For parameters for which new data is available, and reasonable potential cannot be determined, effluent limitations have been removed as allowed under 40 CFR 122(l)(2)(i)(B), and performance goals have been established in their place. 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 reissuance and/or updates.

~~The technology-based effluent limits for the SCWD GRF based on Table A of the Basin Plan have been retained in this Order; however, the compliance will be determined at a location after mixing with other flows directed to SJCOO at Monitoring Location M-001. This action is not expected to result in a violation of water quality standards in the receiving waters.~~

This permit complies with all applicable federal and State anti-backsliding regulations.

2. Satisfaction of Antidegradation Policy

WDRs for the Discharger must conform with federal and State antidegradation policies provided at 40 CFR 131.12 and in State Water 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 San Diego 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*.

a. Technology-based Effluent Limitations (TBELs)

The concentration-based TBELs contained in Order No. R9-2006-0054 have been retained in this Order. The TBELs are at least as stringent as the previous effluent limitations, and no degradation of the receiving water is expected.

~~The compliance point for the TBELs for SCWD GRF has been moved to Monitoring Location M-001, after the SCWD GRF effluent has mixed with other discharges to the SJCOO. The SCWD GRF brine discharge comprises only 1.34% of the total discharge to the SJCOO and is not expected to lower the water quality.~~

Order No. R9-2006-0054 applied concentration-based TBELs based on secondary treatment standards to the individual discharges of secondary effluent from the SOCWA J.B. Latham WP, the SMWD Chiquita WRP, the SOCWA 3A RP, and the City of San Clemente WRP. Corresponding MERs, however, were not established.

Order No. R9-2006-0054 also applied concentration-based TBELs based on the Ocean Plan Table A effluent limitations to the industrial discharges to the ocean through the SJCOO, including discharges from the San Clemente Segunda Deshecha Runoff Plant, SCWD GRF, and the City of San Juan Capistrano GTP. Corresponding MERs, however, were not established.

Consistent with concentration limitations, and in accordance with section III.B of the Ocean Plan, this Order applies effluent MERs, based on Table A and/or secondary treatment standards, at the individual discharges from the Facilities. Because the new MERs are applied individually, they ensure proper performance of individual treatment plants.

b. Water Quality-based Effluent Limitations

The 36.385 MGD flow restriction on the SJCOO has been increased to accommodate increased production from the San Juan Capistrano GTP and the SCWD GRF.[1] The requested increase was from 0.73 MGD to 2.2 MGD at the San Juan Capistrano GTP and 0.125 MGD to 0.6 MGD at the SCWD GRF. The San Diego Water Board does not anticipate a lowering of water quality due to the increase in the flow restriction for two reasons: this increase of 2.395 MGD represents only 6 percent of the total regulated flow from the SJCOO and represents a potential increase in mass loading that is within the margin of rounding error associated with most WQBELs.

Therefore, the San Diego Water Board has determined that water quality will not be lowered as a result of increasing the flow restriction for the SJCOO, and an antidegradation analysis is not required.

3. Stringency of Requirements for Individual Pollutants

This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on $CBOD_5$, TSS, oil and grease, SS, turbidity, and pH. Restrictions on these constituents are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on October 8, 2010. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Water quality objectives contained in the Ocean Plan submitted to EPA after May 30, 2000 have subsequently been approved by EPA. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

[1] It should be noted that Order No. R9-2006-0054 incorrectly established the flow restriction for the SJCOO at 36.385 MGD. The flow restriction should have been 36.835 MGD, as was correctly described in the Fact Sheet contained in Order No. R9-2006-0054.

E. Performance Goals

Constituents that do not display reasonable potential to cause or contribute to an exceedance of a water quality standard are listed as performance goals in this Order. 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 San Diego Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit reissuance.

The following table lists the performance goals established by this Order. A minimum probable initial dilution factor of 100 to 1 was used in establishing the performance goals and a flow of 38.78 MGD was used to develop the MERs.

Table F-28. Performance Goals Based on the Ocean Plan

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	5.1E+02	2.9E+03	7.8E+03	--
	lbs/day	1.6E+02	9.5E+02	2.5E+03	--
Cadmium, Total Recoverable	µg/L	1.0E+02	4.0E+02	1.0E+03	--
	lbs/day	3.3E+01	1.3E+02	3.3E+02	--
Chromium VI, Total Recoverable[2]	µg/L	2.0E+02	8.1E+02	2.0E+03	--
	lbs/day	6.5E+01	2.6E+02	6.5E+02	--
Copper, Total Recoverable	µg/L	1.0E+02	1.0E+03	2.8E+03	--
	lbs/day	3.3E+01	3.3E+02	9.2E+02	--
Lead, Total Recoverable	µg/L	2.0E+02	8.1E+02	2.0E+03	--
	lbs/day	6.5E+01	2.6E+02	6.5E+02	--
Mercury, Total Recoverable	µg/L	4.0E+00	1.6E+01	4.0E+01	--
	lbs/day	1.3E+00	5.2E+00	1.3E+01	--
Nickel, Total Recoverable	µg/L	5.1E+02	2.0E+03	5.1E+03	--
	lbs/day	1.6E+02	6.5E+02	1.6E+03	--
Selenium, Total Recoverable	µg/L	1.5E+03	6.1E+03	1.5E+04	--
	lbs/day	4.9E+02	2.0E+03	4.9E+03	--
Silver, Total Recoverable	µg/L	5.5E+01	2.7E+02	6.9E+02	--
	lbs/day	1.8E+01	8.6E+01	2.2E+02	--

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Zinc, Total Recoverable	µg/L	1.2E+03	7.3E+03	1.9E+04	--
	lbs/day	3.9E+02	2.4E+03	6.3E+03	--
Cyanide, Total Recoverable	µg/L	1.0E+02	4.0E+02	1.0E+03	--
	lbs/day	3.3E+01	1.3E+02	3.3E+02	--
Chlorine, Total Residual	µg/L	2.0E+02	8.1E+02	6.1E+03	--
	lbs/day	6.5E+01	2.6E+02	2.0E+03	--
Ammonia (expressed as nitrogen)	µg/L	6.1E+04	2.4E+05	6.1E+05	--
	lbs/day	2.0E+04	7.8E+04	2.0E+05	--
Chronic Toxicity[3]	TUc	--	1.0E+02	--	--
Phenolic Compounds (non-chlorinated)[4]	µg/L	3.0E+03	1.2E+04	3.0E+04	--
	lbs/day	9.8E+02	3.9E+03	9.8E+03	--
Chlorinated Phenolics[5]	µg/L	1.0E+02	4.0E+02	1.0E+03	--
	lbs/day	3.3E+01	1.3E+02	3.3E+02	--
Endosulfan[6]	µg/L	9.1E-01	1.8E+00	2.7E+00	--
	lbs/day	2.9E-01	5.9E-01	8.8E-01	--
Endrin	µg/L	2.0E-01	4.0E-01	6.1E-01	--
	lbs/day	6.5E-02	1.3E-01	2.0E-01	--
HCH[7]	µg/L	4.0E-01	8.1E-01	1.2E+00	--
	lbs/day	1.3E-01	2.6E-01	3.9E-01	--
Radioactivity	pCi/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	2.2E+04
	lbs/day	--	--	--	7.2E+03
Antimony	µg/L	--	--	--	1.2E+05
	lbs/day	--	--	--	3.9E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	4.4E+02
	lbs/day	--	--	--	1.4E+02
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.2E+05
	lbs/day	--	--	--	3.9E+04
Chlorobenzene	µg/L	--	--	--	5.8E+04
	lbs/day	--	--	--	1.9E+04
Chromium (III), Total Recoverable	µg/L	--	--	--	1.9E+07
	lbs/day	--	--	--	6.2E+06

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Di-n-butyl Phthalate	µg/L	--	--	--	3.5E+05
	lbs/day	--	--	--	1.1E+05
Dichlorobenzenes[8]	µg/L	--	--	--	5.2E+05
	lbs/day	--	--	--	1.7E+05
Diethyl Phthalate	µg/L	--	--	--	3.3E+06
	lbs/day	--	--	--	1.1E+06
Dimethyl Phthalate	µg/L	--	--	--	8.3E+07
	lbs/day	--	--	--	2.7E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	2.2E+04
	lbs/day	--	--	--	7.2E+03
2,4-dinitrophenol	µg/L	--	--	--	4.0E+02
	lbs/day	--	--	--	1.3E+02
Ethylbenzene	µg/L	--	--	--	4.1E+05
	lbs/day	--	--	--	1.3E+05
Fluoranthene	µg/L	--	--	--	1.5E+03
	lbs/day	--	--	--	4.9E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	5.9E+03
	lbs/day	--	--	--	1.9E+03
Nitrobenzene	µg/L	--	--	--	4.9E+02
	lbs/day	--	--	--	1.6E+02
Thallium, Total Recoverable	µg/L	--	--	--	2.0E+02
	lbs/day	--	--	--	6.5E+01
Toluene	µg/L	--	--	--	8.6E+06
	lbs/day	--	--	--	2.8E+06
Tributyltin	µg/L	--	--	--	1.4E-01
	lbs/day	--	--	--	4.6E-02
1,1,1-trichloroethane	µg/L	--	--	--	5.5E+07
	lbs/day	--	--	--	1.8E+07
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	1.0E+01
	lbs/day	--	--	--	3.3E+00
Aldrin	µg/L	--	--	--	2.2E-03
	lbs/day	--	--	--	7.2E-04
Benzene	µg/L	--	--	--	6.0E+02
	lbs/day	--	--	--	1.9E+02
Benzidine	µg/L	--	--	--	7.0E-03
	lbs/day	--	--	--	2.3E-03

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Beryllium	µg/L	--	--	--	3.3E+00
	lbs/day	--	--	--	1.1E+00
Bis(2-chloroethyl) Ether	µg/L	--	--	--	4.5E+00
	lbs/day	--	--	--	1.5E+00
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	3.5E+02
	lbs/day	--	--	--	1.1E+02
Carbon Tetrachloride	µg/L	--	--	--	9.1E+01
	lbs/day	--	--	--	2.9E+01
Chlordane	µg/L	--	--	--	2.3E-03
	lbs/day	--	--	--	7.5E-04
Chlorodibromomethane	µg/L	--	--	--	8.7E+02
	lbs/day	--	--	--	2.8E+02
Chloroform	µg/L	--	--	--	1.3E+04
	lbs/day	--	--	--	4.2E+03
DDT[9]	µg/L	--	--	--	1.7E-02
	lbs/day	--	--	--	5.6E-03
1,4-dichlorobenzene	µg/L	--	--	--	1.8E+03
	lbs/day	--	--	--	5.9E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	8.2E-01
	lbs/day	--	--	--	2.6E-01
1,2-dichloroethane	µg/L	--	--	--	2.8E+03
	lbs/day	--	--	--	9.1E+02
1,1-dichloroethylene	µg/L	--	--	--	9.1E+01
	lbs/day	--	--	--	2.9E+01
Dichlorobromomethane	µg/L	--	--	--	6.3E+02
	lbs/day	--	--	--	2.0E+02
Dichloromethane	µg/L	--	--	--	4.5E+04
	lbs/day	--	--	--	1.5E+04
1,3-dichloropropene	µg/L	--	--	--	9.0E+02
	lbs/day	--	--	--	2.9E+02
Dieldrin	µg/L	--	--	--	4.0E-03
	lbs/day	--	--	--	1.3E-03
2,4-dinitrotoluene	µg/L	--	--	--	2.6E+02
	lbs/day	--	--	--	8.5E+01
1,2-diphenylhydrazine	µg/L	--	--	--	1.6E+01
	lbs/day	--	--	--	5.2E+00

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Halomethanes[10]	µg/L	--	--	--	1.3E+04
	lbs/day	--	--	--	4.2E+03
Heptachlor	µg/L	--	--	--	5.1E-03
	lbs/day	--	--	--	1.6E-03
Heptachlor Epoxide	µg/L	--	--	--	2.0E-03
	lbs/day	--	--	--	6.5E-04
Hexachlorobenzene	µg/L	--	--	--	2.1E-02
	lbs/day	--	--	--	6.9E-03
Hexachlorobutadiene	µg/L	--	--	--	1.4E+03
	lbs/day	--	--	--	4.6E+02
Hexachloroethane	µg/L	--	--	--	2.5E+02
	lbs/day	--	--	--	8.2E+01
Isophorone	µg/L	--	--	--	7.4E+04
	lbs/day	--	--	--	2.4E+04
N-nitrosodimethylamine	µg/L	--	--	--	7.4E+02
	lbs/day	--	--	--	2.4E+02
N-nitrosodi-N-propylamine	µg/L	--	--	--	3.8E+01
	lbs/day	--	--	--	1.2E+01
N-nitrosodiphenylamine	µg/L	--	--	--	2.5E+02
	lbs/day	--	--	--	8.2E+01
PAHs[11]	µg/L	--	--	--	8.9E-01
	lbs/day	--	--	--	2.9E-01
PCBs[12]	µg/L	--	--	--	1.9E-03
	lbs/day	--	--	--	6.2E-04
1,1,2,2-tetrachloroethane	µg/L	--	--	--	2.3E+02
	lbs/day	--	--	--	7.5E+01
Tetrachloroethylene	µg/L	--	--	--	2.0E+02
	lbs/day	--	--	--	6.5E+01
Toxaphene	µg/L	--	--	--	2.1E-02
	lbs/day	--	--	--	6.9E-03
Trichloroethylene	µg/L	--	--	--	2.7E+03
	lbs/day	--	--	--	8.8E+02
1,1,2-trichloroethane	µg/L	--	--	--	9.5E+02
	lbs/day	--	--	--	3.1E+02
2,4,6-trichlorophenol	µg/L	--	--	--	2.9E+01
	lbs/day	--	--	--	9.5E+00

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Vinyl Chloride	µg/L	--	--	--	3.6E+03
	lbs/day	--	--	--	1.2E+03

1 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1 x 10^{-2} or 0.061, 6.1E+02 represents 6.1 x 10^{2} or 610, and 6.1E+00 represents 6.1 x 10^{0} or 6.1.

2 Dischargers may, at their option, apply this performance goal as a total chromium performance goal.

3 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.

4 Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

5 Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

6 Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

7 HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

8 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

9 DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

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

11 PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

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

F. Interim Effluent Limitations – Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation Specifications

Three of the four POTWs shall continue to comply with reclamation requirements established in San Diego Water Board Order Nos. 97-52 (SOCWA 3A RP and SMWD Chiquita WRP) and R9-2003-0123 (San Clemente WRP), and any applicable future revision to or reissuance of waste discharge requirements.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of this Order are derived from the water quality objectives for ocean waters established by the Basin Plan and the Ocean Plan.

Prior to this Order, the San Diego Water Board has interpreted the Bacterial Characteristics Water-contact Standards of the Ocean Plan (Receiving Water Limitations section V.A.1) to apply only in the zone bounded by the shoreline and a distance 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and within kelp beds. The 2005 Ocean Plan also has language that these standards also apply in areas outside this zone used for water contact sports, as determined by the Regional Water Boards (i.e., waters designated as REC-1). These designations would need to be specified in the Basin Plan. Because the San Diego Water Board has not completed a process to designate specific areas where the water-contact standards apply,

Ocean Plan Bacterial Standards apply throughout all ocean waters in the San Diego Region. This interpretation has been confirmed by the USEPA.

More than 1,200 total coliform samples were collected at the near shore and offshore monitoring locations during 2006 through 2010. During this 2006 through 2010 period, SJCOO stations outside the zone of initial dilution (ZID) achieved 100 percent compliance with REC-1 single sample maximum standards for total coliform. Additionally, 100 percent of the monthly total coliform grab samples contained coliform concentrations less than the 30-day geometric mean REC-1 total coliform standard. During 2006-2010, the near shore monitoring locations showed no total coliform concentrations in excess of 270 per 100 ml, indicating that the SJCOO outfall discharge is unlikely to influence shore station bacteriological concentrations.

Except for one instance, no other fecal coliform samples exceeded the single sample maximum limit of 400 organisms per 100 ml. The only exceedance of the REC-1 fecal coliform single sample limit occurred at Monitoring Location B1, 1 mile from the outfall discharge. Only two of the monthly fecal coliform grab samples exceeded the REC-1 30-day geometric mean limit. One exceedance occurred at Monitoring Location B1, 1 mile from the outfall discharge, and the other exceedance occurred at the surface at Monitoring Location A2. According to the Discharger, the exceedance at Monitoring Location A2 may not be related to the outfall discharge due to thermal stratification effects, and the exceedance at Monitoring Location B1 may not be associated with the outfall discharge due to distance from the outfall, and the fact that concurrent samples at Monitoring Locations A3 and A4 did not show such elevated fecal coliform concentrations.

Had the Ocean Plan REC-1 body contact standards been in effect during 2006-2010, the Discharger would have been able to demonstrate compliance with the 30-day geometric mean standards by taking a second monthly sample during the month. Given the depth-dependent, site-dependent, and seasonal-dependent statistics associated with the 2006-2010 SJCOO receiving water data, a very high probability exists that a second sample would reduce the 30-day geometric mean below the Ocean Plan standard.

While 3 out of 1,200 enterococcus samples exceeded a concentration of 104 organisms per 100 ml (the REC-1 single sample maximum limit), two of these occurred in surface samples. According to the Discharger, these exceedances are unlikely to be related to the SJCOO discharge due to thermal trapping effects on the discharge plume.

A total of 6 of 366 monthly enterococcus grab samples from the water surface at near shore monitoring locations exceeded a concentration of 35 organisms per 100 ml (the REC-1 30-day geometric mean limit). According to the Discharger, these exceedances also may not be related to the outfall discharge due to thermal plume trapping effects and distance from the outfall.

More than 93 percent of the mid-depth samples at Monitoring Locations A2, A3, and A4 during 2006-2010 contained enterococcus concentrations of less than 35 organisms per 100 ml. The Discharger assumes that they would likely have been able to reduce the geometric monthly mean concentrations to less than the REC-1 geometric mean limit had two or more enterococcus samples been collected during each month.

Receiving water data collected during the current NPDES period demonstrate that the Discharger has achieved almost 100 percent compliance with the Ocean Plan REC-1 standards in and near the SJCOO ZID. As a result, the SJCOO discharge does not discernibly impact bacteriological water

quality or recreational beneficial uses. Thus, the 5-year compliance schedule, that was included in three recently adopted POTW Ocean Outfall NPDES Permits, is not included in this tentative Order.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The MRP (Attachment E) of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for the Facilities.

A. Influent Monitoring

Influent monitoring is required to assess the performance of treatment facilities and to evaluate compliance with effluent limitations. Influent monitoring frequencies and sample types for flow, $CBOD_5$, BOD_5, and TSS have been retained from Order No. R9-2006-0054 for the SOCWA J.B. Latham WP, the SMWD Chiquita WRP, the SOCWA 3A RP, and the City of San Clemente RP. Monitoring the influent for CBOD5 and TSS is necessary for determining compliance with the secondary treatment percent removal requirements. Sampling for BOD_5 is required to monitor the non-carbonaceous oxygen demand of the effluent from the wastewater treatment plants.

B. Effluent Monitoring

Effluent monitoring is required to determine compliance with the permit conditions, to identify operational problems, to improve plant performance, and to conduct reasonable potential analyses for subsequent Orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data. Effluent monitoring has been required for each of the discharges into the SJCOO collection system, prior to commingling with other discharges contributing to the SJCOO, to determine compliance with the applicable technology-based effluent limitations. ~~As described in section IV.B.2.b. of this Fact Sheet, effluent monitoring of commingled effluent will be used to determine compliance with the California Ocean Plan's technology-based effluent limitations for the SCWD's GRF, while effluent monitoring prior to commingling will be used to obtain treatment performance data for the SCWD's GRF.~~ Effluent monitoring to determine compliance with WQBELs is required at a location where representative samples of commingled effluent from all contributors to the SJCOO can be taken (Monitoring Location M-001; the sampling vault in the Doheny State Beach Park through a sampling port in the outfall pipe).

Except as described below, all effluent monitoring types and frequencies from Order No. 2006-0054 are retained in this Order.

The MRP (Attachment E) of this Order includes conductivity effluent monitoring at M-001, M-001E, M-001F, and M-001G to assist the San Diego Water Board in the evaluation of the ROWD and to conduct reasonable potential analyses for subsequent Orders.

The MRP (Attachment E) of this Order modifies the sample type specified in Order No. R9-2006-0054 for turbidity, nonchlorinated and chlorinated phenolics, endosulfan, endrin, and hexachlorocyclohexane isomers (HCH), from composite to grab. The Ocean Plan Table A

specifies turbidity objectives as an instantaneous maximum and a grab sample is more appropriate for the Facilities to determine compliance with this objective. For nonchlorinated and chlorinated phenolics, endosulfan, endrin, and HCH, methods approved under 40 CFR Part 136 specify amber glass containers and other specialized materials for sample containers and automatic samplers to avoid degradation and introduction of interfering analytes. As such, it may be difficult to appropriately equip automatic samplers or to manually collect composites.

The MRP (Attachment E) of this Order modifies the sample frequency specified in Order No. R9-2006-0054 for toxic metals, cyanide, phenolics, endosulfan, endrin, HCH, and radioactivity from quarterly to semiannually, as requested in the ROWD. Consistent with the findings for Order No. R9-2006-0054, there was no reasonable potential for any of these parameters to exceed Ocean Plan objectives, and monitoring during the current permit term indicates consistent compliance with the applicable performance goals.

C. Whole Effluent Toxicity Testing Requirements

As described in section IV.C.5 of the Fact Sheet, the requirement to perform monthly acute WET testing will not be retained in this Order based on acute WET testing results provided by the Discharger during the previous permit term, as well as the requirements in the Ocean Plan requiring only chronic WET testing in instances with minimum initial dilution factors ranging from 100:1 to 350:1.

The existing monthly chronic WET testing requirements have been reduced to quarterly monitoring requirements because the chronic WET test data provided during the previous permit term indicated no reasonable potential to exceed Ocean Plan objectives. The quarterly monitoring requirements will be used to determine compliance with performance goals based on Ocean Plan Table B water quality objectives and evaluate any potential synergistic effects in the effluent.

D. Receiving Water Monitoring

1. Surface Water

a. Surf Zone Water Quality Monitoring

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 SJCOO, the San Diego Water Board required surf zone monitoring twice per week from May 1 through October 31, and once a week November 1 through April 30 of each year in Order No R9-2006-0054. These potential impacts remain as a result of the discharge from the SJCOO and therefore this Order retains the requirements of Order No. 2006-0054 for surf zone water quality monitoring.

In the ROWD, the Discharger requested that the surf zone monitoring frequency be reduced from twice per week to once a week from May 1 through October 31. This same request was made for the previous permit reissuance. In response to this request, Order No. R9-2006-0054 required the Discharger to prepare and submit a special study to properly asses the opportunity for more equitable distribution of surf zone monitoring requirements. The Discharger submitted this report on April 30, 2007; however, a final collaborative beach water quality monitoring program to equitably distribute surf zone

monitoring has not been put in place. Until the collaborative effort is in place and the Discharger obtains approval from the San Diego Water Board through a monitoring program revision, the Discharger is still required to monitoring the surf zone twice per week from May 1 through October 31.

In the ROWD, the Discharger requested the elimination of bacteriological monitoring at Station S21 and S23. They report that these stations are well beyond the influence of the SJCOO and represent a hold-over from shore monitoring required as part of the former City of San Clemente ocean outfall discharge. The Discharger also requested the elimination of bacteriological monitoring at Station S4. They report that collecting samples at the rip-rap jetty represents a danger to monitoring personnel. They also reported that Station S4 is predominantly influenced by condition in and near Dana Point Harbor, rather than the SJCOO. The Discharger also requested the elimination of bacteriological monitoring at Station C1 and C2. These two stations are within San Juan Creek, which is already monitored by the Orange County Health Care Agency, Environmental Health and through San Diego Water Board General Order No. R9-2009-0002, *Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s), Draining the Watershed of the County of Orange, The Incorporated Cities of Orange County, and The Orange County Flood Control District Within the San Diego Region*. Due to the safety issues associated, this Order places a suspension on bacteriological monitoring at Station S4. The other station elimination requests, however, is denied at this time until, as stated in the previous paragraph, the collaborative effort is in place and the Discharger obtains approval from the San Diego Water Board through a monitoring program revision.

b. Near and Off Shore Water Quality Monitoring

The near shore and off shore water quality sampling program is designed to help evaluate the fate of the wastewater plume under various conditions and to determine if the Ocean Plan standards are being negatively impacted by the discharge. Further, bacterial sampling is required to provide data to help track the wastewater plume in the offshore waters, to evaluate compliance with recreational water standards in the kelp beds, and to address issues of beach water quality at the shoreline stations. Monitoring requirements for total coliform organisms, fecal coliform organisms, and enterococcus bacteria have been established in this Order, consistent with Order No. R9-2006-0054.

c. Benthic Monitoring

Sediment and infauna monitoring is required to help evaluate the potential effects of the discharge on the physical and chemical properties of the sediment and biological communities in the vicinity of the discharge, consistent with Order No. R9-2006-0054.

d. Fish and Invertebrate

Fish and invertebrate monitoring is required to assess the effects of the discharge on local fish and megabenthic invertebrate communities in the surrounding area of the discharge location, consistent with Order No. R9-2006-0054.

E. Other Monitoring Requirements

1. **Kelp Bed Monitoring.** Kelp bed monitoring is intended to assess the extent to which the discharge of wastes may affect the aerial extent and health of coastal kelp beds. The aerial extent of the various kelp beds photographed in each survey will provide a baseline for future monitoring to help evaluate any significant and persistent losses to the kelp beds. This Order specifically requires the Discharger to participate with other ocean Dischargers in the San Diego Region in an annual regional kelp bed photographic survey.

2. **Regional Monitoring.** The purpose of regional monitoring programs (such as the Southern California Bight Regional Monitoring Program, which is coordinated by the Southern California Coastal Water Research Project) is to address questions about conditions in and influences on water bodies with regard to beneficial uses. This is done using scientifically sound and cost-effective monitoring designs and coordinating the efforts of various parties involved in monitoring. The Discharger is required to participate in regional monitoring programs pursuant to 40 CFR 122.48 and CWC sections 13225, 13267, and 13383.

   The Discharger may request to reduce the level of effort devoted to other monitoring so that resources can be reallocated to regional monitoring by submitting a proposal to the San Diego Water Board and USEPA for such changes (including sampling, analytical, and/or reporting work).

3. **Solids Monitoring.** The Discharger is required to monitor solids generated at the Facilities pursuant to 40 CFR Part 503. 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.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. Special Provisions

1. Reopener Provisions

This Order may be re-opened and modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR Parts 122, 123, 124, and 125. The San Diego

Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Spill Prevention and Response Plans

The CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is illegal under the CWA. Further, the Basin Plan prohibits discharges of waste to land, except as authorized by WDRs or the terms described in CWC section 13264. The Basin Plan also prohibits the unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system. Further, Discharge Prohibition III.A of the Order prohibits the discharge of waste from the Facilities to a location other than Discharge Point No. 001.

Sanitary collection and treatment systems experience periodic failures resulting in discharges that may affect waters of the State. There are many factors which may affect the likelihood of a spill. To ensure appropriate funding, management, and planning to reduce the likelihood of a spill, and increase the spill preparedness, this Order requires the Discharger to maintain and implement Spill Prevention and Response Plans.

b. Spill Reporting Requirements

To determine compliance with Discharge Prohibition III.A and provide appropriate notification to the general public for the protection of public health, spill reporting requirements have been established in Section VI.C.2.b of this Order.

c. Whole Effluent Toxicity (WET)

Implementing provisions at section III.C.4.c.(3) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1 for the protection of beneficial uses of ocean waters. Based on methods of the California Ocean Plan, a performance goal of 101 TUc is established in this Order and the monthly monitoring from Order No. R9-2006-0054 has been reduced to quarterly.

This Order requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) workplan, and submit the TRE workplan within 180 days of the effective date of this Order. The workplan shall describe steps the Discharger intends to follow if the performance goal for chronic toxicity (101 TUc) is exceeded.

If the performance goal for chronic toxicity is exceeded, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the toxicity performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the San Diego Water Board. If the San Diego Water Board determines that the discharge consistently exceeds a toxicity performance goal, then the Discharger shall initiate a TRE/TIE in accordance with the TRE workplan, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (USEPA 833-B-99-002, 1999), and USEPA Toxicity Identification Evaluation (TIE) guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

d. Treatment Feasibility Study

In a letter dated March 8, 2012, from Jonathan Bishop, Chief Deputy Director of State Water Board, to David W. Gibson, Executive Director of the San Diego Water Board, Mr. Bishop requested that the Tentative Order include a feasibility study to assess the cost of providing additional treatment to meet TBELs at the GRF, if the compliance point for TBELs was temporarily moved for the GRF.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications – Not Applicable

5. Special Provisions for Wastewater Facilities

a. San Juan Creek Ocean Outfall Capacity

To ensure that sufficient capacity is available to accommodate potential growth in the future, this Order requires the Discharger to evaluate the capacity of the SJCOO during the term of the permit and submit their findings to the San Diego Water Board.

b. Treatment Plant Capacity

Order No. R9-2006-0054 required the Discharger to 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 secondary treatment design capacity of each of the POTWs regulated under this Order. Wastewater flow projections for the tributary drainage area indicate that this flow rate will not be exceeded at ultimate conditions. Therefore, in lieu of a written report for each time the monthly average influent flow rate equals or exceeds 75 percent of the secondary treatment design capacity, the requirement has been changed to require the report be submitted four years prior to the time wastewater flow are projected to reach plant capacity, as stated in Title 23, section 2232 of the CCR. The revised requirement states:

For each POTW regulated under this Order and four years prior to reaching plant design capacity, the Discharger shall submit a Treatment Plant Capacity report to the San Diego Water Board showing how flow volumes will be prevented from exceeding existing capacity or how capacity will be increased. A notification and copy of the report shall be

sent to appropriate local elected officials, local permitting agencies, and the press. The required technical report shall be reviewed, approved, and jointly submitted by all planning and building departments having jurisdiction in the area served by the POTW. Opportunities for public participation and involvement are required during the preparation and development of the technical report. The report shall be accompanied by a statement outlining how interested persons were involved in the preparation of the technical report.

If the San Diego Water Board finds that the technical report indicates adequate steps are not being taken to address the capacity problem, the San Diego Water Board will adopt a time schedule order or other enforcement order. Such action will be preceded by notice and a hearing.

c. Pretreatment Program

The federal CWA section 307(b), and federal regulations, 40 CFR Part 403, require POTWs to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards, or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.

The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the San Diego Water Board, the State Water Board, or USEPA may take enforcement actions against the Discharger as authorized by the CWA.

In January 2011, a Pretreatment Compliance Inspection (PCI) was performed of the SOCWA pretreatment program. The inspection included SOCWA's 2008 technical review of its local limits, as required under Order No. R9-2006-0054. The PCI report concluded that the local limits are not technically based, but have provided adequate protection for the POTWs. In the ROWD, the Discharger requested that the requirement to review the local limits be removed. Based on the results of the PCI and the requirements under 40 CFR 122.44(j)(2)(ii), however, the San Diego Water Board will require as part of this Order that the Discharger provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1).

In the ROWD, the Discharger requested the requirement to continue its implementation of a Non-Industrial Source Control Program be eliminated since it is no longer applicable, This request was granted and the requirement was not carried over to this Order.

d. Sludge (Biosolids Disposal Requirements

The use and disposal of biosolids is regulated under federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. The Discharger is required to comply with the standards and time schedules contained in 40 CFR Part 503.

Title 27, Division 2, Subdivision 1, section 20005 of the California Code of Regulations establishes approved methods for the disposal of collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes. Requirements to ensure the Discharger disposes of solids in compliance with State and federal regulations have been included in this Order.

e. Collection System

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

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating SSOs. Public agencies that are discharging wastewater into the Facilities were required to obtain enrollment for regulation under the General Order by December 1, 2006.

At this time the Discharger does not own or operate the collection systems from which it receives wastewater.

f. Fats, Oils, Grease, or Food Processing Wastes

This provision implements an agreement between the State Water Board and CalRecycle, regarding the regulation of operations at POTWs that accept hauled waste fats, oils, and grease and inject this waste into anaerobic digesters. With the addition of a standard provision in NPDES permits that requires the POTWs to develop and implement standard operating procedures from waste fats, oils, and grease acceptance and digestion operations, CalRecycle would exempt the operation from regulation under its requirements.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The San Diego Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facilities. As a step in the WDR adoption process, the San Diego Water Board staff has developed tentative WDRs. The San Diego Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was published in the Orange County Registry on January 23, 2012 and posted on the San Diego Water Board web site on January 23, 2012.

B. Written Comments

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

To be fully responded to by staff and considered by the San Diego Water Board, written comments must be received at the San Diego Water Board offices by 5:00 p.m. on February 20, 2012.

C. Public Hearing

The San Diego 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:	April 11, 2012
Time:	9:00 AM
Location:	Mission Viejo City Council Chambers 200 Civic Center Mission Viejo, CA 92691

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

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/sandiego/ board_info/agendas/, 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 Board to review the decision of the San Diego Water Board regarding the final WDRs. The petition must be submitted within 30 days of the San Diego 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 on the cover page of this Order at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego 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 San Diego 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 Joann Lim at (858) 637-5589.

ATTACHMENT G – DISCHARGE PROHIBITIONS CONTAINED IN THE OCEAN PLAN AND BASIN PLAN

I. Ocean Plan Discharge Prohibitions

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

2. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.

3. Pipeline discharge of sludge to the ocean is prohibited by federal law; 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.

4. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table A or Table B [of the Ocean Plan] is prohibited.

II. Basin Plan Discharge Prohibitions

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 CWC section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by WDRs or the terms described in CWC 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 dredged or fill material permit (subject to the exemption described in CWC section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

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 the San Diego 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 the San Diego Water Board.

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

8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

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 industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in CWC section 13264, is prohibited.

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

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

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.

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

ATTACHMENT H – DILUTION MODEL INFORMATION

Initial dilution for the San Juan Creek Ocean Outfall (SJCOO) was assessed using an U.S. Environmental Protection Agency (USEPA) modeling application, Visual Plumes (UM3). UM3 is an acronym for the three-dimensional Updated Merge model for simulating single and multi-port submerged discharges. The USEPA Visual Plumes website is located at <http://www.epa.gov/ceampubl/swater/vplume/>.

The SJCOO is an L-shaped diffuser. Offshore, the outfall extends 10,334 feet from the shoreline to the end of the diffuser. The length of diffuser is 1,488 feet (216 feet collinear with the outfall and 1,272 feet perpendicular to the outfall). The diffuser has 125 discharge ports which are spaced in 2 feet intervals on alternating sides. Port diameters vary between 2.85 inches at the upstream end of the diffuser to 5.0 inches on the downstream end.

A. Dilution

Initial dilution is defined in the Ocean Plan as follows:

> *"The process which 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."*

Initial dilution, as defined by the Ocean Plan, is interpreted to be when the effluent plume either surfaces or reaches its initial trapping level (level at which the density of the effluent equals that of the ambient background and the effluent no longer has upward momentum based solely on buoyancy).

Dilution is a function of various characteristics of the diffuser, effluent, and ambient background. Dilution of an effluent plume into a receiving water is dependent on the flow of effluent, the momentum of the effluent flow into the receiving water (highly dependent on the effluent flow, shape, size, and number of diffuser ports), the buoyancy of the effluent within the receiving water (highly dependent between the delta between effluent and the ambient background of salinity and temperature), the placement of diffuser ports (space between diffuser ports and directional settings of each port), and the available volume and boundaries of the receiving water.

To effectively model dilution, Visual Plumes breaks data entry into the modeling system into three main components:

1. Diffuser and Effluent Characteristics
2. An Ambient Profile
3. Special Settings

A summary of each of these components and the assumptions for each of these components while conducting the modeling effort is provided below.

B. Diffuser and Effluent Characteristics

Diffuser and effluent characteristics are necessary to determine the momentum of the effluent as it enters the receiving water and the density of the effluent (which will affect its buoyancy in the receiving water).

The input fields for the model are listed below with applicable explanations for the input into each field:

1. Port Diameter

In the Report of Waste Discharge (ROWD) the Discharger provided a summary of the diffuser geometry, including the number of ports and their respective diameters. Visual Plumes data entry limitations include only allowing a single input for "Port Diameter". Thus, a single port diameter must be determined. This was done by taking an average port size of all the ports as summarized below:

Table H-1. SJCOO Port Geometry

Number of Ports	Port Diameter (inches)	Port Radius (inches)	Port Area (in^2)	Total Area per Port Size (in^2)
16	2.85	1.43	6.38	102
107	3.03	1.52	7.21	772
2	5.00	2.50	19.6	39.3
		Total # of Ports = 125		
		Total Area (in^2) = 913		

Using the information contained in Table H-1, one may compute the average port area (7.30 in^2) and average port diameter (3.05 inches) for the SJCOO diffuser.

A port diameter of 3.05 inches was input to Visual Plumes.

2. Port Elevation

The port elevation (or height of the port from the sea bed) was not specified in the ROWD. On October 25, 2011 the Discharger provided supplementary information indicating that the elevation of the ports was 54.5 inches. Based on this information, a port elevation of 54.5 inches was used in the model.

3. Vertical Angle

The vertical angle is defined in the Visual Plumes manual (4th Edition) as the discharge angle relative to the horizontal with zero being horizontal, 90 being vertical upward, and -90 being vertically downward. The ROWD indicates that the ports are located on the diffuser facing opposing directions, 180 degrees away from each other. A data entry limitation of Visual Plumes is that only one vertical angle may be entered. In cases where there is potential for two plumes emitted from different angles on the diffuser to merge within the water column, the Visual Plumes manual suggests modeling the diffuser as if all ports are on one side of the diffuser and with half the spacing. In situations where the potential for plume merging is considered to be negligible, an alternative approach is to model one-half of the diffuser (i.e., one plume) and assume no cross-merging of plumes.

Because the plumes from each side of the diffuser are assumed to have the potential to merge, both sides of the diffuser have been included in the simulation (i.e., all ports are treated as if they are on one side of the diffuser and with half the spacing). An effluent flow of 38.78 MGD was used. A single vertical angle of 0 degrees was used in the model.

4. Horizontal Angle

The horizontal angle is defined in the Visual Plumes manual as the angle of the diffuser relative to the x-coordinate. Assuming that the default units (degrees) are used, zero is in the direction of the x-coordinate (flow towards the east) and 90 in the direction of the y-coordinate (flow towards the north). The ROWD indicates that the "L-shape" diffuser extends at approximately 100 degrees for 216 feet and then turning to 190 degrees 1,272 feet.

A data entry limitation of Visual Plumes is that only one vertical angle may be entered. This field is important when considering currents and stream flow, both of which are not considered when modeling for discharges to which the Ocean Plan is applicable. Since these elements are not being considered in this simulation and since the horizontal angle entry field does not have an impact on the final initial dilution, an angle of 0 degrees was entered into this field.

5. Number of Ports

The number of ports specified in the ROWD (and summarized in the Port Diameter portion of this Attachment) is 125 ports. These ports alternate on each side of the diffuser.

6. Port Spacing

The ROWD indicated that the ports were approximately 24 feet apart. Both sides of the diffuser are being modeled on one side of the diffuser; a value of 12 feet was entered into the model.

7. Acute Mix Zone/Chronic Mix Zone

This value is not relevant to the final initial dilution calculations and has no impact on model output. The Visual Plumes software requires that a value be entered into these fields. Therefore, 1 m was entered into each field.

8. Port Depth

The ROWD indicates that the diffuser discharge depth is 100 feet at the inshore end of the diffuser. No additional depth information was available. A value of 100 feet was used in the model.

9. Effluent Flow

The maximum monthly average flow permitted for the Discharger is 36.835 million gallons per day (MGD). The Discharger has requested an increase to 38.78 MGD in order to accommodate the expansion of the South Coast Water District Groundwater Recovery Facility (GRF) and to permit a higher flow for the San Juan Capistrano Groundwater Treatment Plant. The Discharger currently discharges a monthly average flow significantly below the proposed permitted flow which would result in a greater (and less conservative) dilution value. Because the Discharger will continue to be capable of discharging up to 38.78 MGD, and this is the most conservative value to use when modeling dilution, 38.78 MGD was considered to be the applicable discharge volume through the outfall and this value was entered into the effluent flow field.

10. Effluent Conductivity

The Discharger provided monthly average effluent conductivity data for the period January 2009 through May 2011. During this time period, the GRF was not discharging to the SJCOO. In order to provide consistency with the available temperature data, discussed in section 11, monthly average conductivities were computed for each month across the span of the available data (i.e., the mean conductivity value for January was computed using the January 2009, January 2010, and January 2011 data). Higher levels of

salinity in the effluent result in a less buoyant effluent and provide a conservative estimate of dilution. The highest average monthly conductivity observed was 2.425 mmhos/cm.

As discussed in section 9, the Discharger is requesting a 1.945 MGD increase in permitted flow to accommodate the expansion of the GRF and to permit a higher flow for the San Juan Capistrano Groundwater Treatment Plant. Brine from the GRF will be substantially more saline than the existing outfall discharge with the GRF brine. Therefore, the San Diego Water Board developed an estimated outfall conductivity that included the GRF brine using a mass balance approach. Based on supplementary information provided by the Discharger, the San Diego Water Board assumed an average effluent conductivity value of 10 mmhos/cm for the GRF brine discharge. Estimated effluent conductivity was estimated using the following equation:

$$Co = ((Q_{GRF} \times C_{GRF}) + (Q_{ex} + C_{ex})) / (Q_{GRF} + Q_{ex})$$

Where,

C_o = Estimated Outfall Conductivity (mmhos/cm)
C_{GRF} = GRF Conductivity (10 mmhos/cm)
C_{ex} = Conductivity of Existing Discharge (2.306 mmhos/cm)
Q_{GRF} = GRF Total Flow (0. 6 MGD)
Q_{ex} = Existing Discharge Permitted Flow without the GRF brine flow (38.18 MGD)

An estimated outfall conductivity of 2.425 mmhos/cm was computed and used in the model.

11. Effluent Temperature

The Discharger provided average Monthly temperature data from 2007 through 2010 (i.e., January data for 2007-2010 was averaged to provide a mean January temperature). The density of water is a function of temperature. Therefore, a smaller difference in temperature between the effluent and receiving waters (i.e., Δ) will produce a relatively smaller difference between the densities of the effluent and receiving waters and less dilution is likely to occur. Receiving water temperatures are significantly lower than the temperature of the effluent discharged from the SJCOO. Thus, a lower effluent temperature is likely to result in lower dilution. The lowest monthly average temperature of 70.33^{o}F was entered into the data field.

12. Effluent Concentration

This data field is for calculating “effective dilution” and does not have an effect on the final initial dilution calculated. However a value must be entered into this field for the model to run, so “20 ppm” was chosen.

C. Ambient Profile

1. An ambient profile is a conservative profile of the receiving water. This profile includes components of density (temperature and salinity), current (which is always set to zero when running models for the Ocean Plan), and a far-field diffusion coefficient. The ambient profile takes into consideration the natural stratification of the receiving waters, allowing for the entry of various data points at varying depths. The model is capable of extrapolating data for the depths that were not entered based on the data that is entered. The extrapolation feature was utilized for this modeling effort.

Receiving water monitoring of temperature and salinity was established during the current permit term at the following monitoring locations which are representative of the receiving water at the point of discharge:

- Monitoring Location A1
- Monitoring Location A2
- Monitoring Location A3
- Monitoring Location A4
- Monitoring Location A5

The Monitoring and Reporting Program for Order No. R9-2006-0054 states that the monitoring locations are arranged at the corners of a 2,000 ft x 2,000 ft square having one side parallel to shore and the intersection of its diagonals located at the center of the outfall diffuser sections. Monitoring Location A1 is located on the easternmost corner of the square and Monitoring Locations A2 through A4 at successive corners in a clockwise direction. Monitoring Location A5 is located at the intersection of the diagonals over the diffuser.

Ambient monitoring data was provided by the Discharger for Monitoring Locations A1 through A5. The SJCOO is located near Dana Point and is under the influence of the Southern California Countercurrent which flows from the southeast to the northwest. Currents near the outfall are expected to in general push the plume to the northwest. Monthly ambient profiles for Monitoring Location A1 were selected for use in the modeling effort because Monitoring Location A1 is likely to be the least influenced by the existing discharge plume from the outfall.

Part C.3.d of the California Ocean Plan states:

"For the purpose of this Plan, minimum initial dilution is the lowest average initial dilution within any single month of the year."

Using data from July 2008 through June 2009, the ambient profile providing the most conservative estimate of initial dilution was the September 2008 profile. Dilution estimates developed on the basis of the provided ambient profiles at Monitoring Location A1 are provided in section E, below.

Based on the Discharger's results, the ambient profile for September 2008 provided the most conservative estimate of dilution. The following ambient profile for September 2008 was used to calculate the final initial dilution by the San Diego Water Board using Visual Plumes:

Depth (m)	Temperature (°C)	Salinity (psu)
0	19.9652	33.3755
1	19.9311	33.3818
2	19.8739	33.3912
3	19.8418	33.397
4	19.8104	33.3984
5	19.7862	33.3976
6	19.6351	33.4126
7	18.4803	33.4219
8	18.2881	33.4166
9	17.9439	33.4182
10	17.7614	33.3994
11	17.7125	33.3933
12	17.3396	33.3804
13	16.7894	33.3867
14	16.726	33.3798
15	15.855	33.3942
16	15.1731	33.385
17	14.8288	33.3693
18	14.3739	33.3661
19	14.1797	33.3471
20	14.1212	33.3372
21	13.9466	33.3348
22	13.833	33.3253
23	13.8215	33.3239
24	13.7504	33.3232
25	13.6006	33.336
26	13.4228	33.3632

Data was extrapolated for depths at which no data was available.

2. Far-field Diffusion Coefficient

The Visual Plumes manual recommends the use of 0.0003 $m^{0.67}/s^2$. This value was used in the data field as a constant (not extrapolated as the ambient temperature and density were).

D. Special Settings

1. UM3 Tidal Pollutant Buildup Parameters

This field is used to calculate "effective dilution", which was irrelevant to the SJCOO modeling effort.

2. Diffuser Port Contraction Coefficient

The shape of the diffuser ports was not specified in the ROWD. Upon request, the Discharger indicated that the diffuser ports are sharp-edged cylinders. Thus, a diffuser port contraction coefficient of 0.61 was used as recommended in the Visual Plumes manual.

3. Standard Light Adsorption Coefficient

The value of 0.16 is recommended in the Visual Plumes manual as a conservative value. This is not relevant to final initial dilution, and is for the Mancini bacteria model applications of the model.

4. Far-field Increment (m)

This value controls the number of lines output by the Brooks far-field algorithm. A small value produces more lines and graphic output than large values. A value between 100 to 1000 m is recommended by the Visual Plumes manual. This field has little effect on the final calculated initial dilution; a value of 100 m was used in the data field.

5. UM3 Aspiration Coefficient

This is the rate at which ambient fluid is entrained (diluted) into the plume. The default value of 0.1 is an average that is rarely changed. A larger value causes more rapid plume spreading and affects other characteristics, like plume rise. The default value of 0.1 was used in the data field.

E. Final Results

Twelve model runs were conducted using the data input specified above, one for each available monthly ambient profile. This provided dilution values (expressed at the second trapping level or at the point where the plume reaches the surface of the water column) when considering worst case scenarios (most conservative – high flow, high effluent salinity, low effluent temperature, etc.).

Table H-2. Initial Dilution

Year	Dilution
July 2008	283
August 2008	201
September 2008	162
October 2008	237
November 2008	221
December 2008	217
January 2009	243
February 2009	301
March 2009	227
April 2009	193
May 2009	214
June 2009	192

Model output has been included below and has been copied directly from the Visual Plumes text output.

The minimum initial dilution for September 2008 was calculated to be 162:1. The previous modeling effort used in the Order Nos. 2000-013 and R9-2006-0054 utilized estimated a minimum initial dilution value of 100:1.

September 2008

Ambient Table:

Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Decay s-1	Far-spd m/s	Far-dir deg	Disprsn m0.67/s2	Density sigma-T
0.0	0.0	0.0	33.38	19.96	0.0	0.0	-	-	0.0003	23.56
0.13	0.0	0.0	33.38	19.97	0.0	0.0	-	-	0.0003	23.56
0.192	0.0	0.0	33.38	19.97	0.0	0.0	-	-	0.0003	23.56
0.253	0.0	0.0	33.37	19.98	0.0	0.0	-	-	0.0003	23.55
0.314	0.0	0.0	33.38	19.98	0.0	0.0	-	-	0.0003	23.56
0.375	0.0	0.0	33.38	19.96	0.0	0.0	-	-	0.0003	23.56
0.498	0.0	0.0	33.37	19.95	0.0	0.0	-	-	0.0003	23.56
0.559	0.0	0.0	33.38	19.96	0.0	0.0	-	-	0.0003	23.56
0.62	0.0	0.0	33.38	19.95	0.0	0.0	-	-	0.0003	23.57
0.682	0.0	0.0	33.38	19.93	0.0	0.0	-	-	0.0003	23.57
0.743	0.0	0.0	33.38	19.93	0.0	0.0	-	-	0.0003	23.57
0.804	0.0	0.0	33.38	19.94	0.0	0.0	-	-	0.0003	23.57
0.927	0.0	0.0	33.38	19.93	0.0	0.0	-	-	0.0003	23.57
0.988	0.0	0.0	33.38	19.93	0.0	0.0	-	-	0.0003	23.57
1.049	0.0	0.0	33.38	19.93	0.0	0.0	-	-	0.0003	23.57
1.111	0.0	0.0	33.38	19.93	0.0	0.0	-	-	0.0003	23.57
1.233	0.0	0.0	33.39	19.92	0.0	0.0	-	-	0.0003	23.58
1.294	0.0	0.0	33.38	19.92	0.0	0.0	-	-	0.0003	23.58
1.356	0.0	0.0	33.38	19.91	0.0	0.0	-	-	0.0003	23.58
1.417	0.0	0.0	33.39	19.9	0.0	0.0	-	-	0.0003	23.59

Diffuser table:

P-dia (in)	P-elev (in)	V-angle (deg)	H-angle (deg)	Ports ()	Spacing (ft)	AcuteMZ (m)	ChrncMZ (m)	P-depth (ft)	Ttl-flo (MGD)	Eff-con (mmho/cm)	Temp (F)	Polutnt (ppm)
3.05	54.5	0.0	0.0	125.0	12.0	1.0	1.0	100.0	38.78	2.425	70.33	20.0

Simulation:

Froude number: 38.13; effleunt density (sigma-T) -0.864; effleunt velocity 4.727(m/s);

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	100.0	0.0	2.382	20.0	1.0	0.0	0.0; stream limit reached;
100	99.95	0.0	16.89	2.761	7.087	3.016	0.0;
104	99.94	0.0	18.28	2.55	7.669	3.305	0.0; chronic zone, acute zone;
200	94.34	0.0	77.47	0.508	38.4	16.24	0.0;
252	75.93	0.0	145.5	0.196	99.68	26.58	0.0; merging;
259	70.61	0.0	168.2	0.17	114.5	28.65	0.0; trap level;
275	60.4	0.0	287.4	0.144	135.0	33.09	0.0; begin overlap;
300	58.15	0.0	414.5	0.143	136.4	34.72	0.0;
379	57.17	0.0	597.5	0.143	136.6	36.67	0.0; local maximum rise or fall;
400	57.21	0.0	586.6	0.143	136.6	37.06	0.0;
492	61.77	0.0	291.1	0.14	139.4	40.88	0.0; end overlap;
500	64.83	0.0	264.7	0.136	143.9	42.21	0.0;
509	75.84	0.0	269.4	0.12	162.4	46.07	0.0; trap level;
517	81.75	0.0	379.3	0.114	171.6	48.35	0.0; begin overlap;
553	84.54	0.0	674.2	0.113	172.7	50.12	0.0; bottom hit;
600	85.07	0.0	905.8	0.113	172.7	50.97	0.0;
629	85.13	0.0	950.5	0.113	172.7	51.34	0.0; local maximum rise or fall;