

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

9174 Sky Park Court, Suite 100, San Diego, CA 92123-4340
Phone (858) 467-2952 • Fax (858) 571-6972
<http://www.waterboards.ca.gov/sandiego/>

ORDER NO. R9-2009-0037
NPDES NO. CA0107492

**WASTE DISCHARGE REQUIREMENTS
FOR THE PADRE DAM WATER RECYCLING FACILITY
DISCHARGE TO SYCAMORE CREEK, SAN DIEGO COUNTY**

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

Table 1. Discharger Information

Discharger	Padre Dam Municipal Water District, Santee, CA
Name of Facility	Padre Dam Water Recycling Facility (PDWRF)
Facility Address	12001 N. Fanita Parkway Santee, CA 92072 San Diego County
The United States Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region (Regional Water Board) have classified this discharge as a major discharge.	

The discharge by the Padre Dam Municipal Water District from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary- and tertiary-treated effluent from Santee Lakes	32°50'45" N	117°00'15" W	Sycamore Creek (Hydrologic Subarea 907.12)

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	April 8, 2009
This Order shall become effective on:	June 1, 2009
This Order shall expire on:	June 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	December 3, 2013

I, John Robertus, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the Regional Water Board, on April 8, 2009.

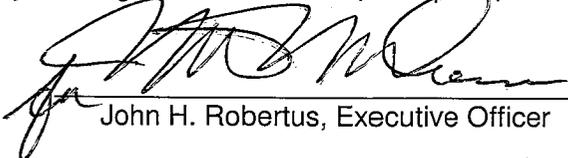

John H. Robertus, Executive Officer

Table of Contents

I.	Facility Information	4
II.	Findings	5
III.	Discharge Prohibitions.....	11
IV.	Effluent Limitations and Discharge Specifications	12
	A. Effluent Limitations – Discharge Point No. 001	12
	B. Land Discharge Specifications – Not Applicable.....	20
	C. Reclamation Specifications – Not Applicable.....	20
V.	Receiving Water Limitations	21
	A. Surface Water Limitation.....	21
	B. Groundwater Limitations – Not Applicable	23
VI.	Provisions	24
	A. Standard Provisions.....	24
	B. Monitoring and Reporting Program Requirements.....	26
	C. Special Provisions	26
	1. Reopener Provisions.....	26
	2. Special Studies, Technical Reports, and Additional Monitoring Requirements.....	27
	3. Best Management Practices and Pollution Prevention	30
	4. Construction, Operation and Maintenance Specifications–Not Applicable.....	30
	5. Special Provisions for Municipal Facilities (POTWs Only)	30
	6. Other Special Provisions – Not Applicable.....	32
	7. Compliance Schedules	32
VII.	Compliance Determination	33
	A. Compliance with Average Monthly Effluent Limitation	33
	B. Compliance with Average Weekly Effluent Limitation	33
	C. Compliance with Maximum Daily Effluent Limitation.....	33
	D. Compliance with Instantaneous Minimum Effluent Limitation	33
	E. Compliance with Instantaneous Maximum Effluent Limitation	34
	F. Mass and Concentration Limitations.....	34
	G. Percent Removal.	34
	H. Compliance Determination.....	34
	1. Compliance with Single-Constituent Effluent Limitations	34
	2. Multiple Sample Data Reduction.....	35
	3. Acute Toxicity	35
	4. Mass Emission Rate	35
	5. Bacterial Standards and Analysis	36
	6. Single Operational Upset.....	36

List of Tables

Table 1.	Discharger Information	1
Table 2.	Discharge Location.....	1
Table 3.	Administrative Information	1
Table 4.	Facility Information	4
Table 5a.	Basin Plan Surface Water Beneficial Uses.....	7
Table 5b.	Basin Plan Ground Water Beneficial Uses	7

Table 6a. Effluent Limitations – Discharge Point No. 001..... 12
Monitoring Location EFF-001A..... 12
Table 6c. Effluent Limitations Based on the Basin Plan – Discharge Point No. 001 13
Monitoring Location EFF-001B 13
Table 6c. Interim Effluent Limitations-Discharge Point 001, Monitoring Location EFF-001B... 14
Table 6d. Performance Goals Based on the Basin Plan and CTR/NTR Criteria 14

List of Attachments

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

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Padre Dam Municipal Water District (PDMWD)
Name of Facility	Padre Dam Water Recycling Facility (PDWRF)
Facility Address	12001 N. Fanita Parkway Santee, CA 92072 San Diego County
Facility Contact, Title, and Phone	Gary Canfield Plant Manager (619) 258-4695
Mailing Address	P.O. Box 719003 Santee, CA 92072-9003
Type of Facility	Wastewater Treatment/Water Recycling Facility
Facility Design Flow	2.0 Million Gallons per Day (MGD)

II. FINDINGS

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

A. Background. The Padre Dam Municipal Water District (PDMWD; hereinafter, also referred to as the Discharger) is currently discharging pursuant to Order No. R9-2003-0179 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107492. The Discharger submitted a Report of Waste Discharge (ROWD), dated May 16, 2008, and applied for a NPDES permit renewal to discharge up to 2.0 MGD (as determined at monitoring location EFF-001B) of tertiary-treated wastewater from the Padre Dam Water Recycling Facility (PDWRF; hereinafter, also referred to as the Facility). The Regional Water Board sent the Discharger a letter, dated October 17, 2008, stating that the application was deemed complete.

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

B. Facility Description. The PDWRF is operated as a “skimming” facility to produce recycled water for beneficial use. PDMWD directs up to 2.0 MGD of its raw wastewater from the City of Santee, portions of the City of El Cajon, and the unincorporated community of Lakeside to PDWRF. The remaining raw wastewater is sent to the Metropolitan Sewerage System, operated by the City of San Diego Metropolitan Wastewater Department, for treatment and disposal. Attachment B provides a map of the area around the facility. Attachment C provides a flow schematic of the facility.

The treatment process consists of two primary clarifiers, a five-stage Bardenpho process, two secondary clarifiers, alum and polymer addition, flocculation, sedimentation, denitrification filters, and chlorine disinfection. Effluent is discharged into three holding ponds before being discharged to Lake No. 7. Waste sludge from clarification is sent to the City of San Diego Metropolitan Wastewater System for treatment and disposal.

The Facility has a design flow capacity of 2.0 MGD and in 2007, had an average daily flow rate of 1.89 MGD. Effluent from the treatment plant is sent to reuse sites in the Santee and El Cajon hydrologic subareas (HSAs) and is regulated under Order No. 97-49. Treated effluent not sent to reuse sites is discharged into the Santee Lakes, which flow in series, beginning with Lake No. 7 and ending with Lake No.1. All of the lakes have an underlying clay liner to minimize percolation to groundwater. The Lakes are used as recreational facilities. Currently, effluent from Lake No. 1 flows into Sycamore Creek, which is tributary to the San Diego River. Flow to the Lakes significantly decreases during the summer and autumn months as most of the treatment plant effluent is used offsite for irrigation.

C. Legal Authorities. This Order is issued pursuant to Section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (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 this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the CWC (commencing with Section 13260).

- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.
- E. California Environmental Quality Act.** Under CWC Section 13389, this action to adopt an NPDES permit is exempt from the provisions of California Environmental Quality Act (CEQA), Public Resources Code Sections 21100-21177.
- F. Technology-Based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at Section 122.44, title 40 of the Code of Federal Regulations¹, 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 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and Section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment, is discussed in Section IV.B.1 of the Fact Sheet.

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

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

H. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the San Diego Region (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation programs and policies to achieve those objectives for the inland surface waters addressed through the Plan. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Resources Control Board (hereinafter State Water Board). Beneficial uses applicable to the Inland Surface Waters specified in the Basin Plan are as follows:

Table 5a. Basin Plan Surface Water Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Sycamore Creek (HSA 907.12)	Agricultural Supply; Industrial Service Supply; Contact Water Recreation; Non-Contact Water Recreation; Warm Freshwater Habitat; Wildlife Habitat; Rare, Threatened, or Endangered Species

Table 5b. Basin Plan Groundwater Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Santee Hydrologic Subarea (907.12)	Municipal and Domestic Supply, Industrial Service and Process Supply, Agricultural Supply

Requirements of this Order implement the Basin Plan.

- I. National Toxics Rule and California Toxics Rule (CTR).** USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the California Toxics Rule (CTR). The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- J. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy, or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger’s request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived

from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised WQO. This Order includes a compliance schedule and interim effluent limitation for bis(2-ethylhexyl phthalate).

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

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on five-day biochemical oxygen demand @ 20°C (BOD₅) and total suspended solids (TSS). The TSS, BOD₅, and pH limitations contained in Order No. R9-2009-0037 are more stringent than the federal CWA secondary treatment requirements. The effluent concentration and mass emission rate (MER) limitations established for BOD₅ and TSS are based, in part, on treatment performance data for the PDWRF and were determined using best professional judgment (BPJ) pursuant to 40 CFR 125.3. The basis for the effluent limitation for pH is the Basin Plan objective, which requires the pH to be between 6.5 and 8.5 at all times. Restrictions on BOD₅, TSS, oil and grease, and pH are discussed in Section IV.B.1 of the Fact Sheet.

WQBELs have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR Section 131.38. All beneficial uses and WQOs contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to Section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

N. Antidegradation Policy. Section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The

State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16.

- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations Section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
- P. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code Sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. Sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the State. The discharger is responsible for meeting all applicable requirements of the Endangered Species Act.
- Q. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC Sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with Section 122.41, and additional conditions applicable to specified categories of permits in accordance with Section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under Section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. Provisions and Requirements Implementing State Law.** The provisions/requirements in Section VI.C. of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

- T. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe 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 of this Order.
- U. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the public hearing are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order No. R9-2003-0179 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.** Compliance with the Waste Discharge Prohibitions, as stated in the 1994 Basin Plan, is required as a condition of this Order.
- B.** Discharge to the San Diego River and contiguous waters from the Facility at average daily flow rate in excess of 2.0 MGD is prohibited.
- C.** The discharge of waste at points other than Discharge Point No. 001 (to Sycamore Creek), which have not been specifically described in the report of waste discharge and for which valid WDRs are not in force, is prohibited.
- D.** The discharge of oil, trash, or other solids directly to surface water, or in any manner which may permit it to be washed into surface water, is prohibited.
- E.** The discharge of municipal and industrial waste sludge and untreated sludge digester supernatant, centrate, or filtrate to the San Diego River and/or its tributaries is prohibited.
- F.** The deposition of rubbish or refuse into surface waters or at any place where they would be eventually transported to the San Diego River and/or its tributaries is prohibited.
- G.** The discharge of waste shall not cause surface erosion or scouring of aquatic substrates.
- H.** The discharge of any substances in concentrations toxic to human, animal, plant, or aquatic life is prohibited. Compliance with this toxicity prohibition shall be evaluated at the discharge to Sycamore Creek.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001 with Compliance Determined at Monitoring Location EFF-001A

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, (Monitoring Location EFF-001A) as described in the attached MRP:

**Table 6a. Effluent Limitations – Discharge Point No. 001
Monitoring Location EFF-001A**

Parameter	Units	Effluent Limitations ²				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ ¹	mg/L	15	23	25	--	--
	lb/day	250	384	417	--	--
TSS ¹	mg/L	15	23	25	--	--
	lb/day	250	384	417	--	--
Aluminum, Total Recoverable	mg/L	--	--	0.2	--	--
	lb/day	--	--	3.3	--	--
Chloride	mg/L	--	--	400	--	--
	lb/day	--	--	6,672	--	--
Color	units	--	--	20	--	--
Iron, Total Recoverable	mg/L	--	--	0.30	--	--
	lb/day	--	--	5.0	--	--
Manganese, Total Recoverable	mg/L	--	--	0.05	--	--
	lb/day	--	--	0.83	--	--
Nitrate Nitrogen	mg/L	--	--	45	--	--
	lb/day	--	--	751	--	--
Odor	--	No Odor				
Oil and Grease	mg/L	5	--	7.5	--	--
	lb/day	83	--	125	--	--
Percent Sodium	%	--	--	60.0	--	--
pH	standard units	--	--	--	6.5-8.5 ³	--
Total Dissolved Solids	mg/L	--	--	1,000	--	--
	lb/day	--	--	16,680	--	--

- 1 The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.
 2 Mass emission limitations are based on a flow rate of 2.0 MGD.
 3 The pH must be within the range of 6.5 to 8.5 at all times.

- b. Percent Removal:** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.

- c. Turbidity:** Effluent turbidity shall not exceed the following:
 - i. 2 Nephelometric Turbidity Units (NTU) as a daily average;
 - ii. 5 NTU more than 5 percent of the time within a 24-hour period; and
 - iii. 10 NTU at any time.
- d. Total Coliform Organisms:** Effluent total coliform organisms concentration shall not exceed the following:
 - i. 2.2 most probable number per 100 milliliters (MPN/mL) as a seven-day median based upon the last seven days;
 - ii. 23 MPN/100 mL more than once in any 30-day period; and
 - iii. 240 MPN/100 mL at any time.
- e. Dissolved Oxygen:** The daily average effluent dissolved oxygen concentration shall not be less than 5.0 milligrams per liter (mg/L).

2. Final Effluent Limitations – Discharge Point No. 001 with Compliance Determined at Monitoring Location EFF-001B

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001 (discharge from Santee Lakes), with compliance measured at Monitoring Location No. EFF-001B as described in the attached MRP:

Table 6b. Effluent Limitations Based on the Basin Plan – Discharge Point No. 001 Monitoring Location EFF-001B

Parameter	Units	Effluent Limitations				
		Daily Average	Monthly Average	Weekly Average	Daily Maximum	12-Month Average
Flow Rate	MGD	2.0	--	--	--	--
Ammonia, Un-ionized, as N	mg/L	--	--	--	0.025	--
	lb/day ¹	--	--	--	0.42	--
Nitrogen, Total	mg/L	--	--	--	--	--
	lb/day ¹	--	--	--	--	17 ²
Phosphorous, Total	mg/L	--	--	--	--	--
	lb/day ¹	--	--	--	--	1.7 ²
Bis(2-ethylhexyl) phthalate	µg/L	--	1.8	--	3.6	--
	lb/day ¹	--	0.03	--	0.06	--
Methyl Tert-Butyl Ether	µg/L	--	--	--	5	--
	lb/day ¹	--	--	--	0.083	--
Total Chlorine Residual	µg/L	--	2	8	18	--
	lb/day ¹	--	0.033	0.13	0.30	--

¹ Mass emission limitations are based on a flow rate of 2.0 MGD.

2 Mass emission limitations are based on a 12-month running average.

- b. Discharge to Sycamore Creek and contiguous waters from the facility at average daily flow rate in excess of 2.0 MGD is prohibited.
- c. Acute Toxicity: Survival of aquatic organisms in 96-hour bioassays of undiluted waste collected at monitoring location EFF-001B shall be no less than:

Minimum for any one bioassay-----70%
Median for any three or more consecutive bioassays-----90%

3. Interim Effluent Limitations

During the period beginning June 1, 2009 and ending on May 18, 2010, the Discharger shall maintain compliance with the following interim effluent limitation in lieu of the corresponding final effluent limitation specified for the same parameter during the time period indicated in this provision (see Table 6b above).

**Table 6c. Interim Effluent Limitations-Discharge Point 001
Monitoring Location EFF-001B**

Parameter	Water Quality-Based Effluent Limitations					
	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	12-Month Average
Bis(2-ethylhexyl) phthalate	µg/L	--	--	58	--	--
	lb/day ¹	--	--	0.97	--	--

1 Mass emission limitation is based on a flow rate of 2.0 MGD.

4. Performance Goals at EFF-001A

Constituents that do not have reasonable potential or had inconclusive reasonable potential analysis results 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 EFF-001A, but the results will be used for informational purposes only, not compliance determination.

Table 6d. Performance Goals Based on the Basin Plan and CTR/NTR Criteria

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
BASED ON BASIN PLAN OBJECTIVES				
Radioactivity, Gross Alpha	pci/L	--	--	15 ³
Radioactivity, Gross Beta	pCi/L	--	--	50
Radium 226 and 228	pCi/L	--	--	5
Boron	µg/L	---	--	7.5E+02
	lb/day	--	--	1.25E-01

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
Fluoride	µg/L	--	--	1.00E+03
	lb/day	--	--	1.67E-02
Methylene Blue Active Substances	µg/L	--	--	5.00E+02
	lb/day	--	--	8.34E-02
Sulfate	µg/L	--	--	5.00E5
	lb/day	--	--	8.34E-02
Total Trihalomethanes	µg/L	8.00E+01	1.60E+02	--
	lb/day	1.33E+00	2.68E+00	--
OBJECTIVES FOR THE PROTECTION OF AQUATIC LIFE				
Cadmium, Total Recoverable	µg/L	3.69E+00	7.40E+00	--
	lb/day	6.16E-02	1.23E-01	--
Chromium VI, Total Recoverable ⁴	µg/L	8.12E+00	1.63E+01	--
	lb/day	1.35E-01	2.72E-01	--
Copper, Total Recoverable	µg/L	1.44E+01	2.89E+01	--
	lb/day	2.40E-01	4.82E-01	--
Cyanide, Total Recoverable ⁵	µg/L	4.26E+00	8.54E+00	--
	lb/day	7.10E-02	1.42E-01	--
Lead, Total Recoverable	µg/L	6.94E+00	1.39E+01	--
	lb/day	1.16E-01	2.32E-01	--
Selenium, Total Recoverable	µg/L	4.09E+00	8.21E+00	--
	lb/day	6.83E-02	1.37E-01	--
Silver, Total Recoverable	µg/L	7.61E+00	1.53E+01	--
	lb/day	1.27E-01	2.55E-01	--
Zinc, Total Recoverable	µg/L	1.15E+02	2.30E+02	--
	lb/day	1.91E+00	3.84E+00	--
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH				
alpha Endosulfan	µg/L	4.59E-02	9.20E-02	--
	lb/day	7.65E-4	1.53E-3	--
beta Endosulfan	µg/L	4.59E-02	9.20E-02	--
	lb/day	7.65E-04	1.53E-03	--
Endosulfan Sulfate	µg/L	4.59E-02	9.20E-02	--
	lb/day	7.65E-04	1.53E-03	--
Endrin	µg/L	2.95E-02	5.91E-02	--
	lb/day	4.92E-04	9.86E-04	--
Endrin Aldehyde	µg/L	7.60E-01	1.52E+00	--
	lb/day	1.27E-02	2.54E-02	--
Acrolein	µg/L	1.72E+01	3.45E+01	--
	lb/day	2.87E-01	5.75E-01	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
Antimony	µg/L	6.00E+00	1.20E+01	--
	lb/day	1.00E-01	2.01E-01	--
Arsenic, Total Recoverable	µg/L	5.00E+01	1.00E+02	--
	lb/day	8.34E-01	1.67E+00	--
Asbestos	MFL ⁵	7.00E+06	1.40E+07	--
Barium	µg/L	1.00E+03	2.01E+03	--
	lb/day	1.67E+01	3.35E+01	--
Beryllium	µg/L	4.00 E+00	8.02E+00	--
	lb/day	6.67E-02	1.34E-01	--
Bis(2-chloroisopropyl) ether	µg/L	9.99E+01	2.00E+02	--
	lb/day	1.67E+00	3.34E+00	--
Bromoform	µg/L	3.60E+02	7.20E+02	--
	lb/day	6.00E+00	1.20E+01	--
Chlorobenzene	µg/L	7.00E+01	1.40E+02	--
	lb/day	1.17E+00	2.34E+00	--
Chlorodibromomethane	µg/L	3.40E+01	6.80E+01	--
	lb/day	5.67E-01	1.13E+00	--
Chromium III, Total Recoverable ⁴	µg/L	5.00E+01	1.00E+02	--
	lb/day	8.34E-01	1.67E+00	--
Dichlorobromomethane	µg/L	4.60E+01	9.20E+01	--
	lb/day	7.67E-01	1.53E+00	--
Mercury, Total Recoverable	µg/L	5.00E-02	1.00E-01	--
	lb/day	8.34E-04	1.67E-03	--
Nickel, Total Recoverable	µg/L	8.19E+01	1.64E+02	--
	lb/day	1.37E+00	2.74E+00	--
Thallium, Total Recoverable	µg/L	1.70E+00	3.41E+00	--
	lb/day	2.84E-02	5.69E-02	--
Di-n-butyl Phthalate	µg/L	2.46E+00	4.93E+00	--
	lb/day	4.10E-02	8.22E-02	--
1,2-Dichlorobenzene	µg/L	6.00E+02	1.20E+03	--
	lb/day	1.00E+01	2.01E+01	--
1,3-Dichlorobenzene	µg/L	4.00E+02	8.02E+02	--
	lb/day	6.67E+00	1.34E+01	--
1,4-Dichlorobenzene	µg/L	5.00E+00	1.00E+01	--
	lb/day	8.34E-02	1.67E-01	--
Diethyl Phthalate	µg/L	4.69E+02	9.40E+02	--
	lb/day	7.82E+00	1.57E+01	--
Dimethyl Phthalate	µg/L	2.46E+00	4.93E+00	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
	lb/day	4.10E-02	8.22E-02	--
4,6-dinitro-2-methylphenol	µg/L	1.34E+01	2.69E+01	--
	lb/day	2.24E-01	4.48E-01	--
2,4-dinitrophenol	µg/L	7.00E+01	1.40E+02	--
	lb/day	1.17E+00	2.34E+00	--
Ethylbenzene	µg/L	2.90E+01	5.82E+01	--
	lb/day	4.84E-01	9.70E-01	--
Fluoranthene	µg/L	3.00E+02	6.02E+02	--
	lb/day	5.00E+00	1.00E+01	--
Hexachlorocyclopentadiene	µg/L	3.49E+00	7.00E+00	--
	lb/day	5.82E-02	1.17E-01	--
Nitrate +Nitrite (sum as nitrogen)	µg/L	1.00E+01	2.01E+01	--
	lb/day	1.67E-01	3.35E-01	--
Nitrobenzene	µg/L	1.70E+01	3.41E+01	--
	lb/day	2.84E-01	5.69E-01	--
Perchlorate	µg/L	6.00E-03	1.21E-02	--
	lb/day	1.00E-04	2.01E-04	--
Thallium, Total Recoverable	µg/L	1.70E+00	3.41E+00	--
	lb/day	2.84E-02	5.69E-02	--
Toluene	µg/L	1.50E+02	3.01E+02	--
	lb/day	2.50E+00	5.02E+00	--
Tributyltin	µg/L	5.16E-02	1.03E-01	--
	lb/day	8.60E-04	1.73E-03	--
1,1,1-trichloroethane	µg/L	2.00E+02	4.01E+02	--
	lb/day	3.34E+00	6.69E+00	--
Acrylonitrile	µg/L	5.90E-02	1.18E-01	--
	lb/day	9.84E-04	1.97E-03	--
Aldrin	µg/L	1.30E-04	2.61E-04	--
	lb/day	2.17E-06	4.35E-06	--
Benzene	µg/L	1.00E+00	2.01E+00	--
	lb/day	1.67E-02	3.35E-02	--
Benzidine	µg/L	1.20E-04	2.41E-04	--
	lb/day	2.00E-06	4.02E-06	--
Beryllium	µg/L	4.00E+00	8.02E+00	--
	lb/day	6.67E-02	1.34E-01	--
Bis(2-chloroethyl) Ether	µg/L	3.10E-02	6.22E-02	--
	lb/day	5.17E-04	1.04E-03	--
Carbon Tetrachloride	µg/L	2.50E-01	5.02E-01	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
	lb/day	4.17E-03	8.37E-03	--
Chlorodane	µg/L	5.70E-04	1.14E-03	--
	lb/day	9.51E-06	1.91E-05	--
4,4'-DDT	µg/L	5.90E-04	1.18E-03	--
	lb/day	9.84E-06	1.97E-05	--
4,4'-DDE	µg/L	5.90E-04	1.18E-03	--
	lb/day	9.84E-06	1.97E-05	--
4,4'-DDD	µg/L	8.30E-04	1.67E-03	--
	lb/day	1.38E-05	2.78E-05	--
1,4-dichlorobenzene	µg/L	5.00E+00	1.00E+01	--
	lb/day	8.34E-02	1.67E-01	--
3,3'-dichlorobenzidine	µg/L	4.00E-02	8.02E-02	--
	lb/day	6.67E-04	1.34E-03	--
1,2-dichloroethane	µg/L	3.80E-01	7.62E-01	--
	lb/day	6.34E-03	1.27E-02	--
1,1-dichloroethylene	µg/L	5.70E-02	1.14E-01	--
	lb/day	9.51E-04	1.91E-03	--
Methyl Chloride (Chloromethane)	µg/L	5.48E+03	1.10E+04	--
	lb/day	9.15E+01	1.83E+02	--
Methylene Chloride (Dichloromethane)	µg/L	4.70E+00	9.43E+00	--
	lb/day	7.84E-02	1.57E-01	--
1,2-Dichloropropane	µg/L	5.20E-01	1.04E+00	--
	lb/day	8.67E-03	1.74E-02	--
1,3-dichloropropene	µg/L	5.00E-01	1.00E+00	--
	lb/day	8.34E-03	1.67E-02	--
Dieldrin	µg/L	1.40E-04	2.81E-04	--
	lb/day	2.34E-06	4.68E-06	--
2,4-dinitrotoluene	µg/L	7.00E+01	1.40E+02	--
	lb/day	1.17E+00	2.34E+00	--
1,2-diphenylhydrazine	µg/L	4.00E-02	8.02E-02	--
	lb/day	6.67E-04	1.34E-03	--
Heptachlor	µg/L	2.10E-04	4.21E-04	--
	lb/day	3.50E-06	7.03E-06	--
Heptachlor Epoxide	µg/L	1.00E-04	2.01E-04	--
	lb/day	1.67E-06	3.35E-06	--
Hexachlorobenzene	µg/L	7.50E-04	1.50E-03	--
	lb/day	1.25E-05	2.51E-05	--
Hexachlorobutadiene	µg/L	4.40E-01	8.83E-01	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
	lb/day	7.34E-03	1.47E-02	--
Hexachloroethane	µg/L	1.90E+00	3.81E+00	--
	lb/day	3.17E-02	6.36E-02	--
Isophorone	µg/L	8.40E+00	1.69E+01	--
	lb/day	1.40E-01	2.81E-01	--
N-nitrosodimethylamine	µg/L	6.90E-04	1.38E-03	--
	lb/day	1.15E-05	2.31E-05	--
N-nitrosodi-N-propylamine	µg/L	5.00E-03	1.00E-02	--
	lb/day	8.34E-05	1.67E-04	--
N-nitrosodiphenylamine	µg/L	5.00E+00	1.00E+01	--
	lb/day	8.34E-02	1.67E-01	--
PCBs ⁶	µg/L	1.70E-04	3.41E-04	--
	lb/day	2.84E-06	5.69E-06	--
2,3,7,8-TCDD	µg/L	1.08E-10	2.17E-10	--
	lb/day	1.08E-10	2.17E-10	--
TCDD equivalents ⁷	µg/L	1.30E-08	2.61E-08	--
	lb/day	2.17E-10	4.35E-10	--
1,1,2,2-tetrachloroethane	µg/L	1.70E-01	3.41E-01	--
	lb/day	2.84E-03	5.69E-03	--
Tetrachloroethylene	µg/L	8.00E-01	1.60E+00	--
	lb/day	1.33E-02	2.68E-02	--
Toxaphene	µg/L	1.64E-04	3.29E-04	--
	lb/day	2.73E-06	5.48E-06	--
Trichloroethylene	µg/L	2.70E+00	5.42E+00	--
	lb/day	4.50E-02	9.04E-02	--
1,1,2-trichloroethane	µg/L	6.00E-01	1.20E+00	--
	lb/day	1.00E-02	2.01E-02	--
2,4,6-trichlorophenol	µg/L	2.10E+00	4.21E+00	--
	lb/day	3.34E-02	6.69E-02	--
Vinyl Chloride	µg/L	5.00E-01	1.00E+00	--
	lb/day	8.34E-03	1.67E-02	--

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 Not to be exceeded more than 10% of the time during any one year period.

3 Includes Radium 226 but excludes Radon and Uranium.

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

- 5 If a Discharger can demonstrate to the satisfaction of the Regional Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali 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 136, as revised May 14, 1999.
- 6 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, Aroclor-1254, and Arcolor-1260.
- 7 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

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on WQOs contained in the Basin Plan and are a required part of this Order.

A. Surface Water Limitation

The Discharge from the Facility shall not by itself, or jointly with any other discharge, cause violations of the following receiving water objectives:

1. Bacterial Characteristics

- a. The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a log mean of 200 MPN/100 mL, nor shall more than ten percent of the total samples during any 30-day period exceed 400 MPN/100 mL.
- b. In waters designated for noncontact recreation (REC2), and not designated for contact recreation (REC1), the average fecal coliform concentration for any 30-day period, shall not exceed 2,000 per 100 mL nor shall more than 10 percent of samples collected during any 30-day period exceed 4,000 per 100 mL.
- c. In waters designated for contact recreation (REC1), the monthly average *Escherichia coli* concentration shall not exceed 126/100 mL and the maximum concentration shall not exceed 576/100 mL.

2. Chemical Characteristics

- a. The dissolved oxygen concentration shall not at any time be less than 5 mg/L. The annual mean dissolved oxygen concentration shall not be less than 7 mg/L more than 10% of the time.
- b. Changes in normal ambient pH levels shall not exceed 0.5 units. The pH shall not be depressed below 6.5 nor raised above 8.5.
- c. Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth.
- d. The discharge of wastes shall not cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/L as N.

3. Color

Water shall be free of coloration that causes nuisance or adversely affects beneficial uses. The natural color of fish, shellfish, or other resources shall not be impaired.

4. Floating Material

Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.

5. Oil and Grease

Waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water, or which cause nuisance or otherwise adversely affect beneficial uses.

6. Radioactivity

Radionuclides shall not be present in concentrations that are harmful/deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

7. Suspended Sediments

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

8. Suspended and Settleable Solids

Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial

9. Taste and Odors

Waters shall not contain taste or odor producing substances at concentrations which cause a nuisance or adversely affect beneficial uses.

10. Temperature

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any waters with designated cold freshwater habitat be increased more than 5°F above the natural receiving water temperature.

11. Toxic Substances

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance will be determined by use of indicator organisms, analysis of species diversity, population density, growth anomalies, bioassays of

appropriate duration, or other appropriate methods, as specified by the Regional Water Board.

12. Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. Regional Water Board Standard Provisions. The Discharger shall comply with the following provisions:
 - a. Compliance with Discharge Prohibitions contained in Chapter 4 of the Basin Plan, summarized in Attachment G, is required as a condition of this Order and permit.
 - b. The Discharger shall comply with all requirements and conditions of this Order. Any permit noncompliance constitutes a violation of the CWA and/or the CWC and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.
 - c. The Discharger shall comply with all applicable federal, State, and local laws and regulations that pertain to sewage sludge handling, treatment, use and disposal, including CWA Section 405 and USEPA regulations at 40 CFR Part 257.
 - d. The Discharger's wastewater treatment facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 26 of the California Code of Regulations (CCRs).
 - e. 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. The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction. The

Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

- (a) The certification report is received by the Executive Officer,
 - (b) The Executive Officer 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 Regional Water Board or their designated representatives (new treatment facilities and expansions only), and
 - (d) The Executive Officer has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.
- f.** 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.
 - g.** 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.
 - h.** This Order expires on June 1, 2014, after which time, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired permits and WDRs are met.
 - i.** The Discharger's wastewater treatment facilities shall be operated and maintained in accordance with the operations and maintenance manual prepared by the Discharger pursuant to the Clean Water Grant Program.
 - j.** 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.
 - k.** The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised WDRs that have been or may be adopted by the Regional Water Board.
 - l.** The Discharger shall comply with effluent standards and prohibitions for toxic pollutants established pursuant to Section 307(a) of the CWA within the time frame set forth by the regulations that establish those standards and prohibitions, even if this Order has not been modified to incorporate the requirements. If an applicable effluent standard or prohibition, including any schedule of compliance, is promulgated pursuant to Section 307 (d) of the CWA for a toxic pollutant, and

that standard or prohibition is more stringent than a limitation contained in this Order, the Executive Officer may institute proceedings to modify or revoke and reissue the Order to conform to the effluent standard or prohibition.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program (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 WQOs (Basin Plan, Chapter 3).
- b.** 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, or
 - iii.** A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- c.** 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 Regional Water Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.
- 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 allocation (TMDL) for the receiving water.
- h. This Order may be re-opened upon submission by the Discharger of adequate information, as determined by this Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- 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 Sections 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 upon submission of information required under VI.C.2.c, VI.C.2.d, and VI.C.2.e of this Order.

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

a. Toxicity Reduction Requirements

If the discharge consistently exceeds an effluent limitation or performance goal for toxicity specified in Section IV.A.2.c, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) defined in Attachment A. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

If the toxicity testing result shows an exceedance of the acute toxicity effluent limitation, or the chronic toxicity narrative prohibition, the Discharger shall:

- i. Take all reasonable measures necessary to immediately minimize toxicity;
and
- ii. Increase the frequency of the toxicity test(s) that showed a violation to at least two times per month until the results of at least two consecutive toxicity tests do not show violations.

The additional toxicity tests will be incorporated into the monthly discharge monitoring report within one month after the completion of the accelerated monitoring and submitted to the Regional Water Board pursuant to Attachment E.

If the additional tests indicate that toxicity effluent limitations are being consistently violated (at least three exceedances out of six tests), the Discharger shall conduct a TRE and a Toxic Identification Evaluation (TIE). Once the source

of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations identified in Section IV.A.2.c 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 all the toxicity limitations/performance goals of this Order and prevent recurrence of exceedances of those limitations/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 Executive Officer.

b. Toxicity Reduction Evaluation

The Discharger shall develop a TRE workplan in accordance with TRE procedures established by the 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 Regional Water Board within 180 days of the adoption of this Order. The TRE workplan shall be subject to the approval of the Regional Water Board and shall be modified as directed by the Regional Water Board.

c. Watercourse Monitoring and Management Plan Update

The Discharger shall submit a Watercourse Monitoring and Management Plan (WMMP) Update report to address the 4th and 5th items specified in the Basin Plan on pp 4-42.

- i. A procedure for evaluating the data collected to satisfy Basin Plan requirements specified on page 4-41, bulleted items 1, 2, and 3 and determining the potential for nutrient related problems that may impact beneficial uses, and
- ii. Development and implementation of preventive and corrective actions that will ensure that a discharge containing nutrients will not adversely impact beneficial uses. Preventive and corrective actions include:

- (a) Achievement of more stringent effluent limitations for nutrient constituents discharged to the watercourse, through additional chemical treatment methods at the treatment facility, to further reduce nutrient loading to the river,
- (b) Effective measures for the instream chemical treatment of surface waters to prevent nutrient and stagnant water related nuisance problems that can adversely impact aquatic habitat beneficial uses, where this instream treatment will not adversely impact beneficial uses,
- (c) Effective measures for the physical management of the watercourse channel and vegetation, and
- (d) Effective source control measures to reduce the amount of nutrient constituents in the reclaimed water.

The report shall be submitted to the Executive Officer within 120 days of the effective date of this Order, and include an implementation schedule. Monitoring and management activities must be implemented according to the final implementation schedule.

d. Data Collection for WMMP Update

The Discharger shall submit a plan which describes the procedures to collect data on WMMP parameters, in Sycamore Creek and the San Diego River, listed below:

- i. Vertical and diurnal oxygen profiles and BOD₅
- ii. Corrected chlorophyll a and pheophyton a
- iii. Diurnal and vertical temperature profiles;
- iv. The diversity and numbers of macroinvertebrates and fish;
- v. The dynamics of the aquatic flora (macroalgae, phytoplankton, and emergent vegetation) and the related dissolved oxygen regime, substrate composition; and
- vi. Frequency of nuisance conditions.

The plan shall be submitted to the Executive Officer within 120 days of the effective date of this Order, and include an implementation schedule. Monitoring activities must be implemented according to the final implementation schedule.

e. Treatment Optimization Study

The Discharger shall submit a study to address optimizing the treatment system to reduce effluent nitrogen and phosphorus concentrations. The study shall

investigate and identify methods that PDWRF can take to reduce effluent concentrations of nitrogen and phosphorus to levels to the Basin Plan WQOs of 1.0 mg/L and 0.1 mg/L, respectively. The study shall be submitted to the Executive Officer within 120 days of the effective date of this Order, and include an implementation schedule.

3. Best Management Practices and Pollution Prevention

a. Pollution Prevention Plan

The Discharger shall prepare and implement a pollution prevention plan for bis(2-ethylhexyl) phthalate in accordance with CWC Section 13263.3(d)(3). The minimum requirements for the pollution prevention plan are outlined in the Fact Sheet, Attachment F. A work plan and time schedule for preparation of the pollution prevention plan shall be completed and submitted to the Regional Water Board within 6 months of the effective date of this Order for approval by the Executive Officer.

4. Construction, Operation and Maintenance Specifications—Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Collection System

On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order No. 2006-0003 and any future revisions thereto. Order No. 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR. The Discharger was required by that Order, not incorporated by reference herein, to have applied for coverage under State Water Board Order No. 2006-0003, by November 2, 2006, for operation of its wastewater collection system.

Regardless of the coverage obtained under Order 2006 0003, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR Section 122.41(e)], report any non-compliance [40 CFR Section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR Section 122.41(d)].

b. Sludge (Biosolids) Disposal

- 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, or disposed of in a sludge-only landfill in accordance with 40 CFR Parts 258 and 503 and Title 23, Chapter 15 of the CCRs. If the Discharger desires to dispose of solids and/or sludge in a different manner, a request for permit modification must be submitted to the USEPA and to this Regional Water Board at least 180 days prior to beginning the alternative means of disposal.
- iii.** Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 25 pertaining to providing information to the public. In the annual self-monitoring report, the Discharger shall include the amount of sludge placed in the landfill as well as the landfill to which it was sent.
- iv.** All requirements of 40 CFR 503 and 23 CCR Chapter 15 are enforceable whether or not the requirements of those regulations are stated in an NPDES permit or any other permit issued to the Discharger.
- 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 Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements, as specified by 40 CFR 503. The Discharger shall also report the quantity of sludge removed from the Facility and the disposal method. This self-monitoring report shall be postmarked by February 19th of each year and report for the period of the previous calendar year. No annual reports are required if all biosolids are returned to the sanitary sewer and conveyed to the City of San Diego for disposal.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules

The Discharger submitted a request, and justification (dated January 6, 2009, for a compliance schedule. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. This Order establishes a compliance schedule for the new, final, water quality-based effluent limitations for bis(2-ethylhexyl phthalate) and requires full compliance by May 18, 2010.

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

If the average of daily discharges over a calendar month exceeds the average monthly effluent limitation (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

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the average weekly effluent limitation (AWEL) for a given parameter, and 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

The maximum daily effluent limitation (MDEL) shall apply to flow weighted 24-hour composite samples. If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that 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. 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”.

G. 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 Monitoring and Reporting Program (Attachment E) within a calendar month.

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

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

H. Compliance Determination

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

1. 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.

2. Multiple Sample Data Reduction

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

3. Acute Toxicity

Compliance with the Acute Toxicity limitation for Discharge Point No. 001 shall be determined using an established protocol, e.g., COP 2005, American Society for Testing Materials (ASTM), USEPA, American Public Health Association, or State Water Board. Acute Toxicity shall be expressed in Toxic Units Acute (TUa), where:

$$\text{TUa} = 100/96\text{-hr LC50}$$

And where LC50 is the Lethal Concentration 50%; the percent waste giving 50% survival of test organisms. LC50 shall be determined by static or continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC50 may be determined after the test samples are adjusted to remove the influence of that substance. When it is not possible to measure the 96-hour LC50 due to greater than 50% survival of the test species in 100% waste, the toxicity concentration shall be calculated by the following:

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

Where S is the percent survival in 100% waste; if $S > 99$, TUa shall be reported as zero.

4. Mass Emission Rate

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

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

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

5. Bacterial Standards and Analysis

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

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

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.

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 136 or any improved method determined by the Regional Water Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA 600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure, listed under 40 CFR 136, and any other method approved by the Regional Water Board.

6. 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:

- a. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
- b. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision H of Attachment D.
- c. 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).
- d. 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).

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

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

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

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

Dilution Credit

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

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-Based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration

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

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California Water Code (CWC) Section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters

All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

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

Mixing Zone

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

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. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

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 a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC Section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in CWC Section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL)

RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with Section 2.4.2 of the SIP or established in accordance with Section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System

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

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)

Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

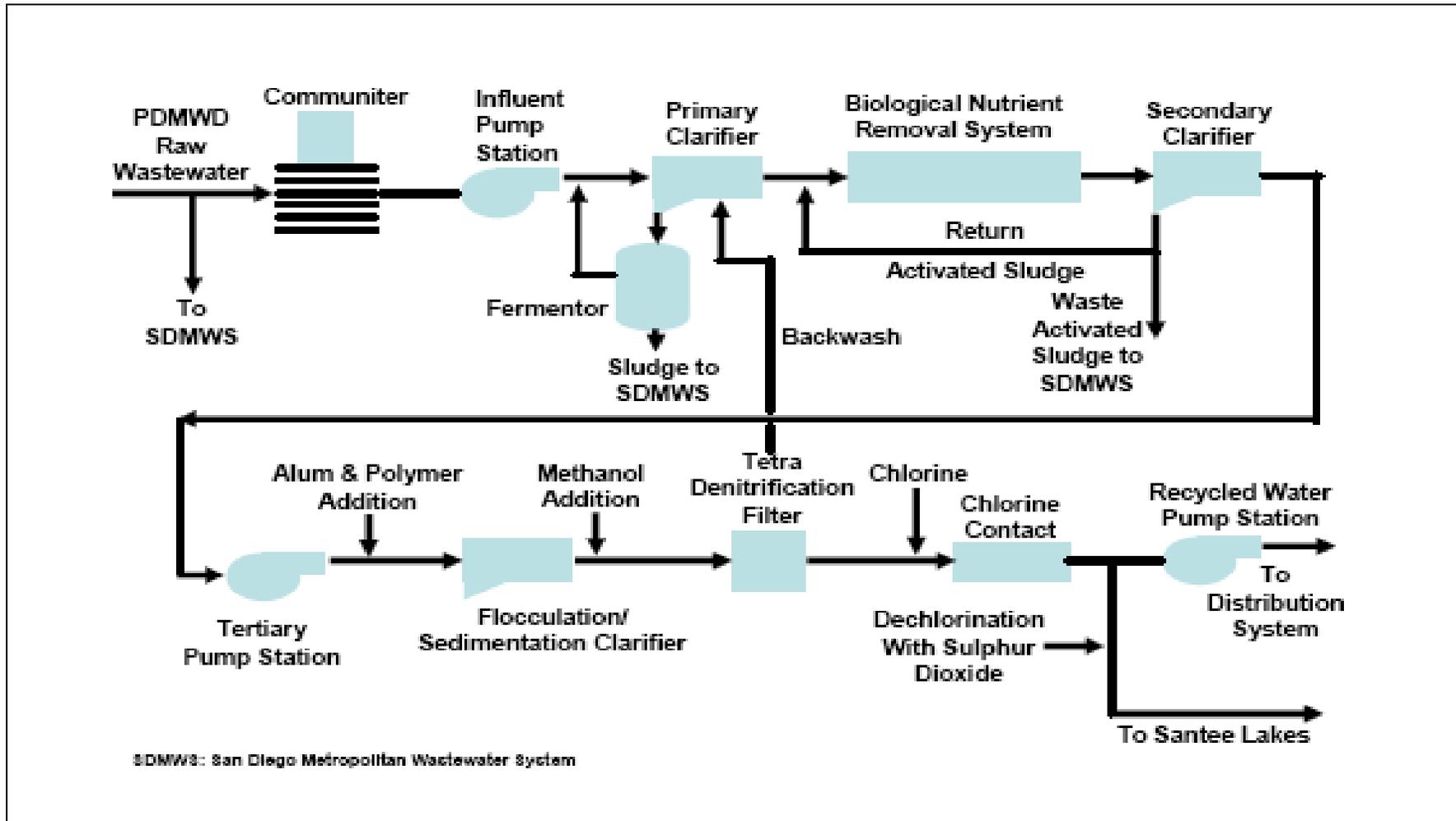
μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

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

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

- e. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - f. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

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

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

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

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

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard

Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

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

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) and Special Provisions of this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 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 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in Section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under Section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

- 1.** Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
- 2.** Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
- 3.** Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

I.	General Monitoring Provisions.....	2
II.	Monitoring Locations	3
III.	Influent Monitoring Requirements.....	4
	A. Monitoring Location INF-001.....	4
IV.	Effluent Monitoring Requirements	4
	A. Monitoring Location EFF-001A	4
	B. Monitoring Location EFF-001B	6
V.	Whole Effluent Toxicity Testing Requirements	7
	A. Acute Toxicity Testing.....	7
	B. Chronic Toxicity	7
	C. Preparing the Initial Investigation of the TRE Workplan.....	9
	D. Accelerated Testing	9
	E. Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE).....	10
VI.	Land Discharge Monitoring Requirements–Not Applicable	10
VII.	Reclamation Monitoring Requirements–Not Applicable.....	10
VIII.	Receiving Water Monitoring Requirements – Surface Water and Groundwater	10
	A. Monitoring Location RSW-001 and RSW-002.....	10
	B. Monitoring Locations RSW-003, RSW-004, RSW-005, RSW-006, and RSW-007	12
	C. Monitoring Surveys	12
IX.	Other Monitoring Requirements.....	13
	A. Additional Biological Monitoring at RSW-002.....	13
X.	Reporting Requirements.....	14
	A. General Monitoring and Reporting Requirements.....	14
	B. Self Monitoring Reports (SMRs)	15
	C. Discharge Monitoring Reports (DMRs)	17
	D. Other Reports	18
	E. Other Monitoring Requirements.....	46

List of Tables

Table E-1.	Monitoring Station Locations.....	3
Table E-2.	Influent Monitoring.....	4
Table E-3.	Effluent Monitoring at EFF-001A	4
Table E-4.	Effluent Monitoring at EFF-001B	6
Table E-5a.	Whole Effluent Toxicity Testing-EFF-001B.....	7
Table E-5b.	Whole Effluent Toxicity Testing-RSW-001 and RSW-002.....	7
Table E-6a.	Receiving Water Monitoring Requirements	10
Table E-6b.	Receiving Water Monitoring Requirements	12
Table E-6c.	Benthic Monitoring at RSW-002	13
Table E-6d.	Periphyton Monitoring at RSW-002.....	14
Table E-6e.	Fish Tissue Monitoring at RSW-002.....	14
Table E-7.	Monitoring Periods and Reporting Schedule.....	15

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations Section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the 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 Regional Water Board. Samples shall be collected at times representative of “worst case” conditions with respect to compliance with the requirement of Order No. R9-2009-0037.
- 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 United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, or unless other test procedures are specified in Order No. R9-2009-0037 and/or in this MRP and/or by the Regional Water Board.
- D.** All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health or a laboratory approved by the Regional 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 ten percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the Regional Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.

- H. Analysis for toxic pollutants, including acute and chronic toxicity, with performance goals based on WQOs of the Basin Plan shall be conducted in accordance with procedures described in the Basin 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 limitations 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.
- J. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of CWC Section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	A location upstream of plant return streams, where a representative sample of the influent can be obtained
--	EFF-001A	Discharge from chlorine contact basin ¹
001	EFF-001B	Discharge from the Santee Lakes to Sycamore Creek Latitude 32°50'45" N and Longitude 117°00'15" W
Receiving Water Stations		
--	RSW-001	Sycamore Creek, 32°50'52" N and Longitude 117°00'25" W (upstream reference station)
--	RSW-001a	Approximately 400 to 1,000 yards downstream from the discharge from Discharge Point No. 001
--	RSW-002	Sycamore Creek, upstream of the confluence with the San Diego River, at exit from Carlton Oaks Golf Course
--	RSW-003	San Diego River at Carlton Hills Boulevard in Santee (upstream reference station)
--	RSW-004	Forrester Creek, 50 feet upstream of confluence with the San Diego River (upstream reference station)
--	RSW-005	San Diego River at Mast Boulevard
--	RSW-006	San Diego River at the pond just downstream of Old Mission Dam

¹ The discharger may monitor at an appropriate location after chlorination but prior to discharge to Lake No. 7.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

The Discharger shall monitor influent to the facility at INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	MGD	Recorder/Totalizer	Continuous	2
Biochemical Oxygen Demand @ 20°C	mg/L	24-hr Composite	3/week	2
Total Suspended Solids	mg/L	24-hr Composite	3/week	2
Nitrogen, Total	mg/L	24-hr Composite	1/month	2
pH	units	Grab	2/day	2
Phosphorus, Total	mg/L	24-hr Composite	1/month	2
Total Dissolved Solids	mg/L	24-hr Composite	1/month	2

1 Million gallons per day

2 As required under 40 CFR 13

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001A

The Discharger shall monitor effluent after chlorination but prior to discharge to Lake No. 7 at EFF-001A. The date and time of sampling shall be reported with the analytical values determined. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring at EFF-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	MGD	Recorder/ Totalizer	Continuous	1
pH	units	Recorder	Continuous	1
Specific Conductance	µmhos/ cm	Recorder	Continuous	1
Turbidity	NTU	Recorder	Continuous	1
Total Coliform	MPN/ 100ml	Grab	1/day	1
Fecal Coliform	MPN/ 100ml	Grab	1/day	1
Biochemical Oxygen	mg/L	24-hr Composite	3 x per calendar week	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Demand @ 20°C	% removal	Calculate		1
Chemical Oxygen Demand	mg/l	24-hr Composite	3 x per calendar week	1
Odor	--	--	3 x per calendar week	1
Total Suspended Solids	mg/L	24-hr Composite		1
	% removal	Calculate	3 x per calendar week	1
Dissolved Oxygen	mg/L	Grab	1/week	1
Escherichia coli	MPN/100ml	Grab	1/week	1
Color	units	24-hr Composite	1/month	1
Nitrate Nitrogen	mg/l	24-hr Composite	1/month	1
Nitrogen, Total	mg/l	24-hr Composite	1/month	1
Percent Sodium	%	24-hr Composite	1/month	1
Total Dissolved Solids	mg/l	24-hr Composite	1/month	1
Phosphorous, Total	mg/l	24-hr Composite	1/month	1
Bromoform	µg/L	24-hr Composite	1/month	1,3
Chlorodibromomethane	µg/L	24-hr Composite	1/month	1,3
Chloroform	µg/L	24-hr Composite	1/month	1,3
Dichlorobromomethane	µg/L	24-hr Composite	1/month	1,3
Total Trihalomethanes	µg/L	24-hr Composite	1/month	1,3
Aluminum, Total Recoverable	mg/L	24-hr Composite	1/quarter	1
Chloride	mg/l	24-hr Composite	1/quarter	1
Iron, Total Recoverable	mg/l	24-hr Composite	1/quarter	1
Manganese, Total Recoverable	mg/l	24-hr Composite	1/quarter	1
Oil and Grease	mg/L	Grab	1/quarter	1
Total Hardness	mg/L CaCO ₃	24-hr Composite	1/quarter	1
Total Organic Carbon	mg/L	24-hr Composite	1/quarter	1
Boron	mg/L	24-hr Composite	1/year	1
Fluoride	mg/L	24-hr Composite	1/year	1
Methylene Blue Active Substances	mg/L	24-hr Composite	1/year	1
Priority Pollutants ²	µg/L	24-hr Composite	1/year	1,3
Sulfate	mg/l	24-hr Composite	1/year	1

- 1 As specified in 40 CFR Part 136.
- 2 Priority Pollutants as specified in 40 CFR 131.38
- 3 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

B. Monitoring Location EFF-001B

The Discharger shall monitor effluent from Lake Nos. 1 through 7 at EFF-001B as specified in Table E-4 below. The date and time of sampling shall be reported with the analytical values determined.

Table E-4. Effluent Monitoring at EFF-001B

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method
Flow Rate	MGD	Recorder/Totalizer	Continuous	
Total Chlorine Residual	µg/L	Grab	1/day	2
Escherichia coli	MPN/100 mL	Grab	1/week	2
Fecal Coliform	MPN/100 mL	Grab	1/week	2
Total Coliform	MPN/100 mL	Grab	1/week	2
Nitrogen (series) ³	mg/L	24-hr Composite	1/month	2
Phosphorous (series) ⁴	mg/L	24-hr Composite	1/month	2
Bis(2-ethylhexyl) Phthalate	µg/L	Grab	1/month	2,4
Bromoform	µg/L	Grab	1/month ⁶	2,7
Chlorodibromomethane	µg/L	Grab	1/month ⁶	2,7
Chloroform	µg/L	Grab	1/month ⁶	2,7
Dichlorobromomethane	µg/L	Grab	1/month ⁶	2,7
Methyl Tert-Butyl Ether	µg/L	Grab	1/month	2
Total Trihalomethanes ⁸	µg/L	Grab	1/month ⁶	2,7
Acute and Chronic Toxicity	9			

- 1 Monitoring is to be conducted when there is a discharge at the location if possible. If no discharge occurs within the month, monitoring may be conducted from samples of Lake No. 1 as close to the discharge location as possible.
- 2 As required under 40 CFR 136
- 3 Nitrogen (series) includes: total nitrogen, organic nitrogen, nitrate (as NO₃), nitrite, and ammonia (un-ionized, as N).
- 4 Phosphorus (series) includes total phosphorous and orthophosphate phosphorous
- 5 The Discharger shall use an ML equal to or less than 5 µg/L and shall use sample collection and handling techniques to reduce the possibility of bis(2-ethylhexyl) phthalate contamination. If, after monitoring for one year bis(2-ethylhexyl) phthalate is not detected in the effluent, then monitoring may be reduced to 2/ year for as long as bis(2-ethylhexyl) phthalate remains below the RL and the permit is in effect. If bis(2-ethylhexyl) phthalate is detected at any time, the Discharger will resume a monitoring frequency of 1/month.

- 6 Monitoring of this constituent during the first year of the permit term is to be conducted at a frequency of 1/month. If after one year this constituent is not detected in effluent using the lowest minimum level published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP), then the monitoring shall be discontinued, otherwise, the frequency shall remain at 1/month for the duration of the permit term.
- 7 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the SIP is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- 8 Total trihalomethanes equals the sum of the concentrations of chloroform, bromodichloromethane (BDCM), dibromochloromethane (DBCM) and bromoform in micrograms/L. To calculate the sum, data below the Reporting Limit (RL) are set equal to ½ the Reporting Limit.
- 9 Acute and Chronic Toxicity monitoring requirements are described in Section V of this Monitoring and Reporting Program.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall conduct quarterly acute and chronic toxicity testing on effluent samples collected at Effluent Monitoring Station EFF-001B in accordance with the following schedule and requirements:

Table E-5a. Whole Effluent Toxicity Testing-EFF-001B

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity	TUa	24-hr Composite	1/quarter
Chronic Toxicity	TUc	24-hr Composite	1/quarter

The Discharger shall conduct quarterly acute and chronic toxicity testing on effluent samples collected at Receiving Water Monitoring Station RSW-001 and RSW-001a in accordance with the following schedule and requirements:

Table E-5b. Whole Effluent Toxicity Testing-RSW-001 and RSW-001a

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity	TUa	Grab	1/Quarter
Chronic Toxicity	TUc	Grab	1/Quarter

A. Acute Toxicity Testing.

The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. Acute toxicity testing shall be performed using fathead minnows (*Pimephales promelas*) or invertebrate species in accordance with procedures established by the USEPA guidance manual, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, October 2002 (EPA-821-R-02-012). Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

B. Chronic Toxicity

1. Chronic Toxicity Test Species and Methods

- a. Sample Type.** For static non-renewal and static renewal testing, the samples shall be flow proportional 24-hour composites or grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001B prior to entering the receiving water. Dilution water shall be collected at receiving water monitoring station RSW-001. If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.
 - b. Test Species.** The discharger shall conduct short-term tests with the cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test); the fathead minnow, *Pimephales promelas* (larval survival and growth test); and the green alga, *Selanastrum capricornutum* (growth test) for the first three suites of tests. After this screening period, monitoring shall be conducted using the most sensitive species.
 - c. Methods.** The presence of chronic toxicity shall be estimated as specified in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.
 - d. Results.** Results shall be reported in TU_c , where $TU_c = 100/NOEC$. The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test that causes no observable adverse effect on the test organisms (i.e., the highest concentration of toxicant to which the values for the observed responses are not statistically significantly different from the controls).
- 2. Quality Assurance.** A series of at least five dilutions and a control will be tested. The series shall include the following concentrations: 12.5, 25, 50, 75, and 100 percent effluent. If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc). If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the manual, then the discharger must re-sample and re-test within 14 days or as soon as possible. The reference toxicant and effluent tests must meet the upper and lower bounds on test sensitivity as determined by calculating the percent minimum significant difference (PMSD) for each test result. The test sensitivity bound is specified for each test method (see variability document EPA/833-R-00-003, Table 3-6). There are five possible outcomes based on the PMSD result:

 - a. Unqualified Pass**— The test's PMSD is within bounds and there is no significant difference between the means for the control and the 100 percent treatment. The regulatory authority would conclude that there is no toxicity at 100 percent effluent.

- b. Unqualified Fail**– The test’s PMSD is larger than the lower bound (but not greater than the upper bound) in Table 3-6 and there is a significant difference between the means for the control and the 100 percent treatment. The regulatory authority would conclude that there is toxicity at 100 percent effluent.
- c. Lacks Test Sensitivity**– The test’s PMSD exceeds the upper bound in Table 3-6 and there is no significant difference between the means for the control and the 100 percent treatment. The test is considered invalid. An effluent sample must be collected and another toxicity test must be conducted. The discharger must re-sample and retest within fourteen (14) days or as soon as possible.
- d. Lacks Test Sensitivity**– The test’s PMSD exceeds the upper bound in Table 3-6 and there is a significant difference between the means for the control and the 100 percent treatment. The test is considered valid. The regulatory authority will conclude that there is toxicity at 100 percent effluent.
- e. Very Small but Significant Difference**– The relative difference (see Section 6.4.2) between the means for the control and the 100 percent treatment is smaller than the lower bound in Table 3-6 and this difference is statistically significant. The test is acceptable. The NOEC is determined as described in Sections 6.4.2 and 6.4.3.

Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

C. Preparing the Initial Investigation of the TRE Workplan

The discharger shall submit to the Regional Water Board a copy of the discharger's Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) within 90 days of the effective date of this permit. This plan shall describe the steps the discharger intends to follow if toxicity is detected, and should include, at least the following items:

1. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
2. A description of the facility’s methods of maximizing in-house treatment efficiency and good housekeeping practices.
3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

D. Accelerated Testing

1. If a routine effluent sample exhibits chronic toxicity, then at least one additional test is necessary.

2. If chronic toxicity is identified in the additional test, then the discharger shall conduct six more tests, approximately every two weeks, over a twelve-week period. Testing shall commence within two weeks of receipt of the sample results of the additional test.
3. If none of the six tests indicate toxicity, then the discharger may return to the normal testing frequency.

E. Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If chronic toxicity is detected in any of the six additional tests, then, in accordance with the facility’s TRE workplan, the discharger shall initiate a TRE within fifteen (15) days of the exceedance to reduce the cause(s) of toxicity. At a minimum, the discharger shall use USEPA manual EPA/833B-99/002 as guidance. The discharger will expeditiously develop a more detailed TRE workplan, which includes:
 - a. Further actions to investigate and identify the cause of toxicity
 - b. Actions the discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity
 - c. A schedule for these actions
2. The discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The discharger shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (Phase II), and EPA- 600/R-92/081 (Phase III) as guidance.

VI. LAND DISCHARGE MONITORING REQUIREMENTS–NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS–NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001 and RSW-001a

1. The Discharger shall monitor Sycamore Creek at RSW-001 and RSW-001a as follows:

Table E-6a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	cfs	Cross-sect. velocity/area	1/month	1
Dissolved Oxygen	mg/L	Grab	1/month	1, 2
Escherichia Coli	MPN/100mL	Grab	1/month	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fecal Coliform	MPN/100mL	Grab	1/month	1
Total Coliform	MPN/100mL	Grab	1/month	1
Total Dissolved Solids	mg/L	Grab	1/month	1
Turbidity	mg/L	Grab	1/month	1
Methyl Tert-Butyl Ether	µg/L	Grab	1/month	1
Nitrogen (series) ³	mg/L	Grab	1/month	1
pH	Standard Units	Grab	1/month	1
Phosphorous (series) ⁴	mg/L	Grab	1/month	1
Temperature	°F or °C	Grab	1/month	1
Specific Conductance	µmhos/cm	Grab	1/month	1
Chloride	mg/L	Grab	1/quarter	1
Chlorophyll-a	mg/m ³	Grab	1/quarter	1
Iron, Total Recoverable	mg/L	Grab	1/quarter	1
Manganese, Total Recoverable	mg/L	Grab	1/quarter	1
Sediment Phosphorous (series) ³	mg/kg	Grab	1/quarter	1
Total Hardness	mg/L	Grab	1/quarter	1
Total Organic Carbon	mg/L	Grab	1/quarter	1
Boron	mg/L	Grab	1/year	1
Methylene Blue Active Substances	mg/L	Grab	1/year	1
Sulfate	mg/L	Grab	1/year	1
Priority Pollutants ⁵	µg/L	Grab	1/year	1
Acute and Chronic Toxicity ⁶	TUa, TUc	Grab	1/quarter	1

1 According to 40 CFR Part 136

2 If only one measurement is collected for dissolved oxygen, it shall be determined at the earliest time possible. For each measurement reported, the discharger shall also report the percent saturation (calculated based on temperature)

3 Nitrogen (series) = total nitrogen, organic nitrogen, nitrate, nitrite, and ammonia (unionized as N)

4 Phosphorous (series) = total phosphorous and orthophosphate phosphorous

5 Priority pollutants list as defined in 40 CFR 131.38.

6 Acute and Chronic Toxicity monitoring requirements are described in Section V of this Monitoring and Reporting Program.

B. Monitoring Locations RSW-002, RSW-003, RSW-004, RSW-005, and RSW-006

The Discharger shall monitor the San Diego River at RSW-002, RSW-003, RSW-004, and RSW-005 as shown below. All monthly and quarterly sampling requirements shown below are required quarterly at Station RSW-006.

Table E-6b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	cfs	cross sect. velocity/area	1/month	cross sect. velocity/area
Dissolved Oxygen ²	mg/L	Grab	1/month	1
Escherichia Coli	MPN/100ml	Grab	1/month	1
Fecal Coliform	MPN/100ml	Grab	1/month	1
Total Coliform	MPN/100ml	Grab	1/month	1
Nitrogen (series) ³	mg/L	Grab	1/month	1
pH	units	Grab	1/month	1
Phosphorous (series) ⁴	mg/L	Grab	1/month	1
Specific Conductance	µmhos/cm	Grab	1/month	1
Temperature	°F, °C	Grab	1/month	1
Total Dissolved Solids	mg/L	Grab	1/month	1
Turbidity	NTU	Grab	1/month	1
Chlorophyll-a	mg/m3	Grab	1/quarter	1
Sediment Phosphorous (series) ³	mg/L	Grab	1/quarter	1

1 According to 40 CFR Part 136.

2 If only one measurement is collected for dissolved oxygen, it shall be determined at the earliest time possible. For each measurement reported, the discharger shall also report the percent saturation (calculated based on temperature)

3 Nitrogen (series) = total nitrogen, organic nitrogen, nitrate, nitrite, ammonia (unionized, as N)

4 Phosphorous (series) = total phosphorous and orthophosphate phosphorous

C. Monitoring Surveys

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

1. A description of climatic and receiving water characteristics at the time of sampling [e.g. observations of wind (direction and speed); weather (e.g. cloudy, sunny, rainy, etc.); observations of water color or discoloration (percent algal cover at surface and

bottom); oil and grease; turbidity; odor, and materials of sewage origin in the water or on the riverbanks; time of sampling; air temperature (°C); water temperature (°C); etc.].

- a. A description of sampling stations including a description of characteristics unique to each station [e.g. GPS coordinates for station location, photodocumentation; sediment characteristics, rocks, river flow (contiguous or terminated), and estuary mouth conditions (i.e., open or closed due to sand deposition), etc.]
 - b. A description of the sample collection and preservation procedures used in the survey and a description of the specific method used for laboratory analysis.
 - c. An annual in-depth discussion of the survey results. The discussion shall compare data with the reference station(s) with data from the stations located in the area of the discharge. All tabulations and computations shall be explained.
2. Whenever possible, samples shall be collected on the same days as these constituents are collected at the discharge from EFF-001B. Sample methods, preservation, and analyses, when not specified, shall be approved by the Executive Officer.

IX. OTHER MONITORING REQUIREMENTS

A. Additional Biological Monitoring at RSW-001a

- 1. **Benthic Monitoring.** The Discharger shall conduct benthic monitoring in Sycamore Creek at RSW-001a as follows:

TableE-6c. Benthic Monitoring at RSW-001a

Parameter	Units	Sample Type	Minimum Sampling Frequency
Benthic Macroinvertebrates	IBI	--	2/year

Benthic macroinvertebrate analysis shall be conducted in May and October of each year, using the California Stream Bioassessment Procedure (CSBP), professional level point source protocol, and reported using the Index of Biotic Integrity (IBI), as well as each of the individual endpoints. The sampling locations shall be downstream of the discharge and within ½ mile upstream or downstream of the chemical sampling location, at a reach with five riffles or runs. If necessary, reaches with 3-4 riffles will be acceptable. The site shall be selected at the time of sampling, using the sampler’s discretion. If a location is dry at the time of sampling the sampler benthic macroinvertebrate analysis shall attempt to conduct sampling whenever possible for that quarter.

- 2. **Periphyton Monitoring.** The Discharger shall monitor for periphyton in Sycamore Creek at RSW-001a as follows:

TableE-6d. Periphyton Monitoring at RSW-001a

Parameter	Units	Sample Type	Minimum Sampling Frequency
Periphyton	IBI	--	2/year

Periphyton analysis shall be conducted in May and October of each year using the USEPA Rapid Bioassessment Protocols for Use in Wadeable Stream and River – Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition (July 1999) and reported using the Index of Biotic Integrity.

- 3. Fish Tissue Monitoring.** The Discharger shall monitor fish tissue from any of the seven Santee Lakes as follows:

Table E-6e. Fish Tissue Monitoring in the Santee Lakes and RSW-001a

Parameter	Units	Sample Type	Minimum Sampling Frequency
Fish Tissue (Santee Lakes)	ppb	--	1/year
Fish Tissue (RSW-001a)	ppb	--	2/year

Tissue of fish shall be collected and analyzed according to the latest criteria of Toxic Substances Monitoring Program. Sampling at RSW-001a must take place at the same time as benthic macroinvertebrate analysis.

- 4. Regional Watershed Monitoring.** The Discharger shall participate in the Regional Board coordination of other monitoring in the San Diego River Watershed, such as monitoring conducted by municipal separate storm water system (MS4) dischargers and monitoring conducted as part of the Surface Water Ambient Monitoring Program (SWAMP). The Discharger shall also participate and coordinate with State and local agencies and other dischargers within the San Diego Region in development and implementation of a regional watershed monitoring program for the San Diego River Watershed as directed by the Executive Officer. The intent of a regional watershed monitoring program is to maximize the efforts of all monitoring partners using a more cost effective monitoring design and to best utilize the pooled resources of the region. During a coordinated watershed sampling effort, the discharger’s sampling and analytical effort may be reallocated to provide a regional assessment of the condition of the watershed.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. The Discharger shall report all instances of noncompliance not reported under Attachment D, Sections III, V, and VI of this Order No. R9-2009-0037 at the time monitoring reports are submitted.

3. By March 1 of each year, the Discharger shall submit an annual report to the Regional Water Board and USEPA Region 9 that contains tabular and graphical summaries of the monitoring data obtained during the previous year. The Discharger shall discuss the compliance record and corrective actions taken, or which may be taken, or which may be needed to bring the discharge into full compliance with the requirements of Order No. R9-2009-0037 and this MRP. In addition, in even numbered years, the Discharger shall, in collaboration with other dischargers in the San Diego River Watershed, prepare a written summary report on the state of the watershed and make a presentation on the report at a Regional Water Board meeting.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Start Date	Monitoring Period	SMR Due Date
Continuous	June 1, 2009	All	Submit with monthly SMR
Daily	June 1, 2009	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	June 7, 2009	Sunday through Saturday	Submit with monthly SMR
Monthly	June 1, 2009	1 st day of calendar month through last day of calendar month	The last day of the month following the monitoring period
Quarterly	July 1, 2009	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	The last day of the month following the monitoring period

Semiannually	July 1, 2009	January 1 through June 30 July 1 through December 31	The last day of the month following the monitoring period
Annually	January 1, 2010	January 1 through December 31	March 1, following the monitoring period

- 4. Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

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

- a.** Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b.** Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

- c.** Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
- d.** Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

- 5. Compliance Determination.** Compliance with effluent limitations for priority 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 Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

- 6. Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the

Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- 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 electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the Waste Discharge Requirements (WDRs); discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

**9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340**

C. Discharge Monitoring Reports (DMRs)

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

- 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, 15 th Floor Sacramento, CA 95814

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

D. Other Reports

- The Discharger shall report the results of any acute and chronic toxicity testing, TRE/TIE, Treatment Plan Capacity Study, Sludge Disposal Report, and IWS 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.
- The Discharger shall submit a pollution prevention plan, as required by Special Provisions – VI.C of this Order.

ATTACHMENT F – FACT SHEET

Table of Contents

I.	Permit Information	3
II.	Facility Description	4
	A. Description of Wastewater and Biosolids Treatment or Controls	4
	B. Discharge Points and Receiving Waters.....	4
	C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data	5
	D. Compliance Summary.....	6
	E. Planned Changes	7
III.	Applicable Plans, Policies, and Regulations.....	7
	A. Legal Authorities	7
	B. California Environmental Quality Act (CEQA)	7
	C. State and Federal Regulations, Policies, and Plans	8
	D. Impaired Water Bodies on CWA 303(d) List	10
	E. Other Plans, Policies and Regulations.....	10
	1. Secondary Treatment Regulations.....	10
	2. Storm Water.....	10
IV.	Rationale For Effluent Limitations and Discharge Specifications.....	11
	A. Discharge Prohibitions	11
	B. Technology-Based Effluent Limitations.....	11
	1. Scope and Authority.....	11
	C. Water Quality-Based Effluent Limitations (WQBELs).....	12
	1. Scope and Authority.....	12
	2. Applicable Beneficial Uses and Water Quality Criteria and Objectives.....	13
	3. Determining the Need for WQBELs	15
	4. WQBEL Calculations	24
	5. Summary of WQBELs– Discharge Point No. 001	26
	6. Whole Effluent Toxicity (WET)	28
	D. Final Effluent Limitations.....	30
	1. Satisfaction of Anti-Backsliding Requirements.....	31
	2. Satisfaction of Antidegradation Policy.....	32
	3. Stringency of Requirements for Individual Pollutants.....	32
	E. Performance Goals	33
	F. Interim Effluent Limitations.....	39
	G. Land Discharge Specifications– Not Applicable.....	40
	H. Reclamation Specifications– Not Applicable.....	40
V.	Rationale for Receiving Water Limitations	40
VI.	Rationale for Monitoring and Reporting Requirements.....	41
	A. Influent Monitoring	41
	B. Effluent Monitoring.....	41
	C. Whole Effluent Toxicity Testing Requirements	43
	D. Receiving Water Monitoring.....	43
	1. Surface Water	43
	2. Groundwater– Not Applicable	46
	3. Solids Monitoring – Not Applicable	46

4. Sanitary Sewer Overflow– Not Applicable	46
VII. Rationale for Provisions.....	46
A. Standard Provisions.....	46
B. Special Provisions.....	47
1. Reopener Provisions.....	47
2. Special Studies and Additional Monitoring Requirements.....	47
3. Best Management Practices and Pollution Prevention – Not Applicable	50
4. Construction, Operation, and Maintenance Specifications – Not Applicable.....	50
5. Special Provisions for Municipal Facilities (POTWs Only)	50
6. Other Special Provisions– Not Applicable.....	51
7. Compliance Schedules	51
VIII. Public Participation	51
A. Notification of Interested Parties	52
B. Written Comments	52
C. Public Hearing	52
D. Waste Discharge Requirements Petitions.....	52
E. Information and Copying.....	53
F. Register of Interested Persons	53
G. Additional Information	53

List of Tables

Table F-1. Facility Information.....	3
Table F-2. Historic Effluent Limitations and Monitoring Data.....	5
Table F-3a. Basin Plan Beneficial Uses	8
Table F-3b. Basin Plan Ground Water Beneficial Uses.....	8
Table F-4. Summary of Technology-based Effluent Limitations	12
Table F-5a. Applicable CTR/NTR Criteria	14
Table F-5b. Applicable Basin Plan Criteria.....	14
Table F-6. Parameters Evaluated for Reasonable Potential.....	17
Table F-7. Summary of DO Concentrations in Effluent and Receiving Water.	21
Table F-8. WQBEL Calculations for Bis (2-Ehtylhexyl) Phthalate.....	26
Table F-9. WQBEL Calculations for Total Chlorine Residual	26
Table F-10. Summary of Water Quality-Based Effluent Limitations.....	26
Table F-11. Effluent Limitations Based on Tertiary Treatment.	30
Table F-12. Effluent Limitations Based on the Basin Plan Objectives	30
Table F-13. Effluent Limitations Based on the CTR/NTR Criteria ¹	31
Table F-14. Performance Goals Based on the Basin Plan and CTR/NTR Criteria.....	33
Table F-18. Interim Effluent Limitation Calculation Summary.....	40

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 000000053
Discharger	Padre Dam Municipal Water District
Name of Facility	Padre Dam Water Recycling Facility
Facility Address	12001 N. Fanita Parkway Santee, CA 92072 San Diego County
Facility Contact, Title and Phone	Gary Canfield, Plant Manager, (619) 258-4695
Authorized Person to Sign and Submit Reports	Neal Brown, P.E., Director of Engineering and Planning, Padre Dam Municipal Water District
Mailing Address	P.O. Box 719003 Santee, CA 92072-9003
Billing Address	Same as Mailing Address
Type of Facility	POTW and Water Reclamation
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	Producer
Facility Permitted Flow	2.0 Million Gallons per Day (MGD)
Facility Design Flow	2.0 MGD
Watershed	San Diego River
Receiving Water	Sycamore Creek (aka Sycamore Canyon Creek)
Receiving Water Type	Inland Surface Water

- A.** The Padre Dam Municipal Water District (hereinafter, also referred to as the Discharger) is the owner and operator of the Padre Dam Water Recycling Facility, a publicly owned treatment works.

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

- B.** The Facility discharges wastewater to Sycamore Creek, a water of the United States, and is currently regulated by Regional Water Quality Control Board (Regional Water Board) Order No. R9-2003-0179 which was adopted on November 12, 2003 and effective on January 1, 2004. Order No. R9-2003-0179 expired on November 12, 2008. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C.** The Discharger filed a report of waste discharge (ROWD) and submitted an application for renewal of its WDRs and NPDES permit on May 16, 2008.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The Padre Dam Water Recycling Facility (PDWRF) is operated as a “skimming” facility to produce recycled water for beneficial use. PDMWD directs up to 2.0 MGD of its raw wastewater from the City of Santee, portions of the City of El Cajon, and the unincorporated community of Lakeside to PDWRF. The remaining raw wastewater is sent to the Metropolitan Wastewater System, operated by the City of San Diego Metropolitan Wastewater Department, for treatment and disposal. Attachment B provides a map of the area around the facility. Attachment C provides a flow schematic of the facility.

The treatment process consists of two primary clarifiers, a five-stage Bardenpho process, two secondary clarifiers, alum and polymer addition, flocculation, sedimentation, denitrification filters, and chlorine disinfection. Effluent is discharged into three holding ponds before being discharge to Lake No. 7. Effluent from the treatment plant is sent to reuse sites in the Santee and El Cajon hydrologic subareas (HSAs) and are covered under Order No. 97-49. Effluent not sent to reuse sites is discharged into the Santee Lakes, which flow in series beginning with Lake No. 7 and ending with Lake No.1, which discharges to Sycamore Creek, also known as Sycamore Canyon Creek, a tributary to the San Diego River. Biosolids and waste sludge from clarification are sent to the Metropolitan Wastewater System for treatment and disposal. For the year of 2007 the facility had an average daily flow rate of 1.89 MGD and has a design capacity of 2 MGD). The Santee Lakes are used as recreational facilities. These artificial lakes are not waters of the United States.

B. Discharge Points and Receiving Waters

The current discharge point into Sycamore Creek is located immediately adjacent to Lake No. 1, approximately 1,000 feet north of Carlton Oaks Drive (latitude 32° 50' 45", longitude 117° 00' 15") in the City of Santee. Sycamore Creek flows through decorative ponds within the Carlton Oaks Country Club golf course for approximately one mile before entering the San Diego River.

The Lower San Diego River is a 20-mile urban waterway in the San Diego River Watershed of the San Diego Region with year-round flow. The San Diego River

originates in the East County, passing through Lakeside and Santee, and then runs parallel to Interstate 8 all the way to the Pacific Ocean coastline where it discharges near Ocean Beach. The lower portion of the river begins just north of Lake Jennings, near the town of Lakeside.

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

Effluent limitations contained in Order No. R9-2003-0179 for discharges from Lake No. 1 to Sycamore Creek, and representative monitoring data from the term of the previous Order (January 1, 2004 through December 31, 2007) for PDWRF are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From January 1, 2004 through December 31, 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Daily
Ammonia Nitrogen	mg/L	--	--	0.025	0.024/1.16 ¹	--	0.024/1.16 ¹
	lb/day	--	--	0.42	0.19	--	0.19
Total/Fecal Coliform	MPN/ 100ml	--	2.2 ²	23 ³	< 2.2	--	<2.2 ⁴
Nitrate	mg/L	--	--	45	0.951	--	0.951
	lb/day	--	--	751	1.38	--	1.38
Total Nitrogen	mg/L	--	--	--	4.13	--	4.13
	lb/day	17 ⁵	--	--	16.32 ⁵	--	16.32 ⁵
Total Phosphorous	mg/L	--	--	--	0.354	--	0.354
	lb/day	1.7 ⁵	--	--	1.33 ⁵	--	1.33 ⁵
Biological Oxygen Demand (5-day at 20° C)	mg/L	15	23	25	3.8	3.7	5.8
	lb/day	250	375	417	46.2	5.1	5.8
Total Suspended Solids	mg/L	15	23	25	2.0	2.8	6.4
	lb/day	250	375	417	35.7	47.6	89.6
Oil and Grease	mg/L	5	--	7.5	2.6	--	2.6
	lb/day	83	--	125	45.52	--	45.52
Total Chlorine Residual	mg/L	2	8.0	20	ND	ND	ND
	lb/day	0.033	0.13	0.33	ND	ND	ND
pH	s.u.	6			--	--	6.5-7.88
Bis (2- ethylhexyl) Pthalate	ug/L	5.9	--	12.0	18.7	--	18.7
	lb/day	0.098	--	0.20	NA	--	NA
Total Dissolved Solids	mg/L	--	--	1,000	--	--	903
	lb/day	--	--	25,020	--	--	14,111
Percent Sodium	%	--	--	60	60.9	--	60.9

Parameter	Units	Effluent Limitation			Monitoring Data (From January 1, 2004 through December 31, 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Daily
Chloride	mg/L	--	--	400	--	--	210
	lb/day	--	--	6,672	--	--	3636
Sulfate	mg/L	--	--	500	--	--	332
	lb/day	--	--	8,340	--	--	5106
Iron, Total Recoverable	mg/L	--	--	0.3	--	--	0.086
	lb/day	--	--	5.0	--	--	1.35
Manganese, Total Recoverable	mg/L	--	--	0.05	--	--	0.1
	lb/day	--	--	0.83	--	--	1.39
Methylene Blue Active Substances	mg/L	--	--	0.5	--	--	0.14
	lb/day	--	--	8.3	--	--	3.83
Boron	mg/L	--	--	0.75	--	--	0.61
	lb/day	--	--	13	--	--	9.27
Color	units	--	--	20	--	--	NA
Fluoride	mg/L	--	--	1.0	--	--	0.76
	lb/day	--	--	17.0	--	--	11.6
Odor	Units	None ⁷			NA		

- 1 First value is maximum discharge concentration; second number is maximum concentration without discharge.
 - 2 Total coliform concentration of the effluent shall not exceed a MPN (most probable number) of 2.2 per 100 mL, based on the median of the results of the last 7 days for which analyses have been completed.
 - 3 Total coliform concentration of the effluent shall not exceed a MPN of 23 per 100 mL in more than one sample in any 30-day period. No samples shall exceed an MPN of 240/100 mL.
 - 4 7-Day Median
 - 5 12 Month average.
 - 6 pH must be between 6.5 and 8.5 at all times
 - 7 No odor should be present.
- ND = Not Detected

D. Compliance Summary

As illustrated in Table F-2 above, effluent monitoring for bis(2-ethylhexyl) phthalate, percent sodium, and manganese resulted in concentrations and/or loadings that were greater than the effluent limitations established in Order R9-2003-0179. The frequencies of excursions are as follows:

1. On October 4, 2005, the monthly average and daily maximum effluent concentration of bis(2-ethylhexyl) phthalate was reported at 18.7 µg/L, which is greater than the monthly average limitation of 5.9 µg/L and the daily maximum limitation of 12.0 µg/L. This resulted in a monthly average and a daily maximum effluent loading of 0.256 lb/day, which exceeds the effluent monthly average limitation of 0.098 lb/day and the daily maximum limitation of 0.20 lb/day.

2. On August 1, 2007, the effluent value of percent sodium was reported at 60.9 percent, which is greater than the limitation of 60 percent.
3. On July 6, 2004, the effluent concentration of manganese was reported at 0.1 mg/L which exceeds the daily maximum effluent limitation of 0.05 mg/L.

The most recent Compliance Evaluation Inspection was performed on March 20, 2008, to gather information on operations and compliance monitoring and reporting. Notable major findings included in the report are summarized below.

1. The Discharger used an incorrect averaging method, for continuous effluent pH readings, to calculate a daily average.
2. The monitoring results that were below detection were incorrectly transferred to Discharge Monitoring Reports (DMRs) without the "<" sign, so that non-detected values appeared to be detected concentrations.
3. The Discharger incorrectly reported Practical Quantitation Limits (PQLs) and Method Detection Limits (MDLs) on the DMRs.

E. Planned Changes

The Discharger has requested permission to discharge from any of the lakes to Sycamore Creek. The Discharger has proposed to pipe effluent from one or more of Lake Nos. 2-7 to the current Discharge Point No. 001. As a result, no additional outfalls would be designated. Therefore this Order addresses total discharge from Discharge Point 001, which may include effluent from the Santee Lakes, at the monitoring locations specified in Table E-1, Section II, Attachment E.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to Section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC), commencing with Section 13370. It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as 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 an NPDES permit is exempt from the provisions of CEQA, Public Resources Code Sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes WQOs, and contains implementation programs and policies to achieve those objectives. The Basin Plan was subsequently approved by the State Water Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes WQOs, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

Surface Water Beneficial uses of Sycamore Creek and the San Diego River as outlined in the Basin Plan are as follows:

Table F-3a. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Sycamore Creek (aka Sycamore Canyon Creek)	Agricultural Supply; Industrial Service Supply; Contact Water Recreation; Non-contact Water Recreation; Warm Freshwater Habitat; Wildlife Habitat; Rare, Threatened, or Endangered Species.

Because the Sycamore Creek is hydrologically connected to groundwater, the groundwater beneficial uses identified in the Basin Plan apply to effluent discharges from PDWRF. Groundwater Beneficial Uses are as follows:

Table F-3b. Basin Plan Groundwater Beneficial Uses

Hydrologic Subarea (HSA)	Beneficial Use(s)
Santee (HSA 7.12)	Municipal and domestic supply (MUN), Industrial service and process supply (IND and PROC), Agricultural supply (AGR)

Requirements of this Order implement the Basin Plan.

- 2. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- 3. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin

Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and tribal water quality standards become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 [April 27, 2000]). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
5. **Antidegradation Policy.** Section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16.
6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations¹ Section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
7. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), CWC, requires that "the Regional Water Board shall prescribe effluent limitations as part of the WDRs of a POTW for all substances that the most recent toxic chemical release data reported to the State emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric WQOs, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric WQO".

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

The most recent toxic chemical data report does not indicate any reportable offsite releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric WQOs included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to CWC Section 13263.6(a). However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and State laws and regulations.

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

On June 28, 2007, the USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to Section 303 (d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The Lower San Diego River, (HSA 7.11 and HSA 7.12), to which Sycamore Creek is tributary, is listed as an impaired water body due to elevated fecal coliform, low dissolved oxygen, elevated phosphorus, and elevated total dissolved solids. On December 12, 2007, the Regional Water Board adopted a Total Maximum Daily Load (TMDL) and Wasteload Allocation for fecal coliform. Order No. R9-2007-0044 established a WLA based on the Discharger's existing limitations in Order No. R9-2003-0179. As a result, these effluent limitations are carried forward to this Order. The TMDLs for low dissolved oxygen, elevated phosphorus, and elevated total dissolved solids are scheduled for 2019. If the TMDLs and associated Wasteload Allocations (WLAs) are developed during the term of this permit, then this permit may be reopened to modify the limitations as applicable

E. Other Plans, Policies and Regulations

1. Secondary Treatment Regulations

40 CFR 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into Order No. R9-2009-0037, 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 Discharger of Storm Water Associated with Industrial Activity, Excluding Construction Activities. The Discharger is currently regulated under the general permit.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

CWC Section 13243 provides that the Regional Water Board, in a water quality control plan, may specify certain conditions where the discharge of wastes or certain types of wastes, or certain types of wastes that could affect the quality of waters in the State is prohibited. Discharge Prohibitions in this Order have been carried over from Order No. R9-2003-0179 to Section III.A through H of this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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 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 (BOD₅), total suspended solids (TSS), and pH. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards for BOD₅ and TSS.

- a. **BOD₅ and TSS.** The Facility employs tertiary treatment technology. Order No. R9-2003-0179 established limitations for BOD₅ and TSS based in part on plant performance data and represent levels attainable by tertiary treatment. The BOD₅ and TSS limitations have therefore been carried over from Order R9-2003-0179. See Table F-4 for final technology-based effluent limitations required by this Order. This Order also retains the secondary treatment limitations requiring an average of 85 percent removal of BOD₅ and TSS over each calendar month.
- b. **pH.** Federal Regulations, 40 CFR Part 133, also establish technology-based effluent limitations for pH. The secondary treatment standards require the pH

of the effluent to be no lower than 6.0 and no higher than 9.0 standard units. These standards are less stringent than water quality-based limitations. As such, water quality-based limitations for pH are included in the Order, as discussed in Section IV.C.

- c. **Oil and Grease.** Oil and Grease limitations are carried over from Order No. R9-2003-0179.

**Table F-4. Summary of Technology-Based Effluent Limitations
Discharge Point No. 001**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	15	23	25	--	--
	lb/day ¹	250	384	417	--	--
Total Suspended Solids	mg/L	15	23	25	--	--
	lb/day ¹	250	384	417	--	--
Oil and Grease	mg/L	5	--	7.5	--	--
	lb/day ¹	83	--	125	--	--

1 Mass emission limitations are based on a flow rate of 2.0 MGD.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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

contained in the California Toxics Rule and National Toxics Rule as described below in Section IV.C.2.a.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes WQOs, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to Sycamore Creek and groundwater are summarized in Section III.C, Table F-3a and F-3b of this Fact Sheet. The Basin Plan includes both narrative and numeric WQOs applicable to the receiving water and groundwater.

- a. Applicable Criteria.** The CTR promulgated new toxics criteria for California and, in addition, incorporated the previous NTR criteria that were applicable in the State. Priority pollutant water quality criteria in the CTR are applicable to Sycamore Creek.

The Basin Plan specifies both surface and groundwater criteria for HSA 7.12. The groundwater beneficial uses for HSA 7.12 include municipal water supply. Municipal and non-municipal wells exist within HSA 7.12.²

Padre Dam's two in-series storage ponds and seven Santee Lakes are clay-lined to prevent percolation to groundwater. Effluent discharged from the Facility's second storage pond at EFF-001A flows through the Santee Lakes. The Santee Lakes are not waters of the State but are used for recreational fishing, warranting "consumption of organisms" criteria for the lakes. The municipal water supply beneficial use applies at the discharge point further downstream, where effluent from the Santee Lakes flows into Sycamore Creek (EFF-001B). At this discharge point, surface waters are hydrologically connected to groundwater and "consumption of water and organisms" criteria, along with ecological criteria, are all applicable.

Applicable water quality criteria for this Order are listed in Tables F-5a and F-5b.

- b. Total/Fecal Coliform and Turbidity.** Order R9-2003-0179 contained effluent limitations for total/fecal coliform and turbidity based on the California Department of Public Health (CDPH) reclamation criteria [CCR, Division 4, Chapter 3 (Title 22)], for the reuse of wastewater. These limitations are carried over to this Order.
- c. Hardness.** Several of the CTR/NTR criteria for metals are based on hardness of the receiving water. In general, using the lowest reported receiving water hardness results in lower water quality criteria. In cases where streams are effluent dominated, the lowest effluent hardness may be representative of receiving water conditions and is therefore applied. No hardness data were

² A Status Report on the Use of Groundwater in the Service Area of the Metropolitan Water District of Southern California. September 2007. Chapter IV. Basin Reports, San Diego County Basins. pp. IV-23-7.

available for Sycamore Creek. Based on receiving water collected from January 1, 2004 through December 31, 2007, the minimum hardness value in the San Diego River at monitoring location No. 6 (Old Mission Dam) was 175 mg/L CaCO₃. At this location, which is approximately 2.5 miles downstream of the discharge, the effluent contributes approximate 6 percent of the flow.³ Based on receiving water information collected for issuance of Order No. R3-2003-0179, Sycamore Creek is ephemeral. Since dilution is minimal, the lowest effluent hardness value of 216 mg/L CaCO₃ is considered representative of the worst-case scenario in downstream Sycamore Creek and is used for calculation of metals criteria.

Table F-5a. Applicable CTR/NTR Criteria

Parameter	Selected Criteria	CTR/NTR Water Quality Criteria			
		Freshwater		Human Health For Consumption of	
		Acute	Chronic	Water and Organisms	Organisms Only
		µg/L	µg/L	µg/L	µg/L
Copper, Total Recoverable	18.01	28.92	18.01	--	--
Zinc, Total Recoverable	230.09	230.10	230.09	--	--
Bromoform	360	--	--	4.3	360
Chlorodibromomethane	34	--	--	0.41	34
Dichlorobromomethane	46	--	--	0.56	46
Bis(2-ethylhexyl)-phthalate	1.8	--	--	1.8	5.9
Methylene Chloride	4.7	--	--	4.7	1,600
Selenium, Total Recoverable	5	20	5	--	--

Table F-5b. Applicable Basin Plan Criteria

Parameter	Basin Plan Criteria		Source of Criteria
	Surface Water	Groundwater	
	mg/L	mg/L	
Aluminum, Total Recoverable	--	0.2 ¹	Secondary MCL
Ammonia	0.025	--	Aquatic Life
Barium	--	1.0 ¹	Primary MCL
Chloride	400	400	Table 3-2 Objective
Iron, Total Recoverable	1.0	0.3	Secondary MCL

³ Based on the ratio of average flow at Old Mission Dam to effluent flow over the period of 2004 through 2007.

	Basin Plan Criteria		
	Surface Water	Groundwater	
Nitrate	--	45	Primary MCL
Manganese, Total Recoverable	0.05	0.05 ¹	Secondary MCL
Methylene Blue Active Substances	0.5	0.5 ¹	Secondary MCL
Total Chlorine Residual	11 ²	--	USEPA Ambient Water Quality Criteria for the Protection of Aquatic Life
Boron	1.0	0.75	USEPA Agricultural Water Quality Goal ³
Fluoride	--	1.0	Human Health
Bis(2-ethylhexyl) Phthalate	0.004	0.004	Primary MCL
Methyl Tert-Butyl Ether	--	0.005 ¹	Secondary MCL
pH	6.5-8.5	--	Aquatic Life
Percent Sodium	60	60	Agricultural ³
Total Dissolved Solids	1,000	1,000	Drinking Water Standard
Sulfate	500	500	Drinking Water Standard
Total Trihalomethanes ⁴	--	80 ^{1,5}	Primary MCL ⁵

1 For waters designated for use as domestic or municipal supply (MUN).

2 Interpretation of narrative Basin Plan criteria based on USEPA Freshwater Aquatic Life Chronic Criterion.

3 Mckee, J.E, and Wolf, H.W., Eds. Water Quality Criteria Second Edition, State Water Quality Control Board, Sacramento, CA 1963.

4 Total Trihalomethanes equals the sum of bromoform, chloroform, chlorodibromomethane, and dichlorobromomethane.

5 USEPA MCL. Pursuant to the Safe Drinking Water Act, CDPH must revise the current total THMs MCL of 100 mg/L in Title 22, CCR to be as low or lower than the USEPA MCL.

3. Determining the Need for WQBELs

Order No. R9-2003-0179 contained effluent limitations for non-conventional and toxic pollutant parameters in Tables 3-1 and 3-2 of the Basin Plan as well as the CTR. For Order No. R9-2009-0037, the need for effluent limitations based on WQOs in the Basin Plan and CTR criteria 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 SIP. SIP methodology specifies determining the Maximum Effluent Concentration (MEC) and projecting receiving water values (based on the MEC and minimum probable initial dilution). The projected receiving water concentrations are then compared to the appropriate objective or criteria to determine the potential for an exceedance of that objective and the need for an effluent limitation.

The Regional Water Board conducted the RPA in accordance with Section 1.3 of the State Implementation Plan (SIP). Although the SIP applies directly to the

control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.⁴ The SIP states in the introduction “The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents. Effluent data provided in the Discharger’s monitoring reports for the Facility from January 1, 2004 through December 31, 2007 were used in the analyses. Upstream data for Sycamore Creek were not available; however, data from two separate locations in the San Diego River upstream of the confluence of Sycamore Creek were available. The first station, referred to as Station No.1 (Carlton Hills), is located near the San Diego River approximately 1.6 miles upstream of the confluence with Sycamore Creek. The second, referred to as Station No. 2 (Forrester Creek), is located in Forrester Creek near the mouth, which discharges to the San Diego River approximately 0.4 miles downstream Station No. 1 and 1.2 miles upstream of the confluence with Sycamore Creek. These stations are representative of two distinct contributions to the San Diego River upstream of Sycamore Creek, thus neither by itself fully represents the upstream San Diego River. For the RPA, the highest detected receiving water concentration, from either location, was selected for use on a pollutant by pollutant basis in order to be fully protective of beneficial uses in the San Diego River.

Section 1.4.2 of the SIP establishes procedures for granting mixing zones and the assimilative capacity of the receiving water. 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. Flow data for Sycamore Creek is unavailable, however, zero flow upstream of the discharge has been observed on occasion by the discharger. As a result, zero dilution has been granted.

Conventional pollutants were not a part of the reasonable potential analysis. Effluent limitations for these pollutants are included in this Order as described in Section IV.B, above. Similarly, reasonable potential for the Basin Plan Objective for color and the CDPH criteria for total/fecal coliform, and turbidity are carried over from Order No. R9-2003-0179 (Step 7 of the SIP). Nutrient limitations were evaluated in consideration of a Basin Plan alternative method of conformance and are discussed in Section IV.C.3 of this Fact Sheet.

A summary of the RPA results is provided below. Several of the CTR/NTR parameters, were not detected in the effluent or receiving water. These are omitted from the table and are considered to not demonstrate reasonable potential. The second column in Table F-6 identifies either the Basin Plan or CTR/NTR as the basis for evaluating the parameter. The third column identifies the source of the criteria used within either the Basin Plan or CTR/NTR.

⁴ See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

Whereas for some constituents, the formula calculations indicated no reasonable potential for exceeding WQOs, other information such as facility and discharge type or potential toxic impact, suggests that limitations for the parameters are appropriate. As specified in the SIP step 7, other information that may be used to determine if a water quality-based effluent limitation is required includes: the facility type, the discharge type, potential toxic impact of discharge, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, and other information. The instances where reasonable potential is determined based on Step 7 are footnoted in Table F-6.

**Table F-6. Parameters Evaluated for Reasonable Potential
Discharge Point No. 001¹**

Parameter (µg/L)	Basis for Applying Criteria/Objective ²	Source of Applied Criteria/Objective	n ³	MEC ⁴ µg/L	Most Stringent Criteria µg/L	Background µg/L	Effluent Limitation µg/L
Aluminum, Total Recoverable	BP numeric ⁵	Secondary MCL	4	160	200	440	Yes
Ammonia, unionized, as N	BP numeric	Aquatic Life	47	1.16	0.025	0.296	Yes
Barium	BP numeric ⁶	Primary MCL	4	70	1,000	90	No
Chloride	BP numeric	Table 3-2 Objective For Irrigation	16	210,000	400,000	522,000	Yes
Copper, Total Recoverable	CTR/NTR	Aquatic Life Chronic	4	10	18.0	< 4.0	No
Iron, Total Recoverable	BP numeric ⁵	Secondary MCL	16	86	300	472	Yes
Nitrate	BP numeric ⁶	Primary MCL	50	19,000	45,000	12,100	Yes ⁷
Manganese, Total Recoverable	BP numeric ⁵	Secondary MCL	16	100	50.0	596	Yes
Methylene Blue Active Substances	BP numeric ⁵	Secondary MCL	16	140	500	110	No
Selenium, Total Recoverable	CTR/NTR	Aquatic Life Chronic	4	< 5.0	5.0	6.0	No
Zinc, Total Recoverable	CTR/NTR	Aquatic Life Acute/Chronic	4	40	230.09	20.0	No
Total Chlorine Residual	BP narrative	Aquatic Life Chronic ⁸	4	<0.1	11	NA	Yes ⁹
Boron	BP numeric	USEPA Agricultural Water Quality Criteria	16	610	750	310	No

Parameter (µg/L)	Basis for Applying Criteria/Objective ²	Source of Applied Criteria/Objective	n ³	MEC ⁴ µg/L	Most Stringent Criteria µg/L	Background µg/L	Effluent Limitation µg/L
Fluoride	BP numeric	California Public Health Goal in Drinking Water	16	760	1,000	600	No
Methyl-Tert Butyl-Ether	BP numeric ⁵	Secondary MCL	4	37.7	5.0	<1.0	Yes
Percent Sodium	BP numeric	Water Quality Criteria-McKee and Wolf ¹⁰	48	60.9	60	NA	Yes
Total Dissolved Solids	BP numeric	Secondary MCL ¹¹	48	14,111	1x 10 ⁶	18,100	Yes ¹²
Sulfate	BP numeric ⁶	Primary MCL	16	332,000	500,000	404,000	No
Bis(2-ethylhexyl) phthalate	CTR/NTR	Human Health/Organisms Only	4	18.7	5.9	20.5	Yes
Bromoform	CTR/NTR	Human Health/Organisms Only	5	4.42	360	<0.5	No ¹³
Chlorodi-bromo-methane	CTR/NTR	Human Health/Organisms Only	5	30.6	34	< 0.5	No ¹³
Chloroform	BP numeric ⁶	Primary MCL	5	47.7	80 ^{14,15}	< 0.5	No
Dichloro-bromo-methane	CTR/NTR	Human Health/Organisms Only	5	44.2	46	< 0.5	No ¹³
Total Trihalo-methanes	BP numeric ⁶	USEPA MCL	5	110.12	80 ¹⁵	< 0.5	No ¹³

- 1 Parameters are excluded from this table if no detected concentrations are found in effluent or receiving water and no other information indicates that effluent limitations are necessary.
2. BP Numeric refers to numeric WQO listed in the Basin Plan. BP Narrative refers to a Basin Plan narrative statement for a WQO. CTR/NTR refers to California Toxics Rule/National Toxics Rule water quality criteria.
- 3 Number of data points available for the RPA.
- 4 If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest RL is summarized in the table.
- 5 Secondary drinking water standards
- 6 Primary standards for organic and inorganic chemicals
- 7 Because of the common presence of nitrate in wastewater and the water quality concerns with nitrogen and nitrogen containing compounds, reasonable potential exists and this limitation is carried forward from R9-2003-0179 (Step 7 of SIP).
- 8 Interpretation of narrative objective based on USEPA Freshwater Aquatic Life Criterion.
- 9 Reasonable potential exists because of the chlorination process poses the risk of aquatic toxicity to organisms (Step 7 of SIP).
- 10 McKee, J.E, and Wolf, H.W., Eds. Water Quality Criteria Second Edition, State Water Quality Control Board, Sacramento, CA 1963.
- 11 Secondary MCL "Consumer Acceptance Contaminant Level Ranges", upper limit.

- 12 Because of regional water quality concerns associated with TDS and salinity as indicated by specific conductance monitoring, reasonable potential exists and this limitation is carried forward from R9-2003-0179.
- 13 Because the fate and persistence of bis(2 ethylhexyl)phthalate), bromoform, chlorodibromomethane, dichlorobromomethane and total THMs within the Santee Lake System is unknown, increased monitoring at the discharge to Sycamore Creek is established to collect data until a determination is made as to the presence or absence of these constituents in the discharge to Sycamore Canyon Creek.
- 14 As Total Trihalomethanes
- 15 USEPA MCL. Pursuant to the Safe Drinking Water Act, CDPH must revise the current total THMs MCLof 100 mg/L in Title 22, CCR to be as low or lower than the USEPA MCL.

NA=Not Available

Final RPA results demonstrated that WQBELs are required for aluminum, ammonia, chloride, iron, nitrate, manganese, total chlorine residual, percent sodium, total dissolved solids, MTBE, and bis(2-ethylhexyl) phthalate; thus, effluent limitations for these constituents are established in this Order.

In order to be protective of all downstream beneficial uses, the RPA originally considered "consumption of water and organisms" criteria, along with ecological criteria, at EFF-001A for all constituents. Most of the data available for the RPA was collected at the chlorine contact tank during the previous permit term. This original RPA demonstrated a need for WQBELs for the constituents in Table F-6 as well as THMs.

Best professional judgment was used to further evaluate reasonable potential for a subset of these constituents; MTBE, bis(2-ethylhexyl) phthalate, and THMs. The original RPA would have resulted in applying limits based on criteria for consumption of water for these constituents at EFF-001A instead of EFF-001B, where municipal beneficial use actually applies (but limited water quality data has been collected). Limits established as such could result in non-compliance with the permit even though the appropriate criteria are being met. For example, Padre Dam could discharge one of these constituents at a concentration that was protective of fish consumption at EFF-001A and at a concentration that was protective of municipal beneficial use at EFF-001B yet still be out of compliance if the concentration exceeded the limit that was protective of municipal beneficial use at the EFF-001A.

In order to incorporate representative criteria that are appropriately protective (not overly protective) of fish consumption in the Santee Lakes and of beneficial uses in waters of the State, reasonable potential was re-analyzed for bis(2-ethylhexyl) phthalate and THMs based on fish consumption (consumption of organisms criteria). This reanalysis demonstrated that THMs did not need WQBELs (did not demonstrate reasonable potential to exceed limits). Therefore, the permit includes performance goals for THMs at EFF-001A based on consumption of organisms criteria. However, in order to evaluate concentrations where consumption of water does apply, monitoring requirements were added at EFF-001B.

The reanalysis of reasonable potential for bis(2-ethylhexyl) phthalate demonstrated that it did need a WQBEL (continued to demonstrate reasonable potential to

exceed limits), therefore, the limit was retained but since it is based on consumption of water, was relocated to the more appropriate downstream location, at EFF-001B. Per SIP guidance, this permit includes an interim limit for bis(2-ethylhexyl) phthalate until May 18, 2010.

MTBE was not reanalyzed for reasonable potential because it does not have a criterion for consumption of organisms only, so the limit was retained but since it is based on consumption of water, was relocated to the more appropriate downstream location, at EFF-001B.

a. Nutrients. Nitrogen and phosphorus at certain levels can lead to excessive growth of algae and/or other aquatic plants, which can degrade water quality. The Basin Plan objective for phosphorus in streams is 0.1 mg/L, not to be exceeded more than 10% of the time unless studies of the specific water body in question clearly show that WQO changes are permissible and changes are approved by the Regional Water Board. The objective for nitrogen is set based on the natural ratio of nitrogen:phosphorus in the receiving water or at a 10:1 ratio if data are lacking. Chapter 4 of the Basin Plan allows for the Regional Water Board to establish an alternative method for conformance with the nitrogen and phosphorus objectives. The Regional Water Board approved an alternative method for conformance for the Discharger through Order No. 98-60 and established effluent limitations for nitrogen and phosphorus based on best professional judgment.

i. Chapter 4 of the Basin Plan specifies that the Regional Water Board may determine compliance with the narrative objective for biostimulatory substances based on the following four factors:

(a) Measurement of ambient concentrations of nitrogen and phosphorus;

(b) The dissolved oxygen requirements of downstream beneficial uses;

(c) Use of best available technology (BAT) economically feasible for the removal of nutrients;

(d) The development and implementation of a watercourse monitoring management plan

ii. Order No. R9-2003-0179 carried over the alternative conformance method but contained more restrictive effluent nitrogen and phosphorus mass emission rate (MER) limitations based on the Basin Plan numerical objectives of 0.1 mg/l for phosphorous and 1.0 mg/l for nitrogen and a flow rate of 2 MGD. This resulted in MERs of 0.17 lb/day phosphorus and 1.7 lb/day nitrogen. For this Order, more recent information was evaluated with respect to the four criteria listed above. This evaluation resulted in the following conclusions:

(a) **Measurement of Ambient Concentrations of Nitrogen and Phosphorus.** Under Order No. R5-2003-0179 the Discharger monitors

Sycamore Creek and the San Diego River for total nitrogen and total phosphorus at 7 locations to assess ambient conditions upstream and downstream of the discharge. This Discharger meets this condition through the monitoring requirements carried forth from Order No. R9-2003-0179 to this Order.

(b) Dissolved Oxygen Requirements of Downstream Beneficial Uses.

The Basin Plan states that the dissolved oxygen shall not be less than 5.0 mg/L in inland surface waters with designated marine habitat (MAR) or warm freshwater habitat (WARM). The annual mean dissolved oxygen concentration shall not be less than 7 mg/L more than 10% of the time. Results of dissolved oxygen monitoring in Sycamore Creek and the San Diego River resulted in the following:

Table F-7. Summary of Dissolved Oxygen Concentrations in Effluent and Receiving Water.

Station	Summary Statistics of Dissolved Oxygen Concentrations (in mg/L) Basin Plan Objective = 5.0 mg/L minimum				
	Min	Max	Average	Median	90 th Percentile
#1 Carlton Hills Blvd.	0.63	10.7	4.1	3.7	7.3
#2 Forrester Creek	4.04	14.9	9.2	9.2	11.6
#4 Sycamore Creek leaving Golf Course	0.32	13	5.7	6	9.4
#5 Mast Boulevard	2.21	9.6	5.9	5.7	8.1
#6 Old Mission Dam	0.85	9.6	6.2	6.5	8.8
#7 Mission Ponds	0.27	8.8	3.5	2.3	7.2

Monitoring at Station No. 7 (Mission Ponds), located approximately 9 miles downstream of the discharge, resulted in the lowest dissolved oxygen values with dissolved oxygen results below 5 mg/L in 34 out of 48 samples. Further, the lower San Diego River is listed as impaired due to dissolved oxygen.

Based on data collected January 1, 2004 through December 31, 2007, the Discharger contributed 6 percent of the Phosphorus and 8 percent of the

Nitrogen mass loading to the San Diego River at the location where Sycamore Creek enters the San Diego River. When the alternative conformance method was incorporated into Order R9-2003-0179, based on data collected from 1998 to 2002, the facility reported contributing 14 percent of the phosphorus and 11 percent of the nitrogen mass loading at the same location,. Despite the dissolved oxygen excursions of the Basin Plan objective, the cause cannot be attributed directly to the Discharger because the majority of mass loadings are from other sources and because biostimulatory processes are complex, depending on other factors including temperature and flow. A TMDL for this segment of the San Diego River is scheduled for 2019. Until the data and processes are better understood, limitations based on the alternative conformance method will maintain the existing level of nutrients in the discharge.

(c) Use of Best Available Technology (BAT) Economically Feasible for the Removal of Nutrients. The Facility treatment system currently includes a 5-stage Bardenpho biological nutrient removal system as well as chemical phosphorus removal by alum and polymer addition, flocculation and sedimentation. This technology was in place when Order No. R9-2003-0179 allowed for the alternative limitations and has not significantly changed, therefore, the Discharger meets this criteria.

(d) The Development and Implementation of a Watercourse Monitoring and Management Plan (WMMP). The Basin Plan states that, “The implementation of the watercourse monitoring and management plan will often require close coordination between many different public and private entities. The Regional Water Board shall recognize an agency to implement the watercourse monitoring and management plan and such recognition shall be made part of the provisions of appropriate waste discharge requirements for the discharge.”

On June 13, 1995, the Discharger submitted a “Middle San Diego River Monitoring and Management Program.” In Order No. 98-60 , this plan in conjunction with the monitoring and reporting program addressed the components of the watercourse monitoring and management plan as outlined on pages 4-41 and 4-42 of the Basin Plan. Many of the monitoring components of this program were continued in Order No. R5-2003-0179, however, the Basin Plan specifies items that were not addressed in Order No. R5-2003-0179, including the following:

“A procedure for evaluating the data collected under items (1), (2), and (3) above and determining the potential for nutrient related problems that may impact beneficial uses,” and

”Development and implementation of preventive and corrective actions that will ensure that a discharge containing nutrients will not adversely impact beneficial uses.”

The Basin Plan further lists several corrective items. Among those listed are the following items that have not recently (within previous permit term of 2004-2007) been addressed by the Discharger.

- (1) Achievement of more stringent effluent limitations for nutrient constituents discharged to the watercourse, through additional chemical treatment methods at the treatment facility, to further reduce nutrient loading to the river;
- (2) Maintenance of minimum reclaimed water flows discharged to the watercourse to prevent stagnant areas subject to nutrient related problems and to maintain the riparian habitat beneficial uses that have been enhanced and/or created by such a discharge;
- (3) Effective measures for the instream chemical treatment of surface waters to prevent nutrient and stagnant water related nuisance problems that can adversely impact aquatic habitat beneficial uses;
- (4) Effective measures for the physical management of the watercourse channel and vegetation; and
- (5) Effective source control measures to reduce the amount of nutrient constituents in the reclaimed water.

Since the alternative method of conformance has been approved in Order R9-2003-0179 and the primary conditions upon which approval was based have not changed, the mass emissions rates limitations for nitrogen and phosphorus are carried forward to this Order. As a condition of the alternative conformance method, this Order requires the Discharger to update these components of the Watercourse Monitoring and Management Plan and collect additional monitoring data in accordance with Basin Plan specifications. Section VII.B.2.b (WMMP Update) and V.B.2.c (Data Collection for WMMP Update) of the Fact Sheet provides further discussion of this requirement. If, upon review of the submitted data, the Regional Water Board determines that impacts to water quality may occur, this Order may be reopened to include concentration-based limitations for nitrogen and phosphorus equal to the Basin Plan numeric WQOs.

In addition, in order to make progress towards achieving effluent concentrations of nitrogen and phosphorus equal to the Basin Plan WQOs of 1.0 mg/L and 0.1 mg/L, respectively, this Order includes a requirement to conduct a Treatment Optimization Study. As discussed in the Fact Sheet Section VII.B.2.d, the purpose of the study is to identify steps the facility can take to further reduce nutrient concentrations towards the goal of 1.0 mg/L nitrogen and 0.1 mg/L phosphorus.

- b. Dissolved Oxygen.** The Basin Plan requires dissolved oxygen levels shall not be less than 5.0 mg/L in inland surface waters with a designated beneficial use

of warm freshwater habitat. Sycamore Creek is tributary to the San Diego River, which is 303(d) listed for dissolved oxygen. Because of the ephemeral nature of Sycamore Creek and the downstream dissolved oxygen concerns, this Order applies the WQO as an effluent limitation in Section IV.A.1.e.

4. WQBEL Calculations

Effluent limitations for the CTR/NTR constituent bis(2-ethylhexyl) phthalate were calculated in accordance with Section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations for these parameters.

In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

Where:

- ECA_{acute} = effluent concentration allowance for acute (1-hour average) toxicity criterion
- $ECA_{chronic}$ = effluent concentration allowance for chronic (4-day average) toxicity criterion
- ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective
- CMC = criteria maximum concentration (1-hour average)
- CCC = criteria continuous concentration (4-day average, unless otherwise noted)
- HH = human health, agriculture, or other long-term criterion/objective
- D = dilution credit
- B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent

limitation (MDEL) and the average monthly effluent limitation (AMEL). Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$\begin{aligned}
 & \underbrace{\hspace{15em}}_{LTA_{acute}} \\
 AMEL &= mult_{AMEL} [\min(M_A ECA_{acute}, M_C ECA_{chronic})] \\
 MDEL &= mult_{MDEL} [\min(M_A ECA_{acute}, M_C ECA_{chronic})] \\
 & \underbrace{\hspace{15em}}_{LTA_{chronic}} \\
 MDEL_{HH} &= \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}
 \end{aligned}$$

- Where:
- multAMEL = statistical multiplier converting minimum LTA to AMEL
 - multMDEL = statistical multiplier converting minimum LTA to MDEL
 - MA = statistical multiplier converting CMC to LTA
 - MC = statistical multiplier converting CCC to LTA

Title 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 MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water. Because the discharge may occur from multiple lakes simultaneously, the mass-based limitations apply as a total mass from all lake sources combined.

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

$$Lb/day = \text{Permitted Flow (MGD)} \times \text{Pollutant Concentration (mg/L)} \times 8.34$$

For Total Dissolved Solids (TDS), Order No. R9-2003-0179 included a mass limitation for TDS of 25,020 lb/day. Based on the formula above and the Basin

Plan objective of 1,000 mg/L, the mass based limitation equals 16,680 lb/day, which is established in this Order.

A summary of the calculations for WQBELs established in Order No. R9-2009-0037 is provided below. Order No. R9-2003-0179 established a WQBELs for bis(2-ethylhexyl) phthalate based on the criterion for the consumption of organisms only. As discussed in Section IV.C.2.a, the beneficial use of municipal and domestic water supply necessitates using the criterion for the consumption of water and organisms, which results in a more stringent limitation for this Order.

Table F-8. WQBEL Calculations for Bis (2-Ethylhexyl) Phthalate

Parameter	Acute	Chronic
AMEL (µg/L) ¹	N/A	1.8
Criteria (µg/L)	N/A	1.8
Dilution Credit	N/A	--
ECA	N/A	1.8
MDEL/AMEL Multiplier ²	N/A	2.01
MDEL (µg/L)	N/A	3.6

1 AMEL = ECA per Section 1.4.B, Step 6 of SIP

2 Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-9. WQBEL Calculations for Total Chlorine Residual

Parameter	Acute	Chronic
AMEL (ug/L) ¹	N/A	11
Criteria (µg/L)	N/A	11
Dilution Credit	N/A	--
ECA	N/A	11
MDEL/AMEL Multiplier ²	N/A	2.01
MDEL (µg/L)	N/A	18

1 AMEL = ECA per Section 1.4.B, Step 6 of SIP

2 Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

5. Summary of WQBELs– Discharge Point No. 001

As discussed above in Section IV.C.4 of the Fact Sheet, WQBELs for CTR/NTR constituents were calculated according to procedures outlined in the SIP. Order No. R9-2003-0179 established limitations for Basin Plan Objectives by applying them as Daily Maximums. The resulting limitations are protective of beneficial uses and the same methodology was applied to develop WQBELs for this Order.

Summary of Water Quality-Based Effluent Limitations Discharge Point 001

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

Parameter	Units	Effluent Limitations
-----------	-------	----------------------

		12- Month Average ¹	Average Monthly	Average Weekly	Maximum Daily	Basis
Aluminum, Total Recoverable	mg/L	--	--	--	0.2	Basin Plan Objective
	lb/day	--	--	--	3.3	
Ammonia Nitrogen	mg/L	--	--	--	0.025	Basin Plan Objective
	lb/day	--	--	--	0.42	
Chloride	mg/L	--	--	--	400	Basin Plan Objective
	lb/day	--	--	--	6,672	
Total Chlorine Residual	µg/L	--	2	8	18	Basin Plan Objective ²
	lb/day	--	0.033	0.13	0.30	
Color	units	--	--	--	20	Basin Plan Objective
Nitrate Nitrogen	mg/L	--	--	--	45	Basin Plan Objective
	lb/day	--	--	--	751	
Nitrogen, total	mg/L	--	--	--	--	Basin Plan Objective
	lb/day	17. ¹	--	--	--	
Phosphorous, total	mg/L	--	--	--	--	Basin Plan Objective
	lb/day	1.7 ¹	--	--	--	
Bis(2-ethylhexyl) phthalate	µg/L	--	1.8	--	3.6	CTR/NTR
	lb/day	--	0.030	--	0.060	
Total Dissolved Solids	mg/L	--	--	--	1,000	Basin Plan Objective
	lb/day	--	--	--	16,680	
Percent sodium	%	--	--	--	60.0	Basin Plan Objective
Iron, Total Recoverable	mg/L	--	--	--	0.30	Basin Plan Objective
	lb/day	--	--	--	5.0	
Manganese, Total Recoverable	mg/L	--	--	--	0.05	Basin Plan Objective
	lb/day	--	--	--	0.83	
Methyl Tert-Butyl Ether	µg/L	--	--	--	5	Basin Plan Objective
	lb/day	--	--	--	0.083	
Odor	Units	No Odor				Basin Plan Objective
pH	Standard Units	Instantaneous, Between 6.5-8.5				Basin Plan Objective
Total/Fecal Coliform	MPN/100 mL	--	--	2.2 ³	23 ⁴	Basin Plan Objective
Turbidity ⁵	NTU	--	--	--	--	Basin Plan Objective
	lb/day	--	0.01	--	0.018	

1 12-month running average are based on a flow rate of 2.0 MGD.

2 The calculated AMEL for Total Chlorine Residual was less stringent than the AMEL and weekly average limitations in Order R9-2003-0179. To comply with Antbacksliding provisions, the existing AMEL and weekly average limitations were retained; only the MDEL, which was calculated using SIP methodology, is included in this Order.

3 Total coliform concentration of the effluent shall not exceed a MPN (most probable number) of 2.2 per 100 mL, based on the median of the results of the last 7 days for which analyses have been completed.

- 4 Total coliform concentration of the effluent shall not exceed a MPN of 23 per 100 mL in more than one sample in any 30-day period. No samples shall exceed an MPN of 240/100 mL.
- 5 Turbidity concentration of the filter effluent prior to chlorination shall not exceed a daily average value of 2 Nephelometric Turbidity Units (NTU), shall not exceed 5 NTU more than 5% of the time during a 24-hour period, and shall not exceed 10 NTU at any time.
- 6 Total trihalomethanes is the sum of the concentrations of bromoform, chlorodibromomethane, chloroform, and dichlorobromomethane.

6. Whole Effluent Toxicity (WET)

- a. **Acute Toxicity.** The Basin Plan contains a narrative toxicity objective that states:

"All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life" and "The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in USEPA, State Water Resources Control Board or other protocol authorized by the Regional Water Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96 hour acute bioassay."(Basin Plan at 3-29).

USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric WQOs for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In Section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric WQOs for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc."

Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay-----	70%
Median for any three or more consecutive bioassays -----	90%

- b. **Chronic Toxicity.** Whole effluent chronic toxicity testing performed by the Discharger from January 2004 through December 2007 demonstrated a maximum chronic toxicity result of >8 TUc for *Ceriodaphnia dubia* in the 3rd quarter of 2007. Based on this result, the discharge has reasonable potential to

cause or contribute to chronic toxicity in the receiving water. Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limitations. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region⁵, which contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in Order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits." The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limitations in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k).

Order No. R9-2005-0179 contained a narrative prohibition against chronic toxicity. To ensure compliance with the Basin Plan's narrative toxicity objective, this prohibition is carried over and the Discharger is required to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, Special Provisions VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan. The numeric toxicity monitoring trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

⁵ In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

D. Final Effluent Limitations

The following tables list the effluent limitations established by Order No. R9-2009-0037. Where Order No. R9-2009-0037 establishes mass emission limitations, these limitations have been derived based on a flow of 2.0 MGD.

Summary of Final Effluent Limitations Discharge Point No. 001

Table F-11. Effluent Limitations Based on Tertiary Treatment.

Parameter	Effluent Limitations			
	Units	Average Monthly	Average Weekly	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C) ¹	mg/L	15	23	25
	lb/day ²	250	384	417
Total Suspended Solids ¹	mg/L	15	23	25
	lb/day ²	250	384	417
Oil and Grease	mg/L	5	--	7.5
	lb/day	83	--	125

1 The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.

2 Mass emission limitations are based on a flow rate of 2.0 MGD.

Table F-12. Effluent Limitations Based on the Basin Plan Objectives

Parameter	Water Quality-Based Effluent Limitations					
	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	12-month Average
Aluminum, Total Recoverable	mg/L	--	--	0.20	--	--
	lb/day ¹	--	--	3.3	--	--
Ammonia Nitrogen, unionized, as N	mg/L	--	--	0.025	--	--
	lb/day ¹	--	--	0.42	--	--
Chloride	mg/L	--	--	400	--	--
	lb/day ¹	--	--	6,672	--	--
Total Chlorine Residual	mg/L	2	8	18	--	--
	lb/day ¹	0.033	0.13	0.30	--	--
Color	units	--	--	20	--	--
Total/Fecal Coliform	MPN/100 mL	--	2.2 ²	23 ³	240	--
Iron, Total Recoverable	mg/L	--	--	0.30	--	--
	lb/day ¹	--	--	5.0	--	--
Manganese, Total Recoverable	mg/L	--	--	0.05	--	--
	lb/day ¹	--	--	0.83	--	--
Nitrate Nitrogen	mg/L	--	--	45	--	--
	lb/day ¹	--	--	751	--	--
Nitrogen, Total	mg/L	--	--	--	--	--
	lb/day ¹	--	--	--	--	17 ⁴

Parameter	Water Quality-Based Effluent Limitations					
	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	12-month Average
Odor		No Odor				
Oil and Grease	mg/L	5	--	7.5	--	--
	lb/day ¹	83	--	125	--	--
Percent Sodium	%	--	--	60	--	--
pH	standard units	--	--	--	6.5-8.5	
Phosphorous, Total	mg/L	--	--	--	--	--
	lb/day ¹	--	--	--	--	1.7 ⁴
Total Dissolved Solids	mg/L	--	--	1,000	--	--
	lb/day ¹	--	--	16,680	--	--
Turbidity	NTU	--	--	2/5 ⁵	10	--
Methyl Tert-Butyl Ether	µg/L	--	--	5	--	--
	lb/day ¹	--	--	0.083	--	--

- 1 Mass emission limitations are based on a flow rate of 2.0 MGD.
- 2 As a seven-day median based upon the last seven days.
- 3 More than once in any 30-day period.
- 4 Mass emission limitations are based on a 12-month running average.
- 5 2 NTU as a daily average; 5 NTU more than 5 percent of the time within a 24-hour period.

Table F-13. Effluent Limitations Based on the CTR/NTR Criteria¹

Parameter	Water Quality-Based Effluent Limitations				
	Units	6-Month Median	Average Monthly	Instantaneous Maximum	Maximum Daily
Bis(2-ethylhexyl) phthalate	µg/L	--	1.8	--	3.6
	lb/day ¹	--	0.03	--	0.06

- 1 Based on objectives for protection of human health for the consumption of water and organisms.
- 2 Mass emission limitations are based on a flow rate of 2.0 MGD.

1. Satisfaction of Anti-Backsliding Requirements

Some effluent limitations in this Order are less stringent than those in the previous Order No. R9-2003-0179. As discussed below, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

Regulations pertaining to antibacksliding in CWA Section 402.02 allow for relaxation of limitations based on new information that was not available at the time of permit issuance. Order No. R9-2003-0179 contained effluent limitations for boron, fluoride, MBAS, and sulfate. Based on data collected from 2004 through 2007, there was no reasonable potential for the discharge to cause or contribute to

an excursion of WQOs for these constituents. Since effluent concentrations of boron, fluoride, MBAS, and sulfate are not expected to cause impairment of beneficial uses or water quality concerns, this Order discontinues the effluent limitations. Because the new monitoring data collected during the previous term indicates the discharge will not degrade water quality, their removal is consistent with 40 CFR 122.44(l)(1).

As discussed in Section V.B.6 and V.D.1.e, effluent and receiving water monitoring requirements are retained, at a reduced frequency, to ensure that effluent concentrations of boron, fluoride, MBAS, and sulfate do not cause or contribute to excursions of Basin Plan objectives.

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 Regional Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting. With the exception of the constituents discussed above in Section V.D.1 above, all effluent limitations in this Order are at least as stringent as the previous effluent limitations, and no degradation of the receiving water is expected.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅, TSS, and pH. Specifically, this Order includes effluent limitations for BOD₅, TSS, and pH that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for including these limitations is explained in Section IV.B.1 of this Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the State Implementation

Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and WQOs contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to Section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Performance Goals

Constituents that do not have reasonable potential 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 WQOs established in the Basin Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the Regional Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the Regional Water Board may coordinate such actions with the next permit renewal.

Table F-14. Performance Goals Based on the Basin Plan and CTR/NTR Criteria.

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
BASED ON BASIN PLAN OBJECTIVES				
Radioactivity, Gross Alpha	pci/L	--	--	15 ³
Radioactivity, Gross Beta	pCi/L	--	--	50
Radium 226 and 228	pCi/L	--	--	5
Boron	µg/L	---	--	7.5E+02
	lb/day	--	--	1.25E-01
Fluoride	µg/L	--	--	1.00E+03
	lb/day	--	--	1.67E-02
MBAS	µg/L	--	--	5.00E+02
	lb/day	--	--	8.34E-02
Total Trihalomethanes	µg/L	8.00E+01	1.60E+02	--
	lb/day	1.33E+00	2.68E+00	--
Sulfate	µg/L	--	--	5.00E5
	lb/day	--	--	8.34E-02
OBJECTIVES FOR THE PROTECTION OF AQUATIC LIFE				

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
Cadmium, Total Recoverable	µg/L	3.69E+00	7.40E+00	--
	lb/day	6.16E-02	1.23E-01	--
Chromium VI, Total Recoverable ⁴	µg/L	8.12E+00	1.63E+01	--
	lb/day	1.35E-01	2.72E-01	--
Copper, Total Recoverable	µg/L	1.44E+01	2.89E+01	--
	lb/day	2.40E-01	4.82E-01	--
Cyanide, Total Recoverable ⁵	µg/L	4.26E+00	8.54E+00	--
	lb/day	7.10E-02	1.42E-01	--
Lead, Total Recoverable	µg/L	6.94E+00	1.39E+01	--
	lb/day	1.16E-01	2.32E-01	--
Selenium, Total Recoverable	µg/L	4.09E+00	8.21E+00	--
	lb/day	6.83E-02	1.37E-01	--
Silver, Total Recoverable	µg/L	7.61E+00	1.53E+01	--
	lb/day	1.27E-01	2.55E-01	--
Zinc, Total Recoverable	µg/L	1.15E+02	2.30E+02	--
	lb/day	1.91E+00	3.84E+00	--
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH				
alpha Endosulfan	µg/L	4.59E-02	9.20E-02	--
	lb/day	7.65E-4	1.53E-3	--
beta Endosulfan	µg/L	4.59E-02	9.20E-02	--
	lb/day	7.65E-04	1.53E-03	--
Endosulfan Sulfate	µg/L	4.59E-02	9.20E-02	--
	lb/day	7.65E-04	1.53E-03	--
Endrin	µg/L	2.95E-02	5.91E-02	--
	lb/day	4.92E-04	9.86E-04	--
Endrin Aldehyde	µg/L	7.60E-01	1.52E+00	--
	lb/day	1.27E-02	2.54E-02	--
Acrolein	µg/L	1.72E+01	3.45E+01	--
	lb/day	2.87E-01	5.75E-01	--
Antimony	µg/L	6.00E+00	1.20E+01	--
	lb/day	1.00E-01	2.01E-01	--
Arsenic, Total Recoverable	µg/L	5.00E+01	1.00E+02	--
	lb/day	8.34E-01	1.67E+00	--
Asbestos	MFL5	7.00E+06	1.40E+07	--
Barium	µg/L	1.00E+03	2.01E+03	--
	lb/day	1.67E+01	3.35E+01	--
Beryllium	µg/L	4.00 E+00	8.02E+00	--
	lb/day	6.67E-02	1.34E-01	--
Bromoform	µg/L	3.60E+02	7.20E+02	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
	lb/day	6.00E+00	1.20E+01	--
Bis(2-chloroisopropyl) ether	µg/L	9.99E+01	2.00E+02	--
	lb/day	1.67E+00	3.34E+00	--
Chlorobenzene	µg/L	7.00E+01	1.40E+02	--
	lb/day	1.17E+00	2.34E+00	--
Chromium III, Total Recoverable ⁴	µg/L	5.00E+01	1.00E+02	--
	lb/day	8.34E-01	1.67E+00	--
Mercury, Total Recoverable	µg/L	5.00E-02	1.00E-01	--
	lb/day	8.34E-04	1.67E-03	--
Nickel, Total Recoverable	µg/L	8.19E+01	1.64E+02	--
	lb/day	1.37E+00	2.74E+00	--
Thallium, Total Recoverable	µg/L	1.70E+00	3.41E+00	--
	lb/day	2.84E-02	5.69E-02	--
Di-n-butyl Phthalate	µg/L	2.46E+00	4.93E+00	--
	lb/day	4.10E-02	8.22E-02	--
1,2-Dichlorobenzene	µg/L	6.00E+02	1.20E+03	--
	lb/day	1.00E+01	2.01E+01	--
1,3-Dichlorobenzene	µg/L	4.00E+02	8.02E+02	--
	lb/day	6.67E+00	1.34E+01	--
1,4-Dichlorobenzene	µg/L	5.00E+00	1.00E+01	--
	lb/day	8.34E-02	1.67E-01	--
Diethyl Phthalate	µg/L	4.69E+02	9.40E+02	--
	lb/day	7.82E+00	1.57E+01	--
Dimethyl Phthalate	µg/L	2.46E+00	4.93E+00	--
	lb/day	4.10E-02	8.22E-02	--
4,6-dinitro-2-methylphenol	µg/L	1.34E+01	2.69E+01	--
	lb/day	2.24E-01	4.48E-01	--
2,4-dinitrophenol	µg/L	7.00E+01	1.40E+02	--
	lb/day	1.17E+00	2.34E+00	--
Ethylbenzene	µg/L	2.90E+01	5.82E+01	--
	lb/day	4.84E-01	9.70E-01	--
Fluoranthene	µg/L	3.00E+02	6.02E+02	--
	lb/day	5.00E+00	1.00E+01	--
Hexachlorocyclopentadiene	µg/L	3.49E+00	7.00E+00	--
	lb/day	5.82E-02	1.17E-01	--
Nitrate +Nitrite (sum as nitrogen)	µg/L	1.00E+01	2.01E+01	--
	lb/day	1.67E-01	3.35E-01	--
Nitrobenzene	µg/L	1.70E+01	3.41E+01	--
	lb/day	2.84E-01	5.69E-01	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
Perchlorate	µg/L	6.00E-03	1.21E-02	--
	lb/day	1.00E-04	2.01E-04	--
Thallium, Total Recoverable	µg/L	1.70E+00	3.41E+00	--
	lb/day	2.84E-02	5.69E-02	--
Toluene	µg/L	1.50E+02	3.01E+02	--
	lb/day	2.50E+00	5.02E+00	--
Tributyltin	µg/L	5.16E-02	1.03E-01	--
	lb/day	8.60E-04	1.73E-03	--
1,1,1-trichloroethane	µg/L	2.00E+02	4.01E+02	--
	lb/day	3.34E+00	6.69E+00	--
Acrylonitrile	µg/L	5.90E-02	1.18E-01	--
	lb/day	9.84E-04	1.97E-03	--
Aldrin	µg/L	1.30E-04	2.61E-04	--
	lb/day	2.17E-06	4.35E-06	--
Benzene	µg/L	1.00E+00	2.01E+00	--
	lb/day	1.67E-02	3.35E-02	--
Benzidine	µg/L	1.20E-04	2.41E-04	--
	lb/day	2.00E-06	4.02E-06	--
Beryllium	µg/L	4.00E+00	8.02E+00	--
	lb/day	6.67E-02	1.34E-01	--
Bis(2-chloroethyl) Ether	µg/L	3.10E-02	6.22E-02	--
	lb/day	5.17E-04	1.04E-03	--
Bis(2-ethylhexyl) Phthalate	µg/L	1.80E+00	3.61E+00	--
	lb/day	3.00E-02	6.02E-02	--
Carbon Tetrachloride	µg/L	2.50E-01	5.02E-01	--
	lb/day	4.17E-03	8.37E-03	--
Chlorodane	µg/L	5.70E-04	1.14E-03	--
	lb/day	9.51E-06	1.91E-05	--
Chlorodibromomethane	µg/L	3.40E+01	6.80E+01	--
	lb/day	5.67E-01	1.13E+00	--
4,4'-DDT	µg/L	5.90E-04	1.18E-03	--
	lb/day	9.84E-06	1.97E-05	--
4,4'-DDE	µg/L	5.90E-04	1.18E-03	--
	lb/day	9.84E-06	1.97E-05	--
4,4'-DDD	µg/L	8.30E-04	1.67E-03	--
	lb/day	1.38E-05	2.78E-05	--
1,4-dichlorobenzene	µg/L	5.00E+00	1.00E+01	--
	lb/day	8.34E-02	1.67E-01	--
2,3'-dichlorobenzidine	µg/L	4.00E-02	8.02E-02	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
	lb/day	6.67E-04	1.34E-03	--
1,2-dichloroethane	µg/L	3.80E-01	7.62E-01	--
	lb/day	6.34E-03	1.27E-02	--
1,1-dichloroethylene	µg/L	5.70E-02	1.14E-01	--
	lb/day	9.51E-04	1.91E-03	--
Dichlorobromomethane	µg/L	4.60E+01	9.20E+01	--
	lb/day	7.67E-01	1.53E+00	--
Methyl Chloride (Chloromethane)	µg/L	5.48E+03	1.10E+04	--
	lb/day	9.15E+01	1.83E+02	--
Methylene Chloride (Dichloromethane)	µg/L	4.70E+00	9.43E+00	--
	lb/day	7.84E-02	1.57E-01	--
1,2-Dichloropropane	µg/L	5.20E-01	1.04E+00	--
	lb/day	8.67E-03	1.74E-02	--
1,3-dichloropropene	µg/L	5.00E-01	1.00E+00	--
	lb/day	8.34E-03	1.67E-02	--
Dieldrin	µg/L	1.40E-04	2.81E-04	--
	lb/day	2.34E-06	4.68E-06	--
2,4-dinitrotoluene	µg/L	7.00E+01	1.40E+02	--
	lb/day	1.17E+00	2.34E+00	--
1,2-diphenylhydrazine	µg/L	4.00E-02	8.02E-02	--
	lb/day	6.67E-04	1.34E-03	--
Heptachlor	µg/L	2.10E-04	4.21E-04	--
	lb/day	3.50E-06	7.03E-06	--
Heptachlor Epoxide	µg/L	1.00E-04	2.01E-04	--
	lb/day	1.67E-06	3.35E-06	--
Hexachlorobenzene	µg/L	7.50E-04	1.50E-03	--
	lb/day	1.25E-05	2.51E-05	--
Hexachlorobutadiene	µg/L	4.40E-01	8.83E-01	--
	lb/day	7.34E-03	1.47E-02	--
Hexachloroethane	µg/L	1.90E+00	3.81E+00	--
	lb/day	3.17E-02	6.36E-02	--
Isophorone	µg/L	8.40E+00	1.69E+01	--
	lb/day	1.40E-01	2.81E-01	--
N-nitrosodimethylamine	µg/L	6.90E-04	1.38E-03	--
	lb/day	1.15E-05	2.31E-05	--
N-nitrosodi-N-propylamine	µg/L	5.00E-03	1.00E-02	--
	lb/day	8.34E-05	1.67E-04	--
N-nitrosodiphenylamine	µg/L	5.00E+00	1.00E+01	--
	lb/day	8.34E-02	1.67E-01	--

Parameter	Performance Goals ¹			
	Units	Average Monthly	Maximum Daily	Instantaneous Maximum ²
PCBs ⁶	µg/L	1.70E-04	3.41E-04	--
	lb/day	2.84E-06	5.69E-06	--
2,3,7,8-TCDD	µg/L	1.08E-10	2.17E-10	--
	lb/day	1.08E-10	2.17E-10	--
TCDD equivalents ⁷	µg/L	1.30E-08	2.61E-08	--
	lb/day	2.17E-10	4.35E-10	--
1,1,2,2-tetrachloroethane	µg/L	1.70E-01	3.41E-01	--
	lb/day	2.84E-03	5.69E-03	--
Tetrachloroethylene	µg/L	8.00E-01	1.60E+00	--
	lb/day	1.33E-02	2.68E-02	--
Toxaphene	µg/L	1.64E-04	3.29E-04	--
	lb/day	2.73E-06	5.48E-06	--
Trichloroethylene	µg/L	2.70E+00	5.42E+00	--
	lb/day	4.50E-02	9.04E-02	--
1,1,2-trichloroethane	µg/L	6.00E-01	1.20E+00	--
	lb/day	1.00E-02	2.01E-02	--
2,4,6-trichlorophenol	µg/L	2.10E+00	4.21E+00	--
	lb/day	3.34E-02	6.69E-02	--
Vinyl Chloride	µg/L	5.00E-01	1.00E+00	--
	lb/day	8.34E-03	1.67E-02	--

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 10² or 610, and 6.1E+00 represents 6.1 x 10⁰ or 6.1.
2. Not to be exceeded more than 10% of the time during any one year period.
3. Includes Radium 226 but excludes Radon and Uranium.
4. Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).
5. If a Discharger can demonstrate to the satisfaction of the Regional Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali 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 136, as revised May 14, 1999.
6. 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, Aroclor-1254, and Aroclor-1260.
7. 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

F. Interim Effluent Limitations

Bis(2-ethylhexyl) phthalate. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent.

The interim limitations for bis(2-ethylhexyl) phthalate in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limitations that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row).

When there are less than 10 sampling data points available, the Technical Support Document for Water Quality- Based Toxics Control ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than 10 sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2). Therefore, the interim limitations in this Order are established as the MEC multiplied by 3.11.

The Regional Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitation included in this Order. Interim limitations are established when compliance with effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. Interim limitations,

however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

In a letter dated November 13, 2008, the Regional Board requested that PDMWD submit interim limitation justification and a proposed compliance schedule for constituents which analysis indicates will not immediately comply with the proposed final effluent limitations. This applied to bis(2-ethylhexyl) phthalate, bromoform, chlorodibromomethane, and dichlorobromomethane. In a letter dated January 6, 2008, PDMWD submitted a response, providing justification and proposed compliance schedules in accordance with Section 2.1 of the SIP. The response also certified under penalty of perjury that all of Santee Lakes and storage ponds are clay-lined, concluding that the lakes do not impact underlying groundwater with potential municipal water supply beneficial use. Based on these conditions, the Regional Board reanalyzed reasonable potential based on standards for "consumption of organisms", as opposed to "consumption of organisms plus water". Under this scenario, bromoform, chlorodibromomethane, and dichlorobromomethane did not demonstrate reasonable potential to exceed effluent limitations.

Bis(2-ethylhexyl) phthalate did demonstrate reasonable potential to exceed effluent limitations based on standards for "consumption of organisms", and compliance will be based on an interim effluent limitation until May 18, 2010. According to Definition 2.d of State Water Resources Control Board Resolution No. 2008-0025, Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits, a compliance schedule for a CTR constituent that extends beyond this date is not authorized under the given circumstances. If the bis(2-ethylhexyl) phthalate limitation cannot be met by May 18, 2010, a Cease and Desist Order (CDO) may be adopted to allow for a time schedule beyond May 18, 2010.

Table F-18 summarizes the calculation of the interim effluent limitation for bis(2-ethylhexyl) phthalate.

Table F-18. Interim Effluent Limitation Calculation Summary

Parameter	Units	MEC	Mean	Std. Dev.	# of Samples	Interim Limitation
Bis(2-ethylhexyl phthalate)	µg/L	18.7	4.90	7.24	6	58

G. Land Discharge Specifications– Not Applicable

H. Reclamation Specifications– Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of this Order are derived from the WQOs for Inland Surface Waters established by the Basin Plan and are carried over from Order No. R9-2003-0179.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC Sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Influent monitoring is required to determine the effectiveness of the source control program, to assess the performance of treatment facilities, and to evaluate compliance with effluent limitations. Influent monitoring requirements have been carried over from Order No. R9-2003-0179.

B. Effluent Monitoring

Effluent monitoring is required to determine compliance with the permit conditions and to identify operational problems and improve plant performance. Effluent monitoring also provides information on wastewater characteristics and flows for use in interpreting water quality and biological data.

1. Oil and Grease

Effluent monitoring for oil and grease has been decreased from once per month, to once per quarter. The effluent results from 2004 through 2007 indicate that oil and grease was detected in 3 out of 48 monthly samples, with the maximum value measured at 2.6 mg/L, which is below the average monthly limitation of 5 mg/L.

2. Nitrogen and Phosphorous

The limitations for nitrogen and phosphorus are applied as 12-month average loadings. The monitoring results are to be reported as a 12-month running average. This requirement is carried over from Order No. R9-2003-0179.

3. Total Trihalomethanes, Dichlorobromomethane, Bromoform Chlorodibromomethane, and Chloroform

This Order includes monthly monitoring for chlorodibromomethane, dichlorobromomethane, bromoform, and chloroform and reporting of total trihalomethanes. Concentrations of these constituents in samples collected at the discharge from the chlorine contact basin were greater than the CTR/NTR criteria or the Basin Plan Objectives that would apply at the discharge to Sycamore Creek. The fate and persistence of chlorodibromomethane, dichlorobromomethane, bromoform, and chloroform within the Santee Lake system is unknown. In addition, the discharge from EFF-001A (chlorine contact basin discharge) did not demonstrate reasonable potential for these constituents, based on the human

health consumption of organisms only criteria applicable at this location. For these reasons, the Monitoring and Reporting Requirements in Attachment E specify monthly monitoring at the additional location of the discharge from Santee Lakes (EFF-001B) for the first year to collect data. If after 12 months of monitoring these constituents are not detected in effluent, then monitoring may resume at the EFF-001A as part of the annual priority pollutant monitoring, otherwise, monthly monitoring shall continue for the duration of the permit term.

4. Bis(2-ethylhexyl) phthalate

Bis(2-ethylhexyl) phthalate, in addition to several other phthalates, is used primarily as one of several plasticizers in polyvinyl chloride (PVC) resins for fabricating flexible vinyl products. According to the Consumer Product Safety Commission, USEPA, and the Food and Drug Administration, these PVC resins are used to manufacture many products, including soft squeeze toys, balls, raincoats, adhesives, polymeric coatings, components of paper and paperboard, defoaming agents, animal glue, surface lubricants, and other products that must stay flexible and noninjurious for the lifetime of their use. Order No. R9-2003-0179 included 24-hour composite sampling requirement for bis(2-ethylhexyl) phthalate, which typically requires the use of plastic sampling equipment. Since bis(2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of the detected bis(2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. In order to verify if bis(2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant. The frequency for monitoring has been increased from 2/year to 1/month. If, after monitoring for one year, bis(2-ethylhexyl) phthalate is not detected in the effluent, then monitoring may be reduced to 2/year for as long as bis(2-ethylhexyl) phthalate remains below the Reporting Limit (RL) and the permit is in effect. In addition, since the limitation contained in this Order is below the Minimum Levels (MLs) published in the SIP, the Discharger shall use an ML equal to or less than 5 µg/L, which is the lowest ML presented in the SIP.

5. Boron, Fluoride, MBAS, and Sulfate

Order No. R9-2003-0179 required quarterly effluent monitoring for boron, fluoride, MBAS, and sulfate. Based on data collected from 2004 through 2007, there was no reasonable potential for the discharge to cause an exceedance of WQOs for these constituents. The effluent limitations are not retained for this Order. This Order reduces the frequency of effluent monitoring for boron, fluoride, and sulfate to 1/year, as this will provide adequate data to evaluate the potential to exceed WQOs.

6. Odor

Effluent monitoring requirements for odor are included in Table E-3, Section IV.A. of the Monitoring and Reporting Program, at a frequency of 3 times per week, to

determine compliance with the effluent limitation for Odor, specified in Table 6a, Section IV.A.1 of this Order.

7. Manganese

Order No. R9-2003-0179 required quarterly effluent monitoring for manganese. Based on effluent data collected from January 2003 through December 2007, one result, measured at 0.1 mg/L exceeded the Basin Plan surface and groundwater objective of 0.05 mg/L. Based on this result, the monitoring frequency is increased from once per quarter to once per month in order to more closely monitor for potential impairment of beneficial uses.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity testing (acute and chronic) have been established to determine compliance with the effluent limitations for acute and chronic toxicity.

D. Receiving Water Monitoring

1. Surface Water

a. Upstream and Downstream Monitoring Locations.

Order No. R9-2003-0179 required receiving water monitoring at several San Diego River locations for the constituents listed in Table F-19. The upstream reference stations, formerly referred to as Station No. 1 (Carlton Hills) and Station No. 2 (Forrester Creek), are located in the San Diego River upstream of the confluence with Sycamore Creek. Monitoring at these locations does not characterize the background condition of Sycamore Creek. Similarly, the downstream monitoring station established in Order R9-2003-0179, formerly referred to as No. 7 (Mission Ponds), is located in the San Diego River, approximately 9 miles downstream of the discharge. This former downstream reference station also does not characterize the downstream conditions in Sycamore Creek. In order to isolate possible pollutant contributions contributed by the discharge to Sycamore Creek, this Order has established new upstream and downstream reference stations (RSW-001 and RSW-001a) in Sycamore Creek. Monitoring for parameters listed in Table F-19 are therefore discontinued at the former San Diego River Station No. 1 and No. 2. Monitoring for Table F-19 parameters is re-established in Sycamore Creek locations RSW-001 and RSW-001a, as described in Tables E-1 (Attachment E, Section II) and E-6a (Attachment E, Section VIII.A.1 of the MRP. This change does not apply to constituents that are not listed in Table F-19, as monitoring for these constituents addresses more widespread salinity and nutrient issues.

Table F-19. Monitoring Requirements Moved From Former Station Nos. 1 and 2 to RSW-001 and RSW-001a

Parameter	Attachment E (MRP References)
Priority Pollutants	VIII, Table E-6a
Total Organic Carbon	VIII, Table E-6a

Total Hardness	VIII, Table E-6a
Sulfate	VIII, Table E-6a
Iron, Total Recoverable	VIII, Table E-6a
Chloride	VIII, Table E-6a
Manganese, Total Recoverable	VIII, Table E-6a
Methylene Blue Active Substances	VIII, Table E-6a
Boron	VIII, Table E-7a
Acute Toxicity	V, Table E-5b, VIII, Table E-6a
Chronic Toxicity	V, Table E-5b, VIII, Table E-6a
Benthic macroinvertebrates	IX.A.1, (See also, Fact Sheet Section VI.D.g)
Periphyton (See Fact Sheet Section VI.D.i)	IX.A.2 (See also, Fact Sheet Section VI.D.i)

b. Elimination of Station No. 7 (Mission Ponds)

Order No. R9-2003-0179 required monitoring for several parameters at Mission Ponds (formerly Station No. 7) to assess the impacts of effluent on downstream beneficial uses. The Mission Ponds location is approximately 9 river miles downstream of the discharge point. Various land use occurs between the location of the discharge and the Mission Ponds location that may affect the chemical and biological composition of the San Diego River. Impacts from the Discharger cannot accurately be assessed at this location because of the distance and multitude of potential contaminant sources. As a result, this Order discontinues monitoring requirements at Mission Ponds, Station No. 7.

c. Bacteria

Order No. R9-2003-0179 required receiving water monitoring for bacteria including total coliform, fecal coliform, and E. coliform. The Regional Water Board adopted a TMDL and WLA for fecal coliform under Order No. R9-2007-044, establishing a WLA based on the discharger’s existing limitations in Order No. R9-2003-0179. Because of the water quality concerns associated with fecal coliform, the monitoring requirements in the receiving water are carried forth to this Order and are established at Receiving Water Monitoring Stations RSW-001, RSW-002, RSW-003, RSW-004, RSW-005, and RSW-006.

d. Boron, MBAS, and Sulfate

Order No. R9-2003-0179 required quarterly receiving water monitoring for boron, MBAS, and sulfate. Based on data collected from 2004 through 2007, there was no reasonable potential for the discharge to cause an exceedance of WQOs for these constituents. The effluent limitations are not retained for this Order. This Order reduces the frequency of receiving water monitoring for boron, fluoride, and sulfate to 1/year, as this will provide adequate data to evaluate the potential to exceed WQOs.

e. Monitoring Station No. RSW-001a

Order No. R9-2003-0179 required monitoring for several parameters at the location in Sycamore Creek approximately 1 mile downstream from the discharge from Lake No. 1 (formerly Station No. 4). Within this stretch, the receiving water passes through a golf course, a potential contributor of nutrients. In order to more clearly establish the downstream impacts due to the discharge, this location is discontinued and monitoring is relocated at RSW-001a, approximately $\frac{3}{4}$ mile upstream. The new location is approximately 400 to 1,000 yards downstream from the discharge from Discharge Point No. 001.

f. Benthic Monitoring

As established in Order No. R9-2003-0179, the Discharger was required to conduct benthic macroinvertebrate analyses at Station No. 1 (Carlton Hills Blvd.) and Station No. 6 (Old Mission Dam) in the San Diego River. Station No. 6 is approximately 2.5 miles downstream of the discharge. The influence of the discharge at this location is minimal due to dilution and the potential for a wide variety downstream constituents and processes to affect benthic health. The downstream station RSW-001a is a more suitable location because it is closer to the discharge. In order to maintain consistency with previous benthic monitoring of stream segments versus pond, benthic samples shall be collected in Sycamore Creek at RSW-001a. The precise sampling locations shall be downstream of the discharge and within $\frac{1}{2}$ mile upstream or downstream of the chemical sampling location, at a reach with five riffles or runs. If necessary, reaches with 3-4 riffles will be acceptable.

g. Fish Tissue Monitoring

Order No. R9-2003-0179 contained a requirement to analyze fish tissue in Lake No. 7. When compared to available criteria these data do not suggest human health concerns, however, criteria have not yet been developed for some constituents. In order to further monitor potential human health effects from the discharge, this Order retains the requirement for fish tissue monitoring, which may be collected from any of the seven Santee Lakes. Fish tissue from RSW-001a is also required since the results, combined with benthic monitoring, will give a strong indication of the health of the receiving water body (See Attachment E, Section IX.A.3).

h. Periphyton

As established in Order No. R9-2003-0179, the Discharger was required to conduct periphyton monitoring at Station No. 1 (Carlton Hills Blvd.) and Station No. 6 (Old Mission Dam) in the San Diego River. Station No. 6 is approximately 2.5 miles downstream of the discharge. The influence of the discharge at this location is minimal due to dilution and the potential for a wide variety downstream constituents and processes to affect benthic health. The downstream station RSW-001a is a more suitable location because it is closer to the discharge. Monitoring requirements for periphyton are carried over from

the previous order to continue monitoring for potential biostimulatory effects downstream of the discharge, however, the location is changed to RSW-001 and RSW-001a in Sycamore Creek.

2. Groundwater– Not Applicable

E. Other Monitoring Requirements

1. Regional Monitoring

The Discharger is required to participate in regional monitoring activities coordinated by the Southern California Coastal Water Project (SCCWRP). The procedures for Executive Officer and USEPA approval shall be the same as detailed above for the strategic process studies. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The Discharger has participated in regional monitoring efforts in 2003 and is participating in the regional monitoring effort for 2008.

3. Solids Monitoring – Not Applicable

4. Sanitary Sewer Overflow– Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Special Provisions

1. Reopener Provisions

- a. Order No. R9-2009-0037 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 Regional 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 Regional Water Board, including revisions to the Basin Plan.
- b. This Order established mass-based effluent limitations for nitrogen and phosphorus based on an alternative method to demonstrate conformance with Basin Plan Objectives as specified on pages 4-41 and 4-42 of the Basin Plan. Since information collected during this permit term may indicate the discharge may cause impairment of beneficial uses, a reopener (Provision VI.C.I) allows for concentration-based limitations of nitrogen and phosphorus to be added to the Order to protect beneficial uses.
- c. This Order requires the Discharger prepare a pollution prevention plan following CWC Section 13263.3(d)(3) for bis(2-ethylhexyl) phthalate. This reopener provision allows the Regional Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for this constituents based on a review of the pollution prevention plan.

2. Special Studies and Additional Monitoring Requirements

a. Whole Effluent Toxicity (WET)

- i. **Chronic Toxicity.** WQOs on page 3-29 of the Basin Plan states “All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.” Order R9-2003-0179 contained chronic toxicity monitoring requirements with trigger conditions for accelerated monitoring, TRE, and TIE studies. In addition, reasonable potential has been carried over from the previous Order for chronic toxicity as discussed in Section IV.C.6 of the Fact Sheet. This Order retains the chronic toxicity narrative limitation as Discharge Prohibition III.H. and retains monitoring requirements.
- ii. **Acute Toxicity.** The Basin Plan specifies for the toxicity objective discussed above that “survival of aquatic life in surface waters subjected to a waste discharge, shall not be less than that for the same water body in areas unaffected by the discharge...” and that effluent limitations based upon acute biosassays of effluent will be prescribed where appropriate. As

discussed in Section V.C.6, the discharge exhibited reasonable potential for chronic toxicity, thus reasonable potential exists for acute toxicity. This Order incorporates acute toxicity monitoring of effluent to comply with this new limitation.

Provision F.23 of Order No. R9-2003-0179 required the Discharger to submit to the Regional Water Board a Toxicity Reduction Evaluation (TRE) workplan if toxicity testing demonstrated consistent violations of the chronic toxicity limitation. This Order requires the Discharger to maintain an up-to-date 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 effluent limitations for chronic toxicity (1 TUc) or acute toxicity (min 70% survival in one bioassay, 90% survival in 3 bioassays) is exceeded.

The Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TIE) requirements established in Order No. R9-2003-0179 are carried over. If the toxicity effluent limitation 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 effluent limitation is exceeded in any of these six additional tests, then the Discharger shall notify the Executive Officer and Director. If the Executive Officer and Director determine that the discharge consistently exceeds a toxicity effluent limitation, 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). If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing.

b. Watercourse Monitoring and Management Plan Update.

As a condition of demonstrating alternative conformance to Basin Plan objectives for nitrogen and phosphorus, the Discharger is required to provide updated information for the WMMP. Specific requirements of the WMMP are specified on pages 4-41 through 4-42 of the Basin Plan. While the current monitoring and reporting program addresses most of the monitoring components of the plan, current information regarding data and corrective actions (fourth and fifth bulleted items on page 4-41 in the Basin Plan) is necessary. The specific items to update are as follows:

- i. "A procedure for evaluating the data collected under items (1), (2), and (3) above⁶ and determining the potential for nutrient related problems that may impact beneficial uses," and

⁶ Items referenced include 3 bulleted paragraphs on page 4-42 describing parameters for which monitoring is addressed through the monitoring and evaluation plan of this Order (Attachment E).

- ii. “Development and implementation of preventive and corrective actions that will ensure that a discharge containing nutrients will not adversely impact beneficial uses.”
 - (a) Achievement of more stringent effluent limitations for nutrient constituents discharged to the watercourse, through additional chemical treatment methods at the treatment facility, to further reduce nutrient loading to the river,
 - (b) Maintenance of minimum reclaimed water flows discharged to the watercourse to prevent stagnant areas subject to nutrient related problems and to maintain the aquatic and riparian habitat beneficial uses that have been enhanced and/or created by such a discharge,
 - (c) Effective measures for the instream chemical treatment of surface waters to prevent nutrient and stagnant water related nuisance problems that can adversely impact aquatic habitat beneficial uses, where this instream treatment will not adversely impact beneficial uses,
 - (d) Effective measures for the physical management of the watercourse channel and vegetation, and
 - (e) Effective source control measures to reduce the amount of nutrient constituents in the reclaimed water

Requirements to Update the Watercourse Monitoring and Management Plan are incorporated into Section VI.C.2.c of this Order.

c. Data Collection for WMMP Update.

Order No. R9-2003-0179 established nitrogen and phosphorus limitations, specifying an alternative conformance determination based on 12-month average Mass Emissions Ratios. One of the conditions for the alternative conformance determination was the development and implementation of a watercourse monitoring and management plan. The purpose of the watercourse monitoring and management plan is to collect receiving water chemical, physical, and biological data necessary to measure any impacts to beneficial uses. The Basin Plan specifies several parameters that the program shall target for data collection. The monitoring and evaluation plan in Order R9-2003-0179 includes many of the parameters specified in the Basin Plan on page 4-42, however, current data on the following parameters was not included in Order R9-2005-0179 and must be addressed:

- i. Chemical Monitoring:
 - (a) Diurnal oxygen profiles and BOD₅
- ii. Physical and Biological Monitoring.

- (a) Diurnal and vertical temperature profiles;
 - (b) The diversity and numbers of macroinvertebrates and fish;
 - (c) The dynamics of the aquatic flora (macroalgae, phytoplankton, and emergent vegetation) and the related dissolved oxygen regime, substrate composition;
 - (d) Frequency of nuisance conditions,
 - (e) Flow rate; and other appropriate constituents and properties which may contribute to nutrient related problems and impact beneficial uses.
- d. Treatment Optimization Study.** As discussed in the Fact Sheet Section IV.C.3.b, this Order carries forward the allowance for an alternative method of demonstrating conformance with the Basin Plan WQOs for nutrients. Based on a review of effluent and water quality data, the discharge is not expected to further degrade water quality in Sycamore Creek or the San Diego River prior to development of the TMDL for phosphorus and dissolved oxygen. In anticipation of the TMDL, the Discharger shall be required to investigate and identify methods that PDWRF can take to reduce effluent concentrations of nitrogen and phosphorus to levels equal to the Basin Plan WQOs of 1.0 mg/L and 0.1 mg/L, respectively. These efforts shall be documented in a Treatment Optimization Study report to be submitted to the Regional Water Board. Requirements for the Treatment Optimization Study are incorporated as VI.C.2.e of this Order.
- e. Pollution Prevention Plan for Bis(2-ethylhexyl) phthalate.** As discussed in the fact sheet Section IV.C.3, the discharge demonstrated reasonable potential to exceed the CTR water quality criteria for bis (2 ethylhexyl) phthalate. As a result, this Order includes an AMEL and MDEL for this constituent, based on the CTR criterion for the protection of human health (see Attachment F, Table F-8 for WQBEL calculations). Effluent monitoring data from the period of 2003 through 2007 includes results that are greater than the AMELs and MDELs established in this Order. Under CWC Section 13263.3(d)(3) a pollution prevention plan may be required when the Regional Water Board determines that pollution prevention is necessary to achieve a WQO; therefore, as part of the compliance schedule for bis (2 ethylhexyl) phthalate, the Discharger shall develop a pollution prevention program in compliance with CWC Section 13263.3(d)(3).
- 3. Best Management Practices and Pollution Prevention – Not Applicable**
- 4. Construction, Operation, and Maintenance Specifications – Not Applicable**
- 5. Special Provisions for Municipal Facilities (POTWs Only)**
- a. Biosolids.** 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, CCR, Division 2, Subdivision 1, Section 20005 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 has been included in this Order.

- b. 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 one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, Section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

6. Other Special Provisions– Not Applicable

7. Compliance Schedules

The Discharger submitted a request, and justification (dated January 6, 2009, for a compliance schedule. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. This Order establishes a compliance schedule for the new, final, water quality-based effluent limitations for bis(2-ethylhexyl phthalate) and requires full compliance by May 18, 2010.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the Padre Dam Municipal Water District, Padre Dam Water Recycling Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the San Diego Union Tribune on March 2, 2009.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on April 1, 2009.

C. Public Hearing

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

Date: April 8, 2009
Time: 9:00 a.m.
Location: San Diego Regional Water Quality Control Board
9174 Sky Park Court
Suite 100
San Diego, CA 92123

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

Please be aware that dates and venues may change. Our Web address is <http://www.swrcb.ca.gov/rwqcb9>, where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street

Sacramento, CA 95812-0100

E. Information and Copying

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

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Melissa Valdovinos at (858) 467-2724.