

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

2375 Northside Drive, Suite 100, San Diego, CA 92108
(619) 516-1990 • Fax (619) 516-1994
<http://www.waterboards.ca.gov/sandiego>

**ORDER R9-2015-0026
NPDES NO. CA0108944**

**WASTE DISCHARGE REQUIREMENTS
FOR THE CITY OF ESCONDIDO,
HALE AVENUE RESOURCE RECOVERY FACILITY,
INTERMITTENT WET WEATHER DISCHARGE TO ESCONDIDO CREEK,
SAN DIEGO COUNTY**

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger	City of Escondido
Name of Facility	Hale Avenue Resource Recovery Facility
Facility Address	1521 S. Hale Avenue
	City of Escondido, CA 92029
	San Diego County

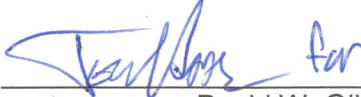
Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Tertiary Effluent	33° 06' 22"	117° 07' 01"	Escondido Creek

Table 3. Administrative Information

This Order was adopted on:	June 24, 2015
This Order shall become effective on:	August 1, 2015
This Order shall expire on:	July 31, 2020
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	180 days prior to the Order expiration date
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region have classified this discharge as follows:	Major discharge

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Diego Region, on the date indicated above.



David W. Gibson, Executive Officer

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I. FACILITY INFORMATION

Information describing the Hale Avenue Resource Recovery Facility (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

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

- A. Legal Authorities.** This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (Water Code; commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.
- B. Background and Rationale for Requirements.** The San Diego Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provision in subsection VI.A.2.a. is included to implement state law only. This provision is not required or authorized under the CWA; consequently, violations of this provision are not subject to the enforcement remedies that are available for NPDES violations.
- D. Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under Water Code section 13223 or this Order explicitly states otherwise.
- E. Notification of Interested Parties.** The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- F. Consideration of Public Comment.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the public hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order No. R9-2003-0394 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of the previous Order. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Discharger shall comply with the analogous portions of the previous Order, which shall remain in effect for all purposes during the pendency of the stay.

III. DISCHARGE PROHIBITIONS

- A. All discharges regulated under this Order shall comply with waste discharge prohibitions contained in the San Diego Water Board's Water Quality Control Plan for the San Diego Basin (Basin Plan) and other applicable statewide water quality control plans described in Attachment F of this Order. All such prohibitions are hereby incorporated in this Order by reference as if fully set forth herein. The Basin Plan waste discharge prohibitions are listed in Attachment G to this Order.
- B. Discharges of wastes in a manner or to a location which have not been specifically authorized by this Order and for which valid WDRs are not in force are prohibited.
- C. The discharge shall not exceed 3.2, 4.0, 4.8, 5.6, and 6.4 MGD in the calendar years 2015-2016, 2017, 2018, 2019, and 2020 respectively and shall only consist of disinfected tertiary treated wastewater. The point of discharge shall only be at Discharge Point No. 001, as described in the Findings of this Order. For discharges to Discharge Point No. 001, the Discharger shall provide a written submission to the San Diego Water Board, prior to discharge, the reasons and supporting documentation for the necessity to discharge at this point. The discharge shall only commence when approval has been obtained from the San Diego Water Board.
- D. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.
- E. The monthly average effluent dry weather discharge flow rate from the Facility shall not exceed the design capacity.
- F. The Discharger shall not cause degradation of any water supply, except as consistent with State Water Board Resolution No. 68-16.
- G. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance conditions as defined in section 13050, subdivision (l) and (m) of the Water Code.
- H. The discharge of treated wastewater is prohibited from May 1 to October 31 unless authorized in writing by the San Diego Water upon the Discharger's demonstration of necessity under emergency conditions and compliance with the conditions stated in section III.Q of this Order,.
- I. The discharge of oil, trash, or other solids directly to surface waters, or in any manner which may permit it to be washed into Escondido Creek and/or its tributaries, is prohibited.
- J. The discharge of municipal and industrial waste sludge and untreated sludge digester supernatant, centrate, or filtrate to Escondido Creek and/or its tributaries is prohibited.
- K. The deposition of rubbish or refuse into surface waters or at any place where they would be eventually transported to Escondido Creek and/or its tributaries is prohibited.
- L. The discharge of waste shall not cause surface erosion or scouring of aquatic substrates.
- M. 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 point prior to mixing with Escondido Creek waters.
- N. The discharge of wastes that cause or contribute to a noticeable odor within the receiving water is prohibited
- O. The monthly average flow of influent from the collection system to the headworks of the Facility shall not exceed the design capacity of 18 MGD.

- P. The maximum daily flow of influent from the collection system to the headworks of the Facility shall not exceed the peak design capacity of 36 MGD.
- Q. Discharges from the Facility to Escondido Creek are prohibited unless all of the following conditions have been met:
 1. The combined discharge to the San Elijo Ocean Outfall (SEOO) from the Facility, from the San Elijo Water Pollution Control Facility, from Stone Brewing Company, and from the San Diego Gas and Electric (SDG&E), Palomar Energy Center exceed the maximum capacity of the outfall, or the San Elijo Joint Powers Authority (SEJPA) has informed the Discharger that Facility discharge to the SEOO must be reduced to accommodate larger than normal wet weather outfall discharge flows.
 2. The City has implemented all other wastewater management options in the City's wet weather management plan, including maximizing use of available onsite and offsite wastewater and recycled water storage.
 3. Stream flows recorded at the County of San Diego's stream gauging station located approximately 100 yards upstream of the Facility, exceed an average flow of 300 cubic feet per second during the discharge and are not below 100 cubic feet per second at any time during the discharge.
 4. The mouth of the San Elijo Lagoon is open or the San Diego Water Board approves otherwise.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP), Attachment E:

Table 4. Effluent Limitations for Discharge Point No. 001

Parameter	Units ¹	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous	
					Minimum	Maximum
Carbonaceous Biochemical Oxygen Demand 5-day @ 20°C (CBOD ₅)	mg/L	25	40	45	--	--
	lbs/day	1,334	2,135	2,402	--	--
Total Suspended Solids (TSS)	mg/L	30	45	50	--	--
	lbs/day	1,601	2,402	2,669	--	--
pH	standard units	--	--	--	6.5	8.5
Cyanide, Total	µg/L	47	--	95	--	--
	lbs/day	2.5	--	5.1	--	--
Chlorodibromomethane	µg/L	4.4	--	8.9	--	--
	lbs/day	0.23	--	0.48	--	--
Dichlorobromomethane	µg/L	0.56	--	1.7	--	--

Parameter	Units ¹	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous	
					Minimum	Maximum
	lbs/day	0.03	--	0.09	--	--
Bis(2-ethylhexyl)phthalate	µg/L	11	--	24	--	--
	lbs/day	0.59	--	1.28	--	--
N-Nitrosodimethylamine	µg/L	0.0077	--	0.015	--	--
	lbs/day	0.0004	--	0.0008	--	--
alpha-BHC (Alpha-Hexachlorocyclohexane)	µg/L	0.043	--	0.087	--	--
	lbs/day	0.0023	--	0.0046	--	--
Aluminum	mg/L	--	--	2.2	--	--
	lbs/day	--	--	120	--	--
Trihalomethanes, Total	µg/L	--	--	1.1	--	--
	lbs/day	--	--	0.059	--	--
Nitrite (as N)	mg/L	--	--	8.1	--	--
	lbs/day	--	--	432.3	--	--
Ammonia, Un-ionized (NH ₃)	mg/L	--	--	0.025	--	--
	lbs/day	--	--	1.3	--	--
Color	units	--	--	20	--	--
Phosphorus, Total	mg/L	--	--	0.1	--	--
	lbs/day	--	--	5.3	--	--
Nitrogen, Total	mg/L	--	--	1	--	--
	lbs/day	--	--	53	--	--
Total Dissolved Solids (TDS)	mg/L	--	--	500	--	--
	lbs/day	--	--	26,688	--	--
Sulfate	mg/L	--	--	250	--	--
	lbs/day	--	--	13,344	--	--
Phenolic Compounds	µg/L	--	--	1	--	--
	lbs/day	--	--	0.053	--	--
Chronic Toxicity	Pass/Fail, % Effect (Test of Significant Toxicity)	Pass ²	--	Pass or % effect <50 ³	--	--
Manganese	mg/L	0.05	--	--	--	--
	lbs/day	3.8	--	--	--	--
Total Residual Chlorine (TRC)	ug/L	9.0	--	18.0	--	--
	lbs/day	0.68	--	1.4	--	--

¹ The Mass Emission Rate (MER) limits in this Order were calculated using a flow rate of 6.4 MGD and the indicated concentration values. When the discharge flowrate is lower than 6.4 MGD, the MER limits shall be correspondingly lower.

² The Median Monthly Effluent Limitation for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail".

³ As specified in the Compliance Determination section VII.N of this Order.

- b. **Percent Removal:** The average monthly percent removal of CBOD₅ 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/100mL) as a 7-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.

2. Performance Goals – Discharge Point No. 001

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

Table 5. Performance Goals at Discharge Point No. 001

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
BASED ON BASIN PLAN OBJECTIVES				
Radioactivity, Gross Alpha	pCi/L	--	150	--
Radioactivity, Gross Beta	pCi/L	--	50	--
Radium 226 and 228	pCi/L	--	5	--
Chloride	mg/L	--	2,800	--
	lbs/day	--	149,453	--
Iron, Total Recoverable	mg/L	--	3.3	--
	lbs/day	--	176	--
Methylene Blue Active Substances	mg/L	--	5.5	--
	lbs/day	--	294	--
Methyl Tert-Butyl Ether	mg/L	--	0.056	--
	lbs/day	--	3.0	--
Boron	mg/L	--	8.3	--
	lbs/day	--	443	--
Fluoride	mg/L	--	11	--
	lbs/day	--	587	--
Percent Sodium	%	--	60	--
Color	Units	--	20	--
Dissolved Oxygen	mg/L	--	6.0 ²	--
Barium	mg/L	--	11	--
Nitrate	mg/L	--	410	--
	lbs/day	--	21,884	--

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	--	0.78	--
	lbs/day	--	42	--
Alachor	mg/L	--	0.022	--
	lbs/day	--	1.2	--
Atrazine	mg/L	--	0.011	--
	lbs/day	--	0.59	--
Bentazon	mg/L	--	0.2	--
	lbs/day	--	11	--
Carbofuran	mg/L	--	0.2	--
	lbs/day	--	11	--
cis-1,2-Dichloroethylene	mg/L	--	0.067	--
	lbs/day	--	4	--
Dalapon	mg/L	--	2.2	--
	lbs/day	--	117	--
Di(2-ethylhexyl)adipate	mg/L	--	4.4	--
	lbs/day	--	235	--
Di(2-ethylhexyl)phthalate	mg/L	--	0.044	--
	lbs/day	--	2.3	--
Dibromochloropropane (DBCP)	mg/L	--	0.0011	--
	lbs/day	--	0.059	--
Dinoseb	mg/L	--	0.078	--
	lbs/day	--	4.2	--
Diquat	mg/L	--	0.22	--
	lbs/day	--	12	--
Endothall	mg/L	--	1.1	--
	lbs/day	--	59	--
Ethylene Dibromide (EDB)	mg/L	--	0.00022	--
	lbs/day	--	0.012	--
Glyphosate	mg/L	--	7.8	--
	lbs/day	--	416	--
Methoxychlor	mg/L	--	0.33	--
	lbs/day	--	18	--
Molinate	mg/L	--	0.22	--
	lbs/day	--	12	--
Monochlorobenzene	mg/L	--	0.33	--
	lbs/day	--	18	--
Oxamyl	mg/L	--	0.56	--
	lbs/day	--	30	--
Picloram	mg/L	--	5.6	--
	lbs/day	--	299	--
Simazine	mg/L	--	0.044	--
	lbs/day	--	2.3	--
Styrene	mg/L	--	1.1	--
	lbs/day	--	59	--
Trichlorofluoromethane	mg/L	--	1.7	--
	lbs/day	--	91	--
Xylenes	mg/L	--	19	--
	lbs/day	--	1,014	--

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
Nitrate + Nitrite (sum as nitrogen)	mg/L	--	110	--
	lbs/day	--	5,871	--
Thiobencarb	mg/L	0.011	--	--
	lbs/day	0.59	--	--
BASED ON CTR AND NTR STANDARDS				
Antimony, Total Recoverable	ug/L	67	130	--
	lbs/day	4	7	--
Arsenic, Total Recoverable	ug/L	110	220	--
	lbs/day	5.9	12	--
Beryllium, Total Recoverable	ug/L	44	89	--
	lbs/day	2.3	4.8	--
Cadmium, Total Recoverable	ug/L	66	130	--
	lbs/day	4	7	--
Chromium (III) , Total Recoverable	ug/L	5,800	12,000	--
	lbs/day	310	641	--
Chromium (VI) , Total Recoverable	ug/L	90	180	--
	lbs/day	4.8	10	--
Chromium (Total) , Total Recoverable	ug/L	560	1,100	--
	lbs/day	30	59	--
Copper, Total Recoverable	ug/L	280	560	--
	lbs/day	15	30	--
Lead, Total Recoverable	ug/L	170	340	--
	lbs/day	9	18	--
Mercury, Total Recoverable	ug/L	0.56	1.1	--
	lbs/day	0.030	0.059	--
Nickel, Total Recoverable	ug/L	1,500	3,100	--
	lbs/day	80	165	--
Selenium, Total Recoverable	ug/L	4.1	8.2	--
	lbs/day	0.22	0.44	--
Silver, Total Recoverable	ug/L	240	490	--
	lbs/day	13	26	--
Thallium, Total Recoverable	ug/L	19	38	--
	lbs/day	1.0	2.0	--
Zinc, Total Recoverable	ug/L	2,100	4,300	--
	lbs/day	112	230	--
Asbestos	ug/L	78,000,000	160,000,000	--
	lbs/day	4,163,328	8,540,160	--
2,3,7,8-TCDD	ug/L	0.0000014	0.0000029	--
	lbs/day	0.0000001	0.0000002	--
Acrolein	ug/L	3,000	7,100	--
	lbs/day	160	379	--
Acrylonitrile	ug/L	0.65	1.3	--
	lbs/day	0.035	0.1	--
Benzene	ug/L	11	22	--
	lbs/day	0.59	1.2	--
Bromoform	ug/L	48	96	--
	lbs/day	2.6	5.1	--
Carbon Tetrachloride	ug/L	2.8	5.6	--

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
Chlorobenzene	lbs/day	0.15	0.30	--
	ug/L	780	1,600	--
1,1-Dichloroethane	lbs/day	42	85	--
	ug/L	56	110	--
1,2-Dichloroethane	lbs/day	3.0	5.9	--
	ug/L	4.2	8.5	--
1,1-Dichloroethylene	lbs/day	0	0	--
	ug/L	0.6	1.3	--
1,2-Dichloropropane	lbs/day	0.31	0.64	--
	ug/L	5.8	12	--
1,3-Dichloropropylene	lbs/day	0.30	0.59	--
	ug/L	5.6	11	--
Ethylbenzene	lbs/day	176	358	--
	ug/L	3,300	6,700	--
Methyl Bromide	lbs/day	28	59	--
	ug/L	530	1,100	--
Methylene Chloride (Dichloromethane)	lbs/day	2.8	5.9	--
	ug/L	52	110	--
1,1,2,2-Tetrachloroethane	lbs/day	0.10	0.20	--
	ug/L	1.9	3.8	--
Tetrachloroethylene	lbs/day	0.48	1.0	--
	ug/L	8.9	18	--
Toluene	lbs/day	91	176	--
	ug/L	1,700	3,300	--
1,2-Trans-Dichloroethylene	lbs/day	5.9	12	--
	ug/L	110	220	--
1,1,1-Trichloroethane	lbs/day	117	240	--
	ug/L	2,200	4,500	--
1,1,2-Trichloroethane	lbs/day	0.4	1	--
	ug/L	6.7	13	--
Trichloroethylene	lbs/day	1.6	3.2	--
	ug/L	30	60	--
Chlorophenol	lbs/day	69	144	--
	ug/L	1,300	2,700	--
2,4-Dichlorophenol	lbs/day	53	112	--
	ug/L	1,000	2,100	--
2,4-Dimethylphenol	lbs/day	320	641	--
	ug/L	6,000	12,000	--
2-Methyl-4,6-Dinitrophenol	lbs/day	8	16	--
	ug/L	150	300	--
2,4-Dinitrophenol	lbs/day	42	85	--
	ug/L	780	1,600	--
Pentachlorophenol	lbs/day	0.17	0.33	--
	ug/L	3.1	6.2	--
Phenol	lbs/day	12,276	25,087	--
	ug/L	230,000	470,000	--
2,4,6-Trichlorophenol	ug/L	23	47	--

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
	lbs/day	1.2	2.5	--
Acenaphthene	ug/L	13,000	27,000	--
	lbs/day	694	1,441	--
Anthracene	ug/L	110,000	210,000	--
	lbs/day	5,871	11,209	--
Benzidine	ug/L	0.0013	0.0027	--
	lbs/day	0.0001	0.0001	--
Benzo(a)Anthracene	ug/L	0.049	0.098	--
	lbs/day	0.0026	0.0052	--
Benzo(a)Pyrene	ug/L	0.049	0.098	--
	lbs/day	0.0026	0.0052	--
Benzo(b)Fluoranthene	ug/L	0.049	0.098	--
	lbs/day	0.0026	0.0052	--
Benzo(k)Fluoranthene	ug/L	0.049	0.098	--
	lbs/day	0.0026	0.0052	--
Bis(2-Chloroethyl)Ether	ug/L	0.34	0.69	--
	lbs/day	0.018	0.037	--
Bis(2-Chloroisopropyl)Ether	ug/L	16,000	31,000	--
	lbs/day	854	1,655	--
Butylbenzyl Phthalate	ug/L	33,000	67,000	--
	lbs/day	1,761	3,576	--
2-Chloronaphthalene	ug/L	19,000	38,000	--
	lbs/day	1,014	2,028	--
Chrysene	ug/L	0.049	0.1	--
	lbs/day	0.0026	0.0053	--
Dibenzo(a,h)Anthracene	ug/L	0.049	0.1	--
	lbs/day	0.0026	0.0053	--
1,2-Dichlorobenzene	ug/L	6,700	13,000	--
	lbs/day	358	694	--
1,3-Dichlorobenzene	ug/L	4,400	8,900	--
	lbs/day	235	475	--
1,4-Dichlorobenzene	ug/L	56	110	--
	lbs/day	3.0	5.9	--
3,3'-Dichlorobenzidine	ug/L	0.44	0.89	--
	lbs/day	0.023	0.048	--
Diethyl Phthalate	ug/L	260,000	510,000	--
	lbs/day	13,878	27,222	--
Dimethyl Phthalate	ug/L	3,500,000	7,000,000	--
	lbs/day	186,816	373,632	--
Di-n-Butyl Phthalate	ug/L	30,000	60,000	--
	lbs/day	1,601	3,203	--
2,4-Dinitrotoluene	ug/L	1.2	2.5	--
	lbs/day	0.06	0.13	--
1,2-Diphenylhydrazine	ug/L	0.44	0.89	--
	lbs/day	0.023	0.048	--
Fluoranthene	ug/L	3,300	6,700	--
	lbs/day	176	358	--
Fluorene	ug/L	14,000	29,000	--

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
	lbs/day	747	1,548	--
Hexachlorobenzene	ug/L	0.008	0.017	--
	lbs/day	0.00043	0.0009	--
Hexachlorobutadiene	ug/L	4.9	10	--
	lbs/day	0.26	0.53	--
Hexachlorocyclopentadiene	ug/L	560	1,100	--
	lbs/day	30	59	--
Hexachloroethane	ug/L	21	42	--
	lbs/day	1.1	2.2	--
Indeno(1,2,3-cd) Pyrene	ug/L	0.049	0.1	--
	lbs/day	0.0026	0.0053	--
Isophorone	ug/L	93	190	--
	lbs/day	5	10	--
Nitrobenzene	ug/L	190	380	--
	lbs/day	10	20	--
N-Nitrosodi-n-Propylamine	ug/L	0.056	0.11	--
	lbs/day	0.0030	0.0059	--
N-Nitrosodiphenylamine	ug/L	56	110	--
	lbs/day	3.0	5.9	--
Pyrene	ug/L	11,000	21,000	--
	lbs/day	587	1,121	--
1,2,4-Trichlorobenzene	ug/L	56	110	--
	lbs/day	3.0	5.9	--
Aldrin	ug/L	0.0014	0.0029	--
	lbs/day	0.00007	0.00015	--
beta-BHC	ug/L	0.16	0.31	--
	lbs/day	0.009	0.017	--
gamma-BHC (Lindane)	ug/L	0.21	0.42	--
	lbs/day	0.011	0.022	--
Chlordane	ug/L	0.0063	0.013	--
	lbs/day	0.00034	0.001	--
4,4-DDT	ug/L	0.00082	0.0016	--
	lbs/day	0.000044	0.00009	--
4,4-DDE	ug/L	0.0065	0.013	--
	lbs/day	0.00035	0.001	--
4,4-DDD	ug/L	0.0092	0.019	--
	lbs/day	0.0005	0.0010	--
Dieldrin	ug/L	0.0016	0.0031	--
	lbs/day	0.00009	0.00017	--
alpha-Endosulfan	ug/L	0.51	1	--
	lbs/day	0.027	0.053	--
beta-Endosulfan	ug/L	0.51	1	--
	lbs/day	0.027	0.053	--
Endosulfan Sulfate	ug/L	1,200	2,500	--
	lbs/day	64	133	--
Endrin	ug/L	0.33	0.65	--
	lbs/day	0.018	0.035	--
Endrin Aldehyde	ug/L	8.4	17	--

Parameter	Performance Goals			
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum
	lbs/day	0.45	0.9	--
Heptachlor	ug/L	0.0023	0.0047	--
	lbs/day	0.00012	0.00025	--
Heptchlor Epoxide	ug/L	0.0011	0.0022	--
	lbs/day	0.00006	0.00012	--
PCBs sum	ug/L	0.0019	0.0038	--
	lbs/day	0.00010	0.00020	--
Toxaphene	ug/L	0.0018	0.0036	--
	lbs/day	0.00010	0.00019	--

¹ The Mass Emission Rate (MER) performance goals in this Order were calculated using a flow rate of 6.4 MGD and the indicated concentration values. When the discharge flowrate is lower than 6.4 MGD, the MER limits shall be correspondingly lower.

² Applied as a daily minimum.

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

The receiving water limitations set forth below for the waters of Escondido Creek and its tributaries are based on applicable water quality standards contained in water quality control plans and policies and federal regulations and are a required part of this Order. The discharge of waste shall not cause or contribute to violations of these receiving water limitations

A. Water Quality Objectives and Criteria

The discharge of waste shall not cause violations of water quality objectives, federal pollutant criteria or other provisions applicable to Escondido Creek and its tributaries contained in the water quality control plans, policies and federal regulations set forth below:

1. The San Diego Water Board’s Basin Plan, including beneficial uses, water quality objectives, and implementation plans;
2. State Water Board water quality control plans and policies including the:
 - a. Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan);
 - b. Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP); and
3. Priority pollutant criteria promulgated by the U.S. EPA through the:
 - c. National Toxics Rule (NTR)¹ (promulgated on December 22, 1992 and amended on May 4, 1995); and
 - d. California Toxics Rule (CTR)^{2,3}

B. Surface Water Limitations

¹ 40 CFR section 131.36

² 65 Federal Register 31682-31719 (May 18, 2000), adding section 131.38 to 40 CFR

³ If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies.

1. Bacterial Characteristics

- a. Total Coliform Organisms: Total coliform organisms concentration shall not exceed the following:
 - i. 1,000 MPN/100 mL geometric mean, based on a minimum of not less than five samples for any 30-day period; and
 - ii. 10,000 MPN/100 mL at any time.
- b. Fecal Coliform: Effluent Fecal Coliform organisms concentration shall not exceed the following:
 - i. 200 MPN/100 mL geometric mean, based on a minimum of not less than five samples for any 30-day period or one sample per discharge event; and
 - ii. 400 MPN/100 mL for more than 10 percent of the total samples during any 30-day period.
- c. Enterococci: Effluent Enterococci concentration shall not exceed the following:
 - i. 33 MPN/100 mL geometric mean, based on all samples during a 30-day period; and
 - ii. 61 MPN/100 mL at any time.

2. Chemical Characteristics

- a. The dissolved oxygen concentration shall not at any time be less than 6 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 or 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 (NH₃) 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 uses.

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 San Diego 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 San Diego Water Board.

12. Turbidity

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

C. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
 - a. The Facility shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, division 3, chapter 26 of the California Code of Regulations (CCR).
 - b. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and design

capacity re-ratings. The certification report shall be prepared by the design engineer. For design capacity re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility design capacity. 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.

- i. The certification report shall:
 - a) Identify the design capacity of the treatment facility, including the daily and 30-day design capacity;
 - b) Certify the adequacy of each component of the treatment facility; and
 - c) 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.
- ii. 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 the following have occurred:
 - a) The certification report is received by the San Diego Water Board;
 - b) The San Diego Water Board has received written notification of completion of construction (new treatment facilities and expansions only);
 - c) An inspection of the facility has been made by staff of the San Diego Water Board or their designated representatives (new treatment facilities and expansions only); and
 - d) The Executive Officer has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.
- c. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.
- d. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.
- e. This Order expires on July 31, 2020, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at Title 40, Code of Federal Regulations (CFR) section 122.6 and the state's regulations at California Code of Regulations (CCR) title 23, division 3, chapter 9, article 3, section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.
- f. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions include, but are not limited to, fish tissue sampling, whole effluent toxicity (WET) testing, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data. [Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP)]
- b. 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 water quality objectives (Basin Plan, chapter 3).
- c. This Order may be reopened for modification of the monitoring and reporting requirements and/or special studies requirements, at the discretion of the San Diego Water Board. Such modification(s) may include, but is (are) not limited to, revision(s) (i) to develop, refine, implement, and/or coordinate a regional monitoring program, (ii) to develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, *Resolution in Support of a Regional Monitoring Framework*; and/or (iii) to add provisions to require the Discharger to evaluate and provide information on cost and values of the monitoring and reporting program.
- d. 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. [Water Code section 13381(a)]
 - ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts. [Water Code section 13381(b)]
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. [Water Code section 13381(c)]
- e. 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. [40 CFR section 122.41(f)]
- f. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307 (a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition. [40 CFR section 122.44(b)(1)]
- g. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR parts 122 and 124.

- h. 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. [40 CFR section 122.63(a)(2)]
 - i. 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, 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.
 - j. This Order will be reopened and modified to revise any and all of the chronic toxicity testing provisions and effluent limitations, to the extent necessary, to be consistent with any Toxicity Plan that is subsequently adopted by the State Water Board promptly after USEPA-approval of such Plan.
- 2. Special Studies, Technical Reports and Additional Monitoring Requirements - Not Applicable** because Spill Prevention and Response Plan are already required in Order No. R9-2010-0086
- 3. Best Management Practices and Pollution Prevention**
- a. The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of WET, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
 - i. A sample result is reported as DNQ and the effluent limitation is less than the reporting level (RL); or
 - ii. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section VII.B.4 and 5.
 - b. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the San Diego Water Board:
 - i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
 - ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
 - iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
 - iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
 - v. An annual status report that shall be sent to the San Diego Water Board and containing the following information:
 - (a) All PMP monitoring results for the previous year;

- (b) A list of potential sources of the reportable priority pollutant(s);
- (c) A summary of all actions undertaken pursuant to the control strategy; and
- (d) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

The special provisions for this POTW are addressed in Order No. R9-2010-0086 NPDES No. CA0107981, Waste Discharge Requirements for the City Of Escondido, Hale Avenue Resource Recovery Facility, discharge to the Pacific Ocean via the San Elijo Ocean Outfall.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. Compliance with Average Monthly Effluent Limitation (AMEL)

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

B. Compliance with Average Weekly Effluent Limitation (AWEL)

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

C. Compliance with Maximum Daily Effluent Limitation (MDEL)

The MDEL shall apply to flow weighted 24-hour composite samples, or grab, as specified in the MRP (Attachment E). If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

D. Compliance with Instantaneous 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).

E. 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.)

F. Compliance with 12-Month Average Effluent Limitation

The 12-month average shall consist of the average of all monitoring results for a given parameter within any 12-month period. If the 12-month average of daily discharges over any 365-day period exceeds the 12-month average effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 365-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 365-day period and the analytical result for that sample exceeds the 12-month average, the Discharger will be considered out of compliance for the 365-day period. For any 365-day period during which no sample is taken, no compliance determination can be made for the 12-month average limitation.

G. 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 Minimum Level (ML).

H. 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 quantified" (DNQ), the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as "ND" or "DNQ".

I. Mass Emission Rate (MER)

The MER, in pounds per day, shall be obtained from the following calculation for any calendar day:

$$\text{MER (lbs/day)} = 8.34 \times Q \text{ (MGD)} \times C \text{ (mg/L)}$$

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.

J. Multiple Sample Date 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.

K. Percent Removal

Compliance with percent removal requirements for average monthly percent removal of CBOD₅ and TSS 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 the locations specified in the MRP (Attachment E) within a calendar month.

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

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

L. Bacterial Standards and Analysis

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

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

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

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

M. Single Operational Upset (SOU)

1. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in section I.H of Attachment D of this Order.
13. For purposes outside of Water Code sections 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).

14. For purposes of Water Code sections 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 Water Code section 13385(f)(2).

N. Chronic Toxicity

The discharge is subject to determination of “Pass” or “Fail” from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1. The null hypothesis (H_0) for the TST statistical approach is: Mean discharge IWC response $\leq 0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent Effect” at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$. This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations—in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is “Pass” or “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST statistical approach, results in “Fail” and the “Percent Effect” is ≥ 0.50 .

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of no more than three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST statistical approach, results in “Fail”. The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail”.

The chronic toxicity MDEL and MMEL are set at the IWC for the discharge (100% effluent) and expressed in units of the TST statistical approach (“Pass” or “Fail”, “Percent Effect”). All NPDES effluent compliance monitoring for the chronic toxicity MDEL and MMEL shall be reported using the 100% effluent concentration and negative control, expressed in units of the TST. The TST hypothesis (H_0) (see above) is statistically analyzed using the IWC and a negative control. Effluent toxicity tests shall be run using a multi-concentration test design when required by Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (USEPA 2002, EPA-821-R-02-013). The San Diego Board’s review of reported toxicity test results will include review of concentration-response patterns as appropriate (see Fact Sheet discussion at IV.C.5). As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the NOEC and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results. Standard Operating Procedures used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent (and receiving water) toxicity test measurement results from the TST statistical approach, including those that incorporate a consideration of concentration-response

patterns, must be submitted to the San Diego Water Board (40 CFR 122.41(h)). The San Diego Water Board will make a final determination as to whether a toxicity test result is valid, and may consult with the Discharger, USEPA, the State Water Board's Quality Assurance Officer, or the State Water Board's Environmental Laboratory Accreditation Program as needed. The Board may consider results of any Toxicity Reduction Evaluation / Toxicity Identification Evaluation (TRE/TIE) studies in an enforcement action.

ATTACHMENT A – ABBREVIATIONS AND GLOSSARY

Part 1. – Abbreviations

Abbreviation	Definition
40 CFR	Code of Federal Regulations, title 40
AMEL	Average Monthly Effluent Limitation
AWEL	Average Weekly Effluent Limitation
Basin Plan	Water Quality Control Plan for the San Diego Basin
BAT	Best Available Technology
BMPs	Best Management Practices
CBOD ₅	Carbonaceous Biochemical Oxygen Demand (5-Day at 20°C)
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFU	Colony Forming Units
CIWQS	California Integrated Water Quality System
CTR	California Toxics Rule
CV	Coefficient of Variation
CWA	Clean Water Act
DDT	Dichlorodiphenyltrichloroethane
Discharger	City of Escondido (Discharger)
DMRs	Discharge Monitoring Reports
DNQ	Detected, but Not Quantified
DO	Dissolved Oxygen
ECA	Effluent Concentration Allowance
°F	Degrees Fahrenheit
Facility	Hale Avenue Resource Recovery Facility
GPS	Global Positioning System
Ho	Null Hypothesis
HSA	Hydrologic Subareas
IWC	In-Stream Waste Concentration
lbs/day	Pounds per Day
LTA	Long-Term Average
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level
MDEL	Maximum Daily Effluent Limitation
MDL	Method Detection Limit
MEC	Maximum Effluent Concentration
MER	Mass Emission Rate
MG	Million Gallons
MGD	Million Gallons per Day
mg/L	Milligrams per Liter
ML	Minimal Level
MPN	Most Probable Number
MPN/100ml	Most Probable Number per 100 milliliters
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System

Abbreviation	Definition
MTBE	Methyl-tert-butyl-ether
ND	Not Detected
NH ₃	un-ionized ammonia
NPDES	National Pollutant Discharge Elimination System
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Unit
OAL	Office of Administrative Law
PCB	Polychlorinated Biphenyls
pCi/L	Picocuries per Liter
PMP	Pollutant Minimization Program
POTWs	Publicly-Owned Treatment Works
QA	Quality Assurance
QC	Quality Control
RL	Reporting Level
RMDs	Regulatory Management Decisions
ROWD	Report of Waste Discharge
RPA	Reasonable Potential Analysis
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SIP	State Implementation Policy
SM	Standard Methods, Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California
SMR	Self-monitoring Report
SOU	Single Operational Upset
State Implementation Plan	Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
TBELs	Technology-Based Effluent Limitations
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
TST	Test of Significant Toxicity
TUc	Chronic Toxicity Unit
µg/L	Micrograms per Liter
USEPA	U.S. Environmental Protection Agency
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA	Waste Load Allocation
WMMP	Watercourse Monitoring and Management Plan
WQBELs	Water Quality-Based Effluent Limitations
WQOs	Water Quality Objectives

Part 2. – Glossary of Common Terms

Acute Toxicity

- a. Acute Toxicity (TUa)
Expressed in Toxic Units Acute (TUa)

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

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

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

where:

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

Arithmetic Mean (μ)

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

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

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.

Chlordane

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

Chronic Toxicity

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

- a. Chronic Toxicity (TUc)
Expressed as Toxic Units Chronic (TUc)
 $TUc = 100/NOEL$
- b. No Observed Effect Level (NOEL)

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

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. Sample results reported as DNQ are estimated concentrations.

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 Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

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 40 CFR part 136, Appendix B.

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.

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 San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

PCBs (polychlorinated biphenyls)

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.

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 Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or San Diego Water Board.

Reporting Level (RL)

The 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, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board either from Appendix 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.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a San Diego 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.)

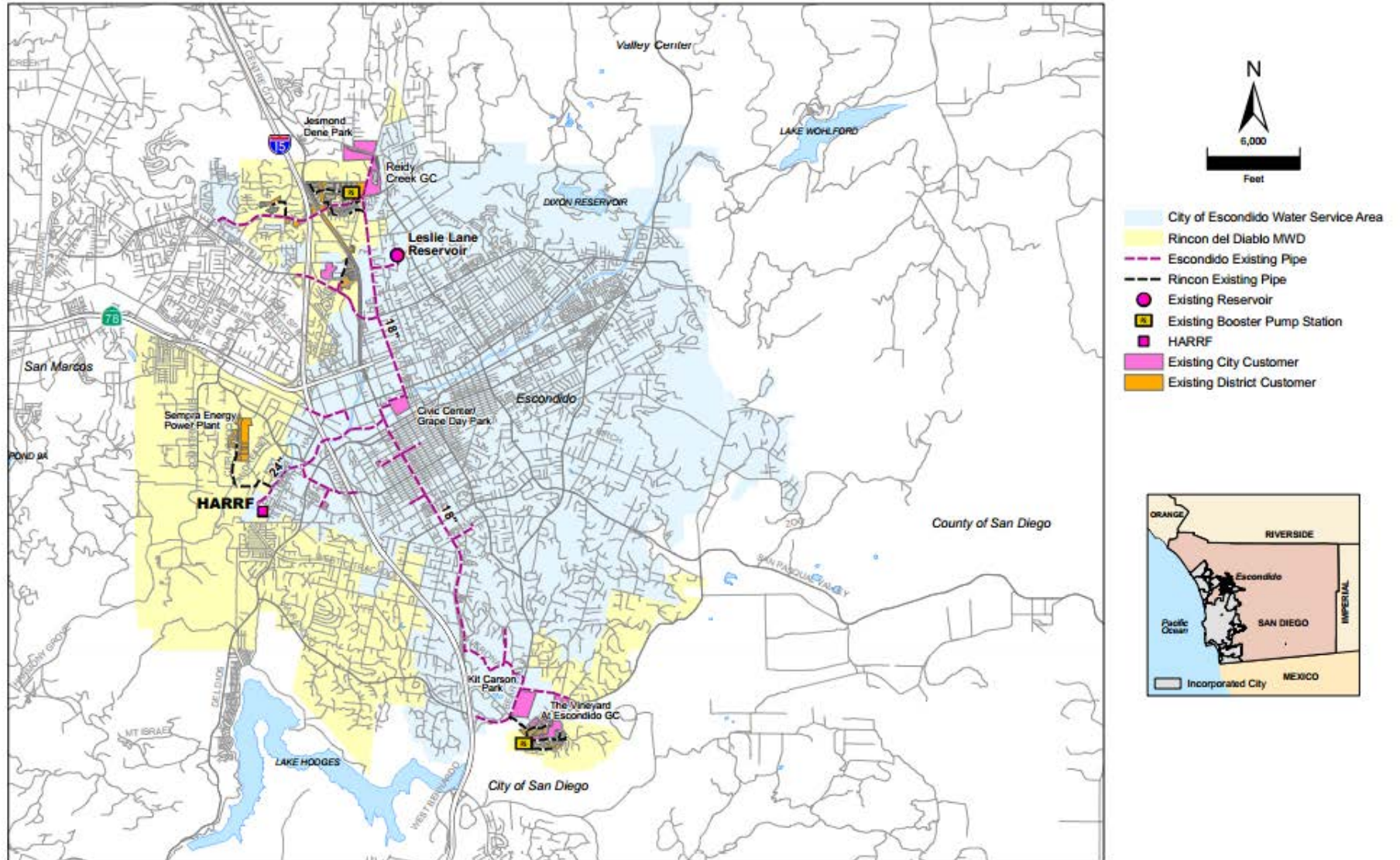
TCDD equivalents

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

ATTACHMENT B – MAP

Figure B-1. Facility Location and Existing Recycled Water Systems



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. (Title 40, Code of Federal Regulations (40 CFR) section 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR section 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR section 122.41(i); Water Code, section 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR section 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR section 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR section 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 CFR section 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR section 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR section 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR section 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR section 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR section 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the San Diego Water Boards required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR section 122.41(m)(4)(i)(C).)
4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR section 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR section 122.41(m)(3)(i).)

- b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR section 122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR section 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR section 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR section 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR section 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR section 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of

the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR section 122.41(l)(3); section 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer at any time. (40 CFR section 122.41(j)(2).)
- B.** Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 CFR section 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and
 - 6. The results of such analyses. (40 CFR section 122.41(j)(3)(vi).)
- C.** Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):
 - 1. The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and
 - 2. Permit applications and attachments, permits and effluent data. (40 CFR section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR section 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 section 122.22(a)(3).)
3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR section 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR section 122.22(b)(2)); and
 - c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR section 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR section 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR section 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR section 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR section 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR section 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR section 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR section 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B).)
3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR section 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR section 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 CFR section 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR section 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 CFR section 122.41(l)(2).)

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

The San Diego 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. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the San Diego Water Board as soon as they know or have reason to believe (40 CFR section 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(1)):
 - a. 100 micrograms per liter ($\mu\text{g/L}$) (40 CFR section 122.42(a)(1)(i));
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(1)(iii)); or
 - d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(2)):
 - a. 500 micrograms per liter ($\mu\text{g/L}$) (40 CFR section 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(2)(iii)); or
 - d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(2)(iv).)

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the San Diego Water Board of the following (40 CFR section 122.42(b)):

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of the Code of Federal Regulations, title 40 (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the San Diego Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Pursuant to this authority this Monitoring and Reporting Program (MRP) establishes conditions for the Discharger to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified influent, internal operations, effluent, and receiving water monitoring locations. The MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status.

The purpose of the MRP is to determine and ensure compliance with effluent limitations and other requirements established in this Order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. The MRP also specifies requirements concerning the proper use, maintenance, and installation of monitoring equipment and methods, and the monitoring type intervals and frequency necessary to yield data that are representative of the activities and discharges regulated under this Order.

Each monitoring section contains an introductory paragraph summarizing why the monitoring is needed and the key management questions the monitoring is designed to answer. In developing the list of key management questions the San Diego Water Board considered four basic types of information for each question:

- (1) Management Information Need – Why does the San Diego Water Board need to know the answer?
- (2) Monitoring Criteria – What monitoring will be conducted for deriving an answer to the question?
- (3) Expected Product – How should the answer be expressed and reported?
- (4) Possible Management Actions – What actions will be potentially influenced by the answer?

The framework for this monitoring program has three components that comprise a range of spatial and temporal scales: 1. core monitoring, 2. regional monitoring, and 3. special studies.

1. Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.
2. Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. In the event that a regional monitoring effort takes place during the permit cycle in which the MRP does not specifically address regional monitoring, the San Diego Water Board may allow relief from aspects of core monitoring components in order to encourage participation pursuant to section V of this MRP.
3. Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring discharge. All samples shall be taken at the monitoring points specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board. Samples shall be collected at times representative of “worst case” conditions with respect to compliance with the requirements of this Order.
- 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 the U.S. Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, or unless other test procedures are specified in this Order and/or in this MRP and/or by the San Diego Water Board.
- D.** Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control (QA/QC) data with their reports.
- E.** Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.
- F.** All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.
- G.** The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples unless otherwise specified by the San Diego Water Board. A similar frequency shall be maintained for analyzing spiked samples. The Discharger should have a success rate equal to or greater than 80 percent.
- H.** The Discharger shall ensure that the results of the Discharge Monitoring Report-QA (DMR-QA) Study is submitted annually to the State Water Resources Control Board at the following address:

State Water Resources Control Board Quality Assurance Program Officer
Office of Information Management and Analysis
State Water Resources Control Board
1001 I Street, Sacramento, CA 95814
- I.** Analysis for toxic pollutants, including chronic toxicity, with performance goals based on water quality objectives and criteria of the Basin Plan and California Toxics Rule (CTR) shall be conducted in accordance with procedures described in the Basin Plan and the *Policy for*

Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) and restated in this MRP.

- J. The Discharger shall ensure that analytical procedures used to evaluate compliance with effluent limitations established in this Order use minimum levels (ML) no greater than the applicable effluent limitation and are consistent with the requirements of 40 CFR part 136 or otherwise approved by USEPA and authorized by the San Diego Water Board. If no authorized ML value is below the effluent limitation, then the method must achieve an ML no greater than the lowest ML value indicated in Attachment H of this Order (or if not listed in Attachment H of this Order, be the lowest ML provided for in 40 CFR part 136).

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
--	INF-001	A location upstream of plant return flows, where a representative sample of the influent can be obtained
001	EFF-001	A location at the point of discharge to Escondido Creek, where representative samples of the effluent can be obtained Latitude: 33° 06' 22" Longitude: -117° 07' 01"
Receiving Water Stations		
--	RSW-001 (formerly 907)	Escondido Creek just upstream of the La Bajada bridge
--	RSW-002 (formerly 910)	Escondido Creek at the Elfin Forest Keithley Private Reserve at the inlet side of the Via Ambient bridge
--	RSW-003 (formerly 911)	Escondido Creek at Elfin Forest Recreation Park at the inlet side of the Way Up Trail foot bridge
--	RSW-004 (formerly 912)	Escondido Creek at Country Club Drive and Harmony Grove Road upstream of the bridge
--	RSW-005 (formerly 913)	Escondido Creek at the granite yard upstream of the bridge
--	RSW-006 (formerly 916)	Escondido Creek at the downstream side of Harmony Grove Bridge (upstream of the Hale Avenue Resource Recovery Facility (Facility) discharge point to Escondido Creek)

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. CORE MONITORING REQUIREMENTS

A. Influent Monitoring Requirements

1. Influent monitoring is the collection and analysis of samples or measurements of wastewater prior to the treatment processes. Influent monitoring of a wastewater stream prior to entering the treatment plant is necessary to address the following questions:
 - a. Is there a need for a pretreatment program to control pollutant loads?
 - b. What is the frequency of unexpected pollutants loads which can cause or contribute to an upset in the wastewater process?

- c. Is the influent inhibiting or disrupting the Facility, its treatment processes or operations?
 - d. Is the Facility complying with permit conditions, including but not limited to the biochemical oxygen demand 5-day @ 20 °C (BOD5) and total suspended solids (TSS) percent removal limitations?
2. The Discharger shall monitor influent to the Facility at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method
Carbonaceous Biochemical Oxygen Demand 5-day @ 20 °C (CBOD ₅)	mg/L	24-hour composite	1/Week	2
Total Suspended Solids (TSS)	mg/L	24-hour composite	1/Week	2

¹ The minimum sampling frequency shall be at least weekly for discharge events of a duration of more than seven consecutive calendar days.

² Consistent with the requirements of 40 CFR part 136.

B. Effluent Monitoring Requirements

1. Effluent monitoring is the collection and analysis of samples or measurements of effluents, after all treatment processes, to determine and quantify contaminants and to demonstrate compliance with applicable effluent limitations, standards, and other requirements of this Order. Effluent monitoring is necessary to address the following questions:
- a. Does the effluent comply with permit effluent limitations, performance goals, and other requirements of this Order, thereby ensuring that water quality standards are achieved in the receiving water?
 - b. What is the mass of constituents that are discharged daily, monthly, or annually?
 - c. Is the effluent concentration or mass changing over time?
 - d. Is the Facility being properly operated and maintained to ensure compliance with the conditions of the Order?
2. The Discharger shall monitor effluent at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring for Discharge Point No. 001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	MGD	Recorder/Totalizer	1/Day ⁹	1
pH	standard units	Grab	1/Day ⁹	1
Turbidity	NTU	Recorder	1/Day ⁹	1
CBOD ₅	mg/L	24-hour composite	1/Day ⁹	1
TSS	mg/L	24-hour composite	1/Day ⁹	1
Total Coliform	MPN/100 mL	Grab	1/Day ⁹	1
Fecal Coliform	MPN/100 mL	Grab	1/Day ⁹	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Enterococcus	MPN/100 mL	Grab	1/Day ⁹	1
E. Coli	MPN/100 mL	Grab	1/Day ⁹	1
Cyanide, Total	µg/L	24-hour composite	1/Day ⁹	1,8
Chlorodibromomethane	µg/L	24-hour composite	1/Day ⁹	1,8
Dichlorobromomethane	µg/L	24-hour composite	1/Day ⁹	1,8
Bis(2-ethylhexyl) phthalate	µg/L	24-hour composite	1/Day ⁹	1,8
N-Nitrosodimethylamine	µg/L	24-hour composite	1/Day ⁹	1,8
Alpha-BHC	µg/L	24-hour composite	1/Day ⁹	1,8
Aluminum	µg/L	24-hour composite	1/Day ⁹	1
Total Trihalomethanes	µg/L	24-hour composite	1/Day ⁹	1
Ammonia, Un-ionized (NH ₃)	mg/L	24-hour composite	1/Day ⁹	1
Color	Units	24-hour composite	1/Day ⁹	1
Nitrogen (series) ²	mg/L	24-hour composite	1/Day ⁹	1
Phosphorus (series) ³	mg/L	24-hour composite	1/Day ⁹	1
Total Dissolved Solids	mg/L	24-hour composite	1/Day ⁹	1
Sulfate	mg/L	24-hour composite	1/Day ⁹	1
Manganese	mg/L	24-hour composite	1/Day ⁹	1
Phenolic Compounds	mg/L	24-hour composite	1/Day ⁹	1
Chloride	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Boron	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Fluoride	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Iron	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
MBAS	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Cobalt	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Molybdenum	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Vanadium	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Primary Maximum Contaminant Levels (MCLs) ⁵	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Secondary MCLs ⁶	mg/L	24-hour composite	2/Year during first 2 storms ⁴	1
Priority Pollutants ⁷	µg/L	24-hour composite	2/Year during first 2 storms ⁴	8

¹ Consistent with the requirements of 40 CFR part 136.
² Nitrogen (series) = total nitrogen, organic nitrogen, nitrate, nitrite, ammonia
³ Phosphorus (series) = total phosphorous and orthophosphate phosphorous

- 4 During any year in which more than one Facility discharge to Escondido Creek occurs, the Discharger shall monitor these parameters twice annually - once during each of the first two discharges events of the calendar year. During any year in which only one Facility discharge to Escondido Creek occurs, the Discharger shall monitor these parameters once per year during the period of discharge.
- 5 As specified in California Code of Regulations, title 22, Tables 64431-A and 64445.1-A
- 6 As specified in California Code of Regulations, title 22, Tables 64449-A and 64449-B
- 7 Priority pollutants as specified in 40 CFR section 131.38.
- 8 Consistent with the requirements of 40 CFR part 136 and Attachment H of this MRP.
- 9 Minimum sampling frequency is once daily during any day in which the Facility discharges to Escondido Creek.

C. Whole Effluent Toxicity (WET) Testing Requirements

Whole effluent toxicity refers to the overall aggregate toxic effect of an effluent measured directly by an aquatic toxicity test(s). WET tests evaluate the 1) aggregate toxic effects of all chemicals in the effluent including additive, synergistic, or antagonistic toxicity effects; 2) the toxicity effects of unmeasured chemicals in the effluent; and 3) variability in bioavailability of the chemicals in the effluent.

Monitoring to assess the overall toxicity of the effluent is required to answer the following questions:

- (1) Does the effluent comply with permit effluent limitations for chronic toxicity thereby ensuring that water quality standards are achieved in the receiving water?
- (2) If the effluent does not comply with permit effluent limitations for chronic toxicity, are unmeasured pollutants causing risk to aquatic life?
- (3) If the effluent does not comply with permit effluent limitations for chronic toxicity, are pollutants in combinations causing risk to aquatic life?

1. Monitoring Frequency for Chronic Toxicity

The Discharger shall conduct chronic toxicity monitoring once per discharge event for Monitoring Location EFF-001. The In-stream Waste Concentration (IWC) for this discharge is 100 percent effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. For the receiving water, sufficient sample volume shall also be collected during accelerated monitoring for subsequent Toxicity Identification Evaluation (TIE) studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Freshwater Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity <1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples at the in-stream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002; Table IA, 40 CFR Part 136). In no case shall these species be substituted with another test species unless written authorization from the San Diego Water Board is received.

- a. A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).

- b. A static toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
- c. A static renewal toxicity test with the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted beginning the first month the permit is in effect. The Discharger shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge during that given month. As allowed under the test method for the *Ceriodaphnia dubia* and the Fathead minnow, a second and third sample may be collected for use as test solution renewal water as the seven-day toxicity test progresses. However, that same sample shall be used to renew both the *Ceriodaphnia dubia* and the Fathead minnow. If the result of all three species is "Pass", then the species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle. If only one species fails, then that species shall be used for routine monitoring during the permit cycle. If two or more species result in "Fail," then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring during the permit cycle, until such time as a rescreening is required (24 months later).

Species sensitivity rescreening is required every 24 months if there has been discharge during dry weather conditions. If the intermittent discharge is only during wet weather, rescreening is not required. If rescreening is necessary, the Discharger shall rescreen with the fish, an invertebrate, and the alga species previously referenced and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

5. Quality Assurance and Additional Requirements

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 and Appendix B, Table B-1. The null hypothesis (H_0) for the TST statistical approach is: Mean discharge IWC response $\leq 0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$. This is a t-test (formally Student's t-Test), a

statistical analysis comparing two sets of replicate observations—in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is “Pass” or “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

- a. The Median Monthly Effluent Limitation (MMEL) for chronic toxicity only applies when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail”.
- b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (U.S. EPA 2002, EPA-821-R-02-013) (see Table E-8, below), then the Discharger must resample and re-test within 14 days.
- c. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
- d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the EC25[5].
- e. The Discharger shall perform toxicity tests on final effluent samples. Chlorine in the final effluent sample may be removed prior to conducting toxicity tests in order to simulate the dechlorination process at the facility. However, ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).

USEPA Test Methods and Test Acceptability Criteria

Species & USEPA Test Method Number	Test Acceptability Criteria (TAC)
Fathead Minnow, <i>Pimephales promelas</i> , Larval Survival and Growth Test Method 1000.0 (Table 1 of the test method, above).	80% or greater survival in controls; average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. (required)
Daphnid, <i>Ceriodaphnia dubia</i> , Survival and Reproduction Test Method 1002.0 (Table 3 of the test method, above).	80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions. 60% of surviving control females must produce three broods.(required)
Green Alga, <i>Selenastrum capricornutum</i> , Growth Toxicity Test Method 1003.0 (Table 3 of the test method, above).	Mean cell density of at least 1 X 10 ⁶ cells/mL in the controls; and variability (CV%) among control replicates less than or equal to 20%. (required)

6. Preparation of an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan

The Discharger shall prepare and submit a copy of the Discharger’s initial investigation TRE work plan to the San Diego Water Board for approval within 90 days of the effective date of this permit. If the San Diego Water Board does not disapprove the work plan

within 60 days, the work plan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Work Plan must contain the provisions in Attachment G. This work plan shall describe the steps that the Discharger intends to follow if toxicity is detected. At minimum, the work plan shall include:

- a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
 - b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and,
 - c. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).
7. Accelerated Monitoring Schedule for Median Monthly Summary Result: "Fail"; and Accelerated Monitoring Schedule for Maximum Daily Single Result: "Fail and % Effect ≥ 50 ".

When there is discharge more than one day in a calendar month, the Median Monthly summary result shall be used to determine if accelerated testing needs to be conducted. When there is discharge of only one day in a calendar month, the Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Discharger becomes aware of this result, the Discharger shall implement an accelerated monitoring schedule within 48 hours for the Ceriodaphnia dubia test, and within 5 calendar days for both the Pimephales promelas and Selenastrum capricornutum tests. However, if the sample is contracted out to a commercial laboratory, the Discharger shall ensure that the first of four accelerated monitoring tests is initiated within seven calendar days of the Discharger becoming aware of the result. The accelerated monitoring schedule shall consist of four toxicity tests (including the discharge IWC), conducted at approximately two week intervals, over an eight week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC25. If each of the accelerated toxicity tests results in "Pass", the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail", the Discharger shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, only TST results ("Pass" or "Fail", "Percent Effect") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

8. Toxicity Reduction Evaluation (TRE) Process

During the TRE Process, monthly effluent monitoring shall resume and TST results ("Pass" or "Fail", "Percent Effect") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

- a. Preparation and Implementation of Detailed TRE Work Plan. The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, USEPA manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/833/B-99/002, 1999) and, within 15 days, submit to the San Diego Water Board a Detailed TRE Work Plan, which shall follow the TRE Work Plan revised as appropriate for this toxicity event. It shall include the following

information, and comply with additional conditions set by the San Diego Water Board:

- i. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity.
 - ii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.
 - iii. A schedule for these actions, progress reports, and the final report.
- b. TIE Implementation. The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.
- c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
- d. The Discharger shall continue to conduct routine effluent monitoring for compliance determination purposes while the TIE and/or TRE process is taking place. Additional accelerated monitoring and TRE work plans are not required once a TRE is begun.
- e. The San Diego Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.
- f. The San Diego Water Board may consider the results of any TIE/TRE studies in an enforcement action.

9. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, and shall include:

- a. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-11.
- b. Summary water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

- c. The statistical analysis used in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
 - d. TRE/TIE results. The San Diego Water Board shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TIE/TRE report, the Discharger shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.
 - e. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
 - f. Graphical plots clearly showing the laboratory's performance for the reference toxicant for the previous 20 tests and the laboratory's performance for the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.
 - g. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon written request from the San Diego Water Board.
- D.** Land Discharge Monitoring Requirements – Not applicable
- E.** Recycling Monitoring Requirements – Not Applicable

IV. RECEIVING WATER MONITORING REQUIREMENTS

The receiving water monitoring requirements set forth below are designed to measure the effects of the Facility discharge on the receiving waters. The overall receiving water monitoring program is intended to answer the following questions:

- (1) Does the receiving water meet water quality standards?
- (2) Are the receiving water conditions getting better or worse over time?
- (3) What is the relative contribution of the Facility discharge to pollution in the receiving water?

This program is intended to document conditions upstream and downstream of the discharge. Station location, sampling, sample preservation and analyses, when not specified, shall be by methods approved by the San Diego Water Board. The monitoring program may be modified by the San Diego Water Board at any time. The Discharger may also submit a list of and rationale for any reductions in or other changes to these monitoring requirements that it considers to be appropriate to the San Diego Water Board for approval.

In the event that the Discharger is unable to obtain a sample from a monitoring station(s) due to safety, legal, or other reasons, collection of samples at such station(s) can be omitted. In the event that a monitoring location is omitted, the Discharger shall submit a statement to the San Diego Water Board containing, at a minimum, the following information:

- 1. The monitoring station(s) that was omitted;
- 2. The date the monitoring station was omitted; and
- 3. A description of the circumstances for omitting the collection of data at the monitoring station.

A. Monitoring Locations RSW-001 through RSW-006

- 1. The Discharger shall monitor Escondido Creek at Monitoring Locations RSW-001 through RSW-006 as specified below.

Table E-4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	cfs	cross-sect. velocity/area	1/Discharge event	--
Dissolved Oxygen	mg/L	Grab	1/Discharge event	1
pH	s.u.	Grab	1/Discharge event	1
TDS	mg/L	Grab	1/Discharge event	1
Nitrogen Series ²	mg/L	Grab	1/Discharge event	1
Phosphorous Series ³	mg/L	Grab	1/Discharge event	1
TSS	mg/L	Grab	1/Discharge event	1
Volatile Suspended Solids	mg/L	Grab	1/Discharge event	1
Priority Pollutants ⁴	µg/L	Grab	1/Discharge event	5

¹ Consistent with the requirements of 40 CFR part 136.
² Includes: total nitrogen, organic nitrogen, nitrate (as NO₃), nitrite, and ammonia (un-ionized, as N)
³ Includes: total phosphorus and orthophosphate phosphorus.
⁴ Priority pollutants as specified in 40 CFR section 131.38.
⁵ Consistent with the requirements of 40 CFR part 136 and Attachment H of this MRP.

B. Monitoring Surveys

1. Monitoring conducted during any discharge event to meet receiving water monitoring requirements of this MRP shall include, at a minimum, the following information:
 - a. 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); presence of oil and grease, turbidity, odor, and other materials of sewage origin in the water or on the river banks; time of sampling; air temperature (°F); water temperature (°F); etc.].
 - b. A description of sampling stations including a description of characteristics unique to each station [e.g. Global Positioning System (GPS) coordinates for station location; photo documentation; sediment characteristics; presence of rocks; river flow (contiguous or terminated); and estuary mouth conditions (i.e., open or closed due to sand deposition); etc.]
 - c. An annual in-depth discussion of the receiving water survey results shall be submitted following any year in which a discharge event has occurred. The discussion shall compare data for 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 Monitoring Location EFF-001. Sample methods, preservation, and analyses, when not specified, shall be approved by the Executive Officer.
3. A permanent stream gauging station shall be established in accordance with standard practices of the U.S. Geological Survey at a location at or near RSW-006. Measurements shall be recorded by a method approved by the Executive Officer.

4. Stream flow measurements for RSW-001 through RSW-006 shall be conducted using a velocity-area method approved by the Executive Officer.
5. For any calendar year in which no discharge occurred, a statement must be submitted annually certifying that no discharge occurred during the calendar year.

V. REGIONAL WATERSHED MONITORING

The Discharger shall participate in the San Diego Water Board coordination of other monitoring activities in the Escondido Creek Watershed, such as the 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 Escondido Creek Watershed as directed by the San Diego Water Board Executive Officer. The intent of a regional watershed monitoring program is to maximize 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.

VI. SPECIAL STUDIES – NONE REQUIRED.

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board’s California Integrated Water Quality System (CIWQS) Program website (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal. Any reports not in CIWQS shall be submitted electronically to the San Diego Water Board’s e-mail at sandiego@waterboards.ca.gov or as otherwise directed by the San Diego Water Board
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. SMRs shall include all new monitoring results obtained since the last SMR was submitted. 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-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Hourly	Permit effective date	Hourly	Submit with monthly SMR
Daily	Permit effective date	(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	Permit effective date	Sunday through Saturday	Submit with monthly SMR
Monthly	Permit effective date	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	June 1 September 1 December 1 March 1
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	September 1 March 1
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 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 RL 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. 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 (\pm 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. The Discharger shall 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 in Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.
 6. Multiple Sample Data. When determining compliance with an average monthly effluent limitation (AMEL), average weekly effluent limitation (AWEL), or maximum daily effluent limitation (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 WDRs; the period of violation, including exact dates and times, and if the violation has not been corrected, the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated, a description of the violation and its cause, and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the violation.
- C. Discharge Monitoring Reports (DMRs)**
1. The Discharger shall electronically submit DMR's using the State Water Board's CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional information for DMR submittal in the event there will be a planned service interruption for electronic submittal.
 2. DMR's must be signed and certified as required by the standard provisions (Attachment D).

D. Other Reports

1. The following reports are required under Special Provisions of this Order (section VI.C), Core Monitoring Requirements of this MRP (section III.C), and the California Code of Regulations and shall be submitted to the San Diego Water Board, signed and certified as required by Standard Provisions (Attachment D). The reports shall be submitted to the San Diego Water Board, via the State Water Board’s CIWQS Program Web or via email to SanDiego@waterboards.ca.gov.

Table E-6. Other Reports

Report	Location of Requirement	Due Date
Pollutant Minimization Program (PMP)	Section VI.C.3 (Order)	As specified in section VI.C.3 of the Order.
Toxicity Reduction Evaluation (TRE) Work Plan	Section III.C.6 (MRP)	October 30, 2015
Report of Waste Discharge (ROWD) (for reissuance)	Title 23, California Code of Regulations	180 days before the Order expiration date.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section I of this Order, the San Diego Water Board incorporates this Fact Sheet as findings of the San Diego Water Board supporting the issuance 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 000000833
Discharger	City of Escondido
Name of Facility	Hale Avenue Resource Recovery Facility (HARRF)
Facility Address	1521 S. Hale Avenue
	Escondido, CA 92029
	San Diego County
Facility Contact, Title and Phone	Dennis Sperino, Deputy Utilities Mgr., Wastewater, (760) 839-4260
Authorized Person to Sign and Submit Reports	Christopher W. McKinney, Utilities Manager, (760) 839-4090
Mailing Address	201 N. Broadway Escondido, CA 92025
Billing Address	Same as Mailing Address
Type of Facility	Wet Weather Discharge from Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes (under NPDES Permit No. CA0107981)
Recycling Requirements	Producer
Facility Permitted Flow	3.2, 4.0, 4.8, 5.6, and 6.4 Million Gallons per Day (MGD) in the calendar years 2015-2016, 2017, 2018, 2019, and 2020 respectively
Facility Design Flow	18 MGD Secondary Treatment, 9.0 MGD Tertiary Treatment
Watershed	Carlsbad Hydrologic Unit
Receiving Water	Escondido Creek
Receiving Water Type	Inland Surface Water

- A. The City of Escondido (Discharger) is the owner and operator of Hale Avenue Resource Recovery Facility (HARRF or Facility), a POTW.

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

- B.** The Facility discharges wastewater to Escondido Creek, a water of the U.S. that is tributary to the San Elijo Lagoon within the Escondido Creek watershed. The Discharger was previously regulated by Order No. R9-2003-0394, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0108944, adopted on December 10, 2003 and expired on December 10, 2008. In accordance with Title 40, Code of Federal Regulations (40 CFR) section 122.6 and the state's regulations at title 23, division 3, chapter 9, article 3, section 2235.4 of the California Code of Regulations (CCR), the terms of Order No. R9-2003-0394 were administratively extended and continued in effect after the permit expiration date until the adoption of Order No. R9-2015-0026. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

- C.** The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on June 12, 2008. An amendment to the ROWD was provided on October 8, 2013 to address additional requested information. Additional effluent and receiving water data were provided on October 14 and 15, 2014. On October 31, 2014 the Discharger provided an update on the wastewater and recycled water facilities planning progress. A site visit was conducted on June 9, 2011, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge. On December 11, 2014 the Discharger met with the San Diego Water Board to discuss compliance with this Order and the issuance of a Time Schedule Order (TSO). On January 9, 2015 the Discharger provided a proposed time schedule of tasks to achieve compliance with this Order. On April 3, 2015 the discharger provided additional information on the discharge flow rate.

II. FACILITY DESCRIPTION

The Facility provides sewerage service for the City of Escondido and the Rancho Bernardo community of the City of San Diego. The Facility serves a population of approximately 192,000, including residential, commercial, and industrial users. The design flow capacity of the Facility is 18 MGD. The City of Escondido and the City of San Diego own 12.7 MGD and 5.3 MGD of the Facility's 18 MGD capacity, respectively. The Discharger implemented several changes to design and operation of the Facility over the term of Order No. R9-2003-0394 which have allowed for more effective management of flows. These modifications include reducing influent flows through enhanced conservation efforts, reducing inflow and infiltration through identification of illegal commercial and industrial connections to the sewer system, increasing recycled water use, from seasonal to year-round, increasing flow equalization and storage capacity, and improving the treatment system. Consequently, the average annual influent flow to the Facility has been reduced from an average flow of 15.3 MGD in 2005 to 12.4 MGD in 2013. The maximum average daily influent flow to the Facility from January 2012 through September 2014 was 14.3 MGD.

A. Description of Wastewater and Biosolids Treatment and Controls

The Facility provides secondary treatment for wastewater discharged to the Pacific Ocean, and tertiary treatment for the distribution of disinfected recycled water and discharges to Escondido Creek. Secondary treatment at the Facility is accomplished by bar screens and grit removal, chemical enhancement primary sedimentation, aeration basins, and secondary clarification. Up to 5 million gallons of flow equalization is available at the Facility in a 1 million gallon concrete storage tank for tertiary treated recycled water, a 2 million gallon concrete

storage tank for secondary effluent, and a 2 million gallon lined pond that is normally used for equalizing brine flows from the Discharger’s Industrial Brine Collection System (regulated by NPDES No. CA0109215). An additional 2 million gallons of recycled water storage is available off-site as part of the Discharger’s recycled water distribution system. Secondary treated wastewater is either discharged to the Pacific Ocean under a separate Order (NPDES No. CA0107981), or is passed on for tertiary treatment for reuse applications in the Facility’s service area or discharged to Escondido Creek during emergency situations as permitted by this Order.

The 9 MGD tertiary treatment portion of the Facility is designed to comply with California Department of Drinking Water criteria for disinfected tertiary recycled water. Tertiary treatment at the Facility consists of pre-filtration chemical addition and chlorination, flocculation and filtration, ultraviolet light (UV) disinfection, and flow equalization. Tertiary treated wastewater is typically discharged to the Discharger’s recycled water distribution system; however, excess tertiary treated wastewater may be discharged with secondary treated wastewater to the Pacific Ocean, or under certain conditions, discharged to Escondido Creek. The Discharger’s secondary treatment system is covered under separate WDRs. The discharge of tertiary treated wastewater to Escondido Creek is covered under this Order.

Screenings from the headworks and solids from grit removal are collected on-site and trucked to a local landfill. Sludge from primary sedimentation is anaerobically digested and dewatered by centrifuge. Waste activated sludge from the secondary clarifiers is thickened by dissolved air flotation, anaerobically digested, and dewatered by centrifuge. Dewatered sludge is trucked to Arizona where it is land applied by Tule Ranch/Western Express Transporter.

B. Discharge Points and Receiving Waters

Tertiary treated wastewater from the Facility is discharged to the Escondido Creek, via. Discharge Point No. 001 at Latitude 33° 06’ 22” North and Longitude 117° 07’ 01” West (approximated).

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

1. Effluent limitations contained in the previous Order for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) are summarized below. No discharges have occurred since February 25, 2005.

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Maximum Daily
Carbonaceous Biochemical Oxygen Demand 5-day @ 20°C (CBOD ₅)	mg/L	25	40	45
	lbs/day	1,876	3,002	3,377
Total Suspended Solids (TSS)	mg/L	30	45	50
	lbs/day	2,251	3,377	3,753
pH	standard units	Within 6.0 and 9.0 at all times		
Bis(2-Ethylhexyl) Phthalate	µg/L	11	--	24
	lbs/day	0.83	--	1.8
Bromoform	µg/L	51	--	103
	lbs/day	3.8	--	7.7
Chlorodibromomethane	µg/L	4.4	--	13
	lbs/day	0.33	--	0.98
Dichlorobromomethane	µg/L	0.56	--	1.7

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Maximum Daily
	lbs/day	0.042	--	0.13
Gamma-BHC	µg/L	0.23	--	0.46
	lbs/day	0.017	--	0.035
Mercury	µg/L	0.05	--	0.11
	lbs/day	0.0038	--	0.0083
Methylene Chloride	µg/L	12	--	39
	lbs/day	0.9	--	2.9
Selenium	mg/L	3.8	--	8.8
	lbs/day	0.29	--	0.66
Tetrachloroethylene	mg/L	0.8	--	1.6
	lbs/day	0.60	--	0.12
Total Dissolved Solids	mg/L	--	--	1100
	lbs/day	--	--	82,566
Chloride	mg/L	--	--	300
	lbs/day	--	--	22,518
Sulfate	mg/L	--	--	325
	lbs/day	--	--	24,394
Nitrogen (Total)	mg/L	--	--	35
	lbs/day	--	--	2,627
Phosphorous (Total)	mg/L	--	--	3.0
	lbs/day	--	--	225
Iron	mg/L	--	--	0.3
	lbs/day	--	--	22
Manganese	mg/L	--	--	0.10
	lbs/day	--	--	7.5
Methylene Blue Active Substances	mg/L	--	--	0.5
	lbs/day	--	--	37
Boron	mg/L	--	--	1.1
	lbs/day	--	--	83
Color	units	--	--	20
Fluoride	mg/L	--	--	1.5
	lbs/day	--	--	112
Ammonia (NH ₄ ⁺ plus NH ₃)	mg/L	--	--	25
	lbs/day	--	--	1,877
Phenolic Compounds	µg/L	--	--	1.0
	lbs/day	--	--	0.075
Inorganic Chemicals	Not to exceed limits specified in California Code of Regulations, Title 22, Table 64431-A of Section 64431			
EPA Toxic Pollutants	Not to exceed limits specified in 40 CFR 131.36			
Organic Chemicals	Not to exceed limits specified in California Code of Regulations, Title 22, Table 64444-A of Section 64444.			
Radionuclides	Not to exceed limits specified in California Code of Regulations, Title 22, Table 4 of Section 64443.			

D. Compliance Summary

During the term of the previous Order, on February 11, 2009, the San Diego Water Board adopted Order No. R9-2009-0003 assessing civil liability in the amount of \$1,335,000 for the following alleged violations:

For Order No. 99-72, between May 3, 2004 and August 17, 2004, the Discharger violated the maximum at any time, weekly average and monthly average carbonaceous oxygen demand and total suspended solids effluent limitations 393 times. Between January 3, 2005 and March 13, 2005, the Discharger violated the effluent flow limitation 47 times. On February 28, 2005, the Discharger discharged 73,500 gallons of secondary treated effluent from the Escondido Land Outfall into Escondido Creek and San Elijo Lagoon.

For Order R9-2003-0394, between January 9, 2005 and February 25, 2005, the Discharger violated the daily average turbidity, daily maximum nitrite and nitrogen effluent limitations 11 times. On January 11 and 12, 2005, the Discharger discharged 280,000 gallons of secondary treated effluent into Escondido Creek, San Elijo Lagoon, and the Pacific Ocean.

For Cease and Desist Order No. 96-31, the Discharger failed to submit 14 semi-annual status reports. The Discharger failed to complete implementation of measures to terminate all unauthorized discharges to Escondido Creek and tributaries thereto by June 16, 2003. The Discharger submitted the final compliance report 138 days late.

For Reclamation Requirements Order No. 93-70, between January 9, 2005 and October 2, 2005, the Discharge violated the daily average turbidity and daily maximum manganese effluent limitations 16 times.

No effluent discharge to Escondido Creek has occurred since 2005.

E. Planned Changes

Discharges to Escondido Creek occur during wet weather periods when the Discharger's available capacity to the San Elijo Ocean Outfall (SEOO) (18 MGD) is exceeded. These discharges are expected to exceed seven effluent limitations of this Order. To comply with the effluent limitations, the Discharger has proposed two potential alternatives to either reduce the Facility's wet weather flows to below the available capacity of the SEOO and terminate the discharge to Escondido Creek or implement advanced treatment to achieve compliance with the effluent limitations. By implementing these alternatives there will no longer be a need to discharge to Escondido Creek, and therefore, no need to renew this Order.

The Discharger has completed a study to assess opportunities for implementing indirect potable reuse (use of purified water for potable water reservoir augmentation), and approved a plan for expanding the recycled water system to serve agricultural users in the eastern part of the City.

The agricultural reuse program involves producing high quality recycled water acceptable for agricultural irrigation of salt-sensitive crops. The following facilities will be constructed as part of the program:

- Approximately 6 miles of recycled water mains to serve agricultural users with high-quality water.
- An advanced water treatment facility near Citrus and Washington that would feature reverse osmosis, disinfection, and advanced oxidation treatment.

- A 5.5 mile-long brine line to convey advanced water treatment reverse osmosis reject to the Discharger's industrial brine land outfall (under NPDES Permit No. CA0109215).
- A 1.2 million gallon recycled water storage tank.
- Recycled water storage ponds at multiple sites, with capacities ranging from 2 to 8 million gallons each.
- Recycled water from the advanced treatment facility is projected to contain concentrations of total dissolved solids (TDS) of 500 mg/L or less, and comply with all applicable Basin Plan requirements governing irrigation use of recycled water.

Implementation of the agricultural reuse program will reduce Facility discharges year round to the Pacific Ocean. As of October 2014, the Discharger reports that it has initiated design on some of the conveyance pipelines, and indicates that design will begin soon on the advanced water treatment facility. Further, the Discharger reports that it is currently in negotiation with interested agricultural stakeholders for siting the recycled water ponds.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of chapter 3 of CEQA, (commencing with section 21100) of division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

D. Water Quality Control Plan.

The San Diego Water Board adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994 and last amended on April 4, 2011, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Escondido Creek are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Escondido Creek	<p><u>Existing:</u> Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Contact Water Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Wildlife Habitat (WILD).</p> <p><u>Potential:</u> Industrial Service Supply (IND).</p>

E. 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 federal water quality criteria for priority pollutants.

F. 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 San Diego 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.

G. Antidegradation Policy.

Federal regulations at 40 CFR 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 68-16. Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution 68-16.

H. Anti-Backsliding Requirements.

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict 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.

I. Endangered Species Act Requirements.

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, section 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. section 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

Under section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On October 11, 2011 the USEPA gave final approval to California's 2010 section 303(d) List of Water Quality Limited Segments. The 303 (d) list includes the listings for the Escondido Creek for dichlorodiphenyltrichloroethane (DDT), enterococcus, fecal coliform, manganese, phosphate, selenium, sulfates, total dissolved solids, total nitrogen, and toxicity. TMDLs for the 303(d) listed parameters have not been developed.

K. Other Plans, Polices and Regulations

Storm Water. Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 2014-0057-DWQ (NPDES General Permit No. CAS000001), WDRs for Discharges of Storm Water Associated with Industrial Activity, Excluding Construction Activities. The Discharger shall file a Notice of Intent within 60 days of adoption of this Order (unless already submitted under the previous Order) and comply with Order No. 2014-0057-DWQ or the Discharger shall provide certification to the San Diego Board that all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the Facility.

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 U.S. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the CFR: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations (TBELs) and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, USEPA guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater from Discharge Point 001 only. It does not authorize any other types of discharges.

B. Technology-Based Effluent Limitations (TBELs)

1. **Scope and Authority**

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

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

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

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of CBOD₅, TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

Technology-based regulations, specified in 40 CFR part 133, are summarized in the table below.

Table F-4. Secondary Treatment Standards

Parameter	Unit	Monthly Average	Weekly Average
CBOD ₅	mg/L	25 ¹	40
TSS	mg/L	30 ¹	45
pH	Standard units	6.0 to 9.0 at all times	

¹ The 30-day average percent removal of CBOD₅ and TSS shall not be less than 85 percent.

- a. **CBOD₅ and TSS.** The Facility employs tertiary treatment technology. The previous Order established effluent limitations for CBOD₅ and TSS based in part on plant performance data and representative levels attainable by tertiary treatment. Additionally, the previous Order established maximum daily effluent limitations for CBOD₅ and TSS of 45 mg/L and 50 mg/L. Consistent with anti-backsliding requirements, effluent limitations for CBOD₅ and TSS have been carried over from the previous Order which are as least stringent as secondary treatment standards.
- b. **pH.** 40 CFR part 133 establishes TBELs based on secondary treatment for pH. The secondary treatment standards require the pH of the effluent to be no lower than 6.0 standard units and no higher than 9.0 standard units. The applicable water quality standards require the pH of the effluent to be no lower than 6.5 standard units and no higher than 8.5 standard units. Therefore, the more stringent WQBELs for pH have been established in this Order.
- c. **Flow.** Order No. R9-2003-394 prohibited discharges in excess of 9.0 MGD at any time based on the design capacity of the Facility to treat tertiary recycled water. The Discharger submitted supplemental ROWD information that projects flow rates for wet and dry weather events. Based on this information, this Order modifies the effluent flow limitation, to 3.2, 4.0, 4.8, 5.6, and 6.4 MGD in the calendar years 2015-2016, 2017, 2018, 2019, and 2020 respectively.

Table F-5. Summary of TBELs

Parameter	Unit ¹	Monthly Average	Weekly Average	Maximum Daily
CBOD ₅	mg/L	25 ²	40	45
	lbs/day	1,334	2,135	2,402
TSS	mg/L	30 ²	45	50
	lbs/day	1,601	2,402	2,669
pH	s.u.	6.5 to 8.5 at all times		
Flow (2015-2016)	MGD	--	--	3.2
Flow (2017)	MGD	--	--	4.0
Flow (2018)	MGD	--	--	4.8
Flow (2019)	MGD	--	--	5.6
Flow (2020)	MGD	--	--	6.4

¹ The Mass Emission Rate (MER) values in this table were calculated using a flow rate of 6.4 MGD and the indicated concentration values. When the discharge flowrate is lower than 6.4 MGD, the MER calculations should be correspondingly lower.

² The 30-day average percent removal of CBOD₅ and TSS shall not be less than 85 percent.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 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) of 40 CFR requires 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 section 304(a) of the CWA, 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 CFR section 122.44(d)(1)(vi).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

- a. **Basin Plan.** The Basin Plan specifies both surface and groundwater criteria for Escondido Hydrologic Area (HA) 904.6; however, the beneficial uses of the receiving water do not include groundwater recharge. Because the beneficial uses do not indicate groundwater recharge, and the discharges are short and infrequent,

and limited to periods of wet weather when the surface groundwater is expected to be saturated, the discharge is not anticipated to impact groundwater quality. Thus, only water quality objectives for surface water are applicable to this discharge.

In addition, the Basin Plan establishes water quality objectives for inorganic chemicals based on primary maximum containment levels (MCLs), and for organic chemicals based on secondary MCLs, established in California Code of Regulations Title 22. This Order implements the water quality objectives based on primary and secondary MCLs. MCLs for CTR and NTR parameters has been applied as human health criteria using SIP procedures. Reasonable potential for non-CTR and non-NTR parameters with applicable MCLs were evaluated using SIP procedures. Effluent limitations and performance goals for non-CTR and non-NTR parameters were established for primary MCLs as daily maximums to ensure protection of human health. Effluent limitations and performance goals for non-CTR and non-NTR parameters were established for secondary MCLs as monthly averages. Because secondary MCLs are implemented for aesthetic considerations, and do not pose significant risks to human health, nor are they likely to result in undesirable receiving water conditions under infrequent and short-term discharges, monthly effluent limitations are appropriate.

- b. **Bacteria.** The previous Order contained requirements that the discharge of treated wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, pursuant to California Code of Regulations title 22 for the reuse of wastewater, prior to discharge. The previous Order considered the wastewater adequately disinfected if in the effluent at some location in the treatment process, the median number of coliform organisms did not exceed 2.2 per 100 mL and the number of coliform organisms did not exceed 23 per 100 mL in more than one sample within any 30-day period. Effluent limitations for bacteria have been established equal to the title 22 disinfected tertiary recycled water criteria, and provide that no sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters. These effluent limitations are more stringent than the water quality objectives contained in the Basin Plan and thus remain protective of beneficial uses.
- c. **Turbidity.** The previous Order contained requirements that the discharge of treated wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, pursuant to California Code of Regulations title 22 for the reuse of wastewater, prior to discharge. The previous Order considered the wastewater adequately filtered when the turbidity does not exceed an average operating turbidity of 2 turbidity units and does not exceed 5 turbidity units more than 5 percent of the time during any 24-hour period. Effluent limitations for turbidity have been established equal to the title 22 turbidity treatment requirements. These effluent limitations are more stringent than the water quality objectives contained in Table 3-2 of the Basin Plan, thus remain protective of beneficial uses.
- d. **Nutrients.** At the time the previous Order was adopted in 2003, San Elijo Lagoon was 303(d) listed for eutrophic conditions. To ensure compliance with the Basin Plan biostimulation objectives and to prevent eutrophication impacts, the previous Order prohibited the Discharger from adding to the San Elijo nutrient loads. To comply with this “zero net mass emission” requirement, the Discharger implemented a program to evaluate the nutrient loading for each discharge and then divert a commensurate mass of nutrients from the natural Escondido Creek streamflow to the Facility for treatment and ocean outfall disposal.

Because Escondido Creek is now 303(d) listed for total nitrogen, diverting nutrients to offset pollution loads is insufficient to meet water quality objectives. The Discharger must meet the Basin Plan objective of 1.0 mg/L for total nitrogen prior to discharging to Escondido Creek to ensure the protection of water quality. Thus, this Order establishes a numeric effluent limitation for nitrogen based on the Basin Plan water quality objective, with compliance evaluated at the point of discharge. A “zero net mass emission” is no longer applicable.

- e. **CTR/NTR Criteria.** The CTR and NTR specify numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.”

The municipal water supply beneficial use applies at the discharge point to Escondido Creek at Discharge Point No. 001. Thus, human health criteria for the consumption of water and organisms are applicable to discharges to the receiving water.

Escondido Creek is a freshwater receiving water. Freshwater criteria for the protection of aquatic life are applicable to discharges to the receiving water.

- f. **Hardness.** Ambient hardness data were used to calculate water quality objectives that are hardness dependent. Data collected from February 15, 2012 through February 5, 2014, upstream of the discharge were evaluated for determining the appropriate hardness value to conduct a reasonable potential analysis. All upstream hardness data were greater than 400 mg/L as calcium carbonate (CaCO₃) (range: 471 to 602 mg/L). Consistent with the specifications of the SIP, a hardness value of 400 mg/L as CaCO₃ was used for evaluating reasonable potential and establishing effluent limitations for hardness dependent metals.
- g. Applicable criteria for Discharge Point No. 001 are summarized below for the parameters detected in the effluent or have effluent limitations established in the previous Order.

Table F-6. Summary of CTR/NTR Criteria at Discharge Point No. 001

Parameter	Selected Criteria (µg/L)	CTR/NTR Water Quality Criteria (µg/L)		
		Freshwater		Human Health For Consumption of Water and Organisms
		Acute	Chronic	
Copper, Total Recoverable	30.5	52	30.5	1,300
Nickel, Total Recoverable	100	1,516	169	100 ¹
Mercury, Total Recoverable	0.050	NA	NA	0.050
Selenium, Total Recoverable	5	20	5	NA
Zinc, Total Recoverable	388	388	388	NA
Cyanide, Total	5.2	22	5.2	150 ¹
Bromoform	4.3	NA	NA	4.3
Chlorodibromomethane	0.401	NA	NA	0.401
Chloroform	NA	NA	NA	NA
Dichlorobromomethane	0.56	NA	NA	0.56
Methylene Chloride	NA	NA	NA	NA
Tetrachloroethylene	0.8	NA	NA	0.8
Toluene	150	NA	NA	150 ¹
Bis(2-Ethylhexyl)Phthalate	1.8	NA	NA	1.8
Butylbenzyl Phthalate	3,000	NA	NA	3,000

Parameter	Selected Criteria (µg/L)	CTR/NTR Water Quality Criteria (µg/L)		
		Freshwater		Human Health For Consumption of Water and Organisms
		Acute	Chronic	
Diethyl Phthalate	23,000	NA	NA	23,000
Di-n-Butyl Phthalate	2,700	NA	NA	2,700
Isophorone	8.4	NA	NA	8.4
N-Nitrosodimethylamine	0.00069	NA	NA	0.00069
Alpha-BHC	0.0039	NA	NA	0.0039
Gamma-BHC	0.019	0.95	NA	0.019
Alpha-Endosulfan	110	0.22	0.056	110

NA = Criteria for this parameter is not applicable.

¹Based on applicable MCL.

Table F-7. Summary of Basin Plan Criteria

Parameter	Units	Criteria	Basis
Aluminum, Total Recoverable	mg/L	0.2	Primary MCL
Ammonia	mg/L	0.025	Basin Plan
Barium	mg/L	1	Primary MCL
Chloride	mg/L	250	Basin Plan
Iron, Total Recoverable	mg/L	0.3	Basin Plan
Nitrate	mg/L	45	Primary MCL
Manganese, Total Recoverable	mg/L	0.05	Secondary MCL
Methylene Blue Active Substances (MBAS)	mg/L	0.5	Basin Plan
Total Residual Chlorine (TRC)	ug/L	11	Basin Plan Narrative and EPA's National Recommended Water Quality Criteria for the protection of aquatic life.
Boron	mg/L	0.75	Basin Plan
Fluoride	mg/L	1	Basin Plan
Methyl-tert-butyl ether (MTBE)	mg/L	0.005	Secondary MCL
pH	su	6.5-8.5	Basin Plan
% Sodium	%	60	Basin Plan
Total Dissolved Solids (TDS)	mg/L	500	Basin Plan
Sulfate	mg/L	250	Basin Plan
Total Trihalomethanes (TTHM)	ug/L	0.1	Primary MCL
Total Phosphorous (TP)	mg/L	0.1	Basin Plan
Total Nitrogen (TN)	mg/L	1	Basin Plan
Turbidity	NTU	20	Basin Plan
Color	units	20	Basin Plan
DO	mg/L	6	Basin Plan
2,4-D	mg/L	0.07	Primary MCL
Alachor	mg/L	0.002	Primary MCL
Atrazine	mg/L	0.001	Primary MCL
Bentazon	mg/L	0.018	Primary MCL
Carbofuran	mg/L	0.018	Primary MCL
cis-1,2-Dichloroethylene	mg/L	0.006	Primary MCL
Dalapon	mg/L	0.2	Primary MCL

Parameter	Units	Criteria	Basis
Di(2-ethylhexyl)adipate	mg/L	0.4	Primary MCL
Di(2-ethylhexyl)phthalate	mg/L	0.004	Primary MCL
Dibromochloropropane (DBCP)	mg/L	0.0001	Primary MCL
Dinoseb	mg/L	0.007	Primary MCL
Diquat	mg/L	0.02	Primary MCL
Endothall	mg/L	0.1	Primary MCL
Ethylene Dibromide (EDB)	mg/L	0.00002	Primary MCL
Glyphosate	mg/L	0.7	Primary MCL
Methoxychlor	mg/L	0.03	Primary MCL
Molinate	mg/L	0.02	Primary MCL
Monochlorobenzene	mg/L	0.03	Primary MCL
Oxamyl	mg/L	0.05	Primary MCL
Picloram	mg/L	0.5	Primary MCL
Simazine	mg/L	0.004	Primary MCL
Styrene	mg/L	0.1	Primary MCL
Thiobencarb	mg/L	0.001	Secondary MCL
Trichlorofluoromethane	mg/L	0.15	Primary MCL
Xylenes	mg/L	1.75	Primary MCL
Nitrate + Nitrite (sum as nitrogen)	mg/L	10	Primary MCL
Nitrite (as nitrogen)	mg/L	1	Primary MCL

3. Determining the Need for WQBELs

The previous Order contained effluent limitations for non-conventional and toxic pollutant parameters in the Basin Plan (and referenced primary and secondary MCLs) as well as the CTR and NTR. The need for effluent limitations based on water quality objectives in the Basin Plan and CTR criteria was re-evaluated in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the “reasonable potential” for a discharged pollutant to exceed an objective, as provided in the SIP. SIP methodology specifies determining the maximum effluent concentration (MEC) and projecting receiving water values. 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 San Diego Water Board conducted the Reasonable Potential Analysis (RPA) consistent with section 1.3 of the SIP. Although the SIP applies directly to the implementation of CTR priority pollutants, the State Water Board has held that San Diego Water Boards may use the SIP as guidance for water quality-based toxics control¹. 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. The Discharger has not had a recent discharge; instead, monitoring results for the tertiary treated recycle water was used which is expected to be consistent with water quality discharged to the receiving water during wet weather conditions. Effluent data from August 2009 through

¹ See Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

September 2013 were used in the analyses. Available upstream receiving water data provided in the Discharger's monitoring reports from November 2012 through August 2014 were used in the analyses to represent background concentrations. For the RPA, the highest detected receiving water concentration was selected for use on a pollutant by pollutant basis in order to be fully protective of beneficial uses.

A summary of the RPA results is provided below. The following CTR/NTR parameters were not detected in the effluent or receiving water: 2,4,6-Trichlorophenol; Acenaphthene; Anthracene; Bis(2-Chloroisopropyl)Ether; 2-Chloronaphthalene; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; Dimethyl Phthalate; Fluoranthene; Fluorene; Hexachlorobutadiene; Hexachlorocyclopentadiene; Hexachloroethane; Nitrobenzene; N-Nitrosodiphenylamine; Pyrene; 1,2,4-Trichlorobenzene; beta-BHC; beta-Endosulfan; Endosulfan Sulfate; Endrin; and Endrin Aldehyde. These are omitted from the table and are considered to not demonstrate reasonable potential.

Table F-8. RPA for CTR/NTR Criteria

Parameter	Selected Criteria (µg/L) (c)	Maximum Effluent Concentration (MEC)	Receiving Water Concentration (B)	Reasonable Potential?
Copper, Total Recoverable	30.5	5	NA	No
Nickel, Total Recoverable	100	2	NA	No
Mercury, Total Recoverable	0.050	<0.1	NA	No
Selenium, Total Recoverable	5	<2.6	NA	No
Zinc, Total Recoverable	388	19	NA	No
Cyanide, Total	5.2	20	NA	Yes, MEC>C
Bromoform	4.3	0.14 ^J	NA	No
Chlorodibromomethane	0.401	0.5	NA	Yes, MEC>C
Dichlorobromomethane	0.56	0.67	NA	Yes, MEC>C
Tetrachloroethylene	0.8	<0.17	NA	No
Toluene	150	0.5 ^J	NA	No
Bis(2-Ethylhexyl)Phthalate	1.8	2.1 ^J	NA	Yes, MEC>C
Butylbenzyl Phthalate	3,000	1.2 ^J	NA	No
Diethyl Phthalate	23,000	0.96 ^J	NA	No
Di-n-Butyl Phthalate	2,700	1.9 ^J	NA	No
Isophorone	8.4	0.19 ^J	NA	No
N-Nitrosodimethylamine	0.00069	0.44 ^J	NA	Yes, MEC>C
Alpha-BHC	0.0039	0.021	NA	Yes, MEC>C
Gamma-BHC	0.019	0.001	NA	No
Alpha-Endosulfan	0.056	0.024	NA	No

NA = Not available.

^J = Detected, but not quantified.

Table F-9. RPA for Basin Plan Criteria

Parameter	Units	Selected Criteria (C)	Maximum Effluent Concentration (MEC)	Receiving Water Concentration (B)	Reasonable Potential?
Aluminum, Total Recoverable	mg/L	0.2	0.39	NA	Yes, MEC>C
Ammonia	mg/L	0.025	32.6	0.74	Yes, MEC>C
Barium	mg/L	1	0.049	NA	No

Parameter	Units	Selected Criteria (C)	Maximum Effluent Concentration (MEC)	Receiving Water Concentration (B)	Reasonable Potential?
Chloride	mg/L	250	200	NA	No
Iron, Total Recoverable	mg/L	0.3	0.094	NA	No
Nitrate	mg/L	45	33.9	8.98	No
Manganese	mg/L	0.05	0.13	NA	Yes, MEC>C
Methylene Blue Active Substances (MBAS)	mg/L	0.5	0.22	NA	No
Total Residual Chlorine (TRC)	ug/L	11 ¹	N/A	NA	Yes ¹
Boron	mg/L	0.75	0.36	NA	No
Fluoride	mg/L	1	0.811	NA	No
Methyl-tert-butyl ether (MTBE)	mg/L	0.005	N/A	NA	NA
% Sodium	%	60	N/A	NA	NA
Total Dissolved Solids (TDS)	mg/L	500	930	1313	Yes, MEC>C
Sulfate	mg/L	250	223	NA	Yes, MEC<C, however, 303(d) listed, MEC detected
Total Trihalomethanes (TTHM)	ug/L	0.1	3.57	NA	Yes, MEC>C
Total Phosphorous (TP)	mg/L	0.1	0.4	0.1	Yes, MEC>C
Total Nitrogen (TN)	mg/L	1	37.4	11.5	Yes, MEC>C
Turbidity	NTU	20	N/A	NA	NA
Color	units	20	20	NA	Yes, MEC=C
DO	mg/L	6	N/A	20.5	No
2,4-D	mg/L	0.07	0.00076 ^J	NA	No
Alachor	mg/L	0.002	<0.000091	NA	No
Atrazine	mg/L	0.001	<0.000031	NA	No
Bentazon	mg/L	0.018	<0.00029	NA	No
Carbofuran	mg/L	0.018	<0.000026	NA	No
cis-1,2-Dichloroethylene	mg/L	0.006	<0.00021	NA	No
Dalapon	mg/L	0.2	0.00037 ^J	NA	No
Di(2-ethylhexyl)adipate	mg/L	0.4	<0.00026	NA	No
Di(2-ethylhexyl)phthalate	mg/L	0.004	0.00048 ^J	NA	No
Dibromochloropropane (DBCP)	mg/L	0.0001	<0.0000029	NA	No
Dinoseb	mg/L	0.007	<0.000046	NA	No
Diquat	mg/L	0.02	<0.0002	NA	No
Endothall	mg/L	0.1	<0.002	NA	No
Ethylene Dibromide (EDB)	mg/L	0.00002	<0.0000039	NA	No
Glyphosate	mg/L	0.7	0.0055	NA	No
Methoxychlor	mg/L	0.03	<0.0000033	NA	No
Molinate	mg/L	0.02	<0.000069	NA	No
Monochlorobenzene	mg/L	0.03	<0.00023	NA	No
Oxamyl	mg/L	0.05	<0.000018	NA	No
Picloram	mg/L	0.5	<0.000038	NA	No
Simazine	mg/L	0.004	<0.000031	NA	No
Styrene	mg/L	0.1	<0.00025	NA	No
Thiobencarb	mg/L	0.001	<0.000059	NA	No

Parameter	Units	Selected Criteria (C)	Maximum Effluent Concentration (MEC)	Receiving Water Concentration (B)	Reasonable Potential?
Trichlorofluoromethane	mg/L	0.15	<0.00025	NA	No
Xylenes	mg/L	1.75	<0.0005	NA	No
Nitrate + Nitrite (sum as nitrogen)	mg/L	10	9.71	NA	No
Nitrite (as nitrogen)	mg/L	1	1.05	0.293	Yes, MEC>C

NA = Not available.

^J = Detected, but not quantified.

¹ The Basin Plan narrative states that 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. The Discharger's tertiary treatment process includes chlorination and dechlorination. Due to a lack of effluent data for chlorine, and the potential toxic impacts of an accidental discharge of chlorinated effluent, reasonable potential for chlorine has been established based on Step 7 of section 1.3 of the SIP. Effluent limitations for chlorine have been developed based on USEPA's National Recommended Water Quality Criteria for the protection of aquatic life.

Final RPA results demonstrate that WQBELs are required for cyanide, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, n-nitrosodimethylamine, alpha-BHC, aluminum, total trihalomethanes, nitrite (as N), ammonia (NH₃), color, total phosphorus, total nitrogen, TDS, and sulfate.

4. CTR/NTR WQBEL Calculations

- a. If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in section 1.4 of the SIP. These procedures include the following:
 - i. If applicable and available, use the WLA established as part of a TMDL;
 - ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs); and
 - iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the San Diego Water Board.
- b. WQBELs are calculated following the procedures in section 1.4 of the SIP. Additionally, performance goals for the remaining CTR/NTR parameters are calculated based on section 1.4 of the SIP. Where an applicable primary MCL or secondary MCL is more stringent than a CTR/NTR parameter, the MCL has been used as the applicable human health criteria for CTR/NTR parameter.

In the ROWD, the Discharger indicates that at a stream flow of 300 cfs (permit requirement for discharge conditions), and a maximum effluent discharge of 9 MGD, the projected receiving water dilution ratio is 23:1. The continued application of a dilution ratio of 11.1:1 appears to be protective of water quality objectives. Section 1.4.2 of the SIP establishes procedures for granting mixing zones and the assimilative capacity of the receiving water. The previous Order found that a dilution ratio of 11.1 (D=10.1) was applicable for acute, chronic, and human health criteria/objectives. The discharge

conditions have not materially changed over the recent permit term, thus the dilution ratio of 11.1 remains effective.

- c. Dilution is not provided for parameters with background concentrations that are greater than the applicable water quality criteria/objectives or for parameters on the 303(d) list. Parameters for which dilution was not granted based on 303(d) listing include selenium, manganese, TDS, sulfate, and total nitrogen. Parameters for which dilution was not granted based on receiving water data include ammonia and total phosphorus.
- d. WQBELs Calculation Example

Using total recoverable cyanide as an example, the following demonstrates how WQBELs and performance goals were established for CTR/NTR parameters in this Order.

The process for developing these limitations and performance goals is consistent with section 1.4 of the SIP.

Calculation of aquatic life AMEL and MDEL:

Step 1: For each constituent requiring an effluent limitation, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the following steady state equation:

$$ECA = C + D(C-B) \quad \text{when } C > B, \text{ and}$$

$$ECA = C \quad \text{when } C \leq B,$$

- Where
- C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH, and translators. For discharges from the Facility, criteria for saltwater are independent of hardness and pH.
 - D = The dilution credit.
 - B = The ambient background concentration.

As discussed above, this Order allows for a dilution of 11.1:1 (D=10.1); therefore, for cyanide:

$$ECA_{acute} = 244 \mu\text{g/L}$$

$$ECA_{chronic} = 58 \mu\text{g/L}$$

$$ECA_{human\ health} = 7,770 \mu\text{g/L}$$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA = ECA \times \text{Multiplier}_{99}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. If the data set is greater than 10 samples, and at least 20 percent of the samples in the data set are reported as detected, the CV shall be equal to the standard deviation of the data set divided by the average of the data set.

All CTR/NTR pollutants have less than 10 samples in the data set. Thus, the CV shall be set equal to 0.6 for all CTR/NTR parameters.

For cyanide, the following data was used to develop the acute and chronic LTAs using equations provided in section 1.4, Step 3 of the SIP (Table 1 of the SIP also provides this data up to three decimals).

Table 1 of the SIP Effluent Concentration Allowance (ECA)
 Multipliers for Calculating Long-Term Averages (LTAs)

No. of Samples	CV	ECA Multiplier _{acute}	ECA Multiplier _{chronic}
2	0.6	0.32	0.53

$$LTA_{acute} = 244 \mu\text{g/L} \times 0.32 = 78 \mu\text{g/L}$$

$$LTA_{chronic} = 58\mu\text{g/L} \times 0.53 = 30 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or LTA_{chronic}

For cyanide, the most limiting LTA is LTA_{chronic}

$$LTA_{cyanide} = LTA_{chronic} = 30 \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95}$$

$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four, the default number of samples to be used is four.

For cyanide, the following data were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP:

Table 2 of the SIP
 Long-Term Average (LTA) Multipliers for Calculating Effluent Limitations

No. of Samples Per Month	CV	Multiplier _{MDEL99}	Multiplier _{AMEL95}
4	0.6	3.11	1.55

For cyanide:

$$AMEL_{\text{aquatic life}} = 30 \mu\text{g/L} \times 1.55 = 47 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 30 \mu\text{g/L} \times 3.11 = 95 \mu\text{g/L}$$

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{\text{human health}}$

For cyanide:

$$AMEL_{\text{human health}} = ECA_{\text{human health}}$$

$$AMEL_{\text{human health}} = 7,770 \mu\text{g/L}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

For the default CV of 0.6:

No. of Samples Per Month	CV	Multiplier _{MDEL 99}	Multiplier _{AMEL 95}	Ratio
4	0.6	3.1	1.6	2.0

For cyanide:

$$MDEL_{\text{human health}} = 7,770 \mu\text{g/L} \times 2.0 = 15,618 \mu\text{g/L}$$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the WQBEL for the Order.

The aquatic life-based effluent limitations are more stringent than the human health-based effluent limitations for cyanide, thus the aquatic life-based effluent limitations have been established in the Order.

The resulting effluent limitations for the following results are less stringent than the effluent limitations established in the previous Order, thus have been carried over, consistent with state and federal antibacksliding requirements:

The AMEL of 4.5 $\mu\text{g/L}$ for chlorodibromomethane is less stringent than the AMEL of 4.4 $\mu\text{g/L}$;

The AMEL and MDEL of 6.2 $\mu\text{g/L}$ and 13 $\mu\text{g/L}$ for dichlorobromomethane are less stringent than the AMEL and MDEL of 0.56 $\mu\text{g/L}$ and 1.7 $\mu\text{g/L}$; and

The AMEL and MDEL of 20 $\mu\text{g/L}$ and 40 $\mu\text{g/L}$ for bis(2-ethylhexyl)phthalate are less stringent than the AMEL and MDEL of 11 $\mu\text{g/L}$ and 24 $\mu\text{g/L}$.

A summary of the applicable CTR/NTR effluent limitations is provided below:

Table F-10. CTR-based Effluent Limitations (Discharge Point No. 001)

Parameters	Units	Effluent Limitations
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		Average Monthly	Average Weekly	Maximum Daily
Cyanide, Total	µg/L	47	--	95
Chlorodibromomethane	µg/L	4.4	--	8.9
Dichlorobromomethane	µg/L	0.56	--	1.7
Bis(2-ethylhexyl)phthalate	µg/L	11	--	24
N-Nitrosodimethylamine	µg/L	0.0077	--	0.015
alpha-BHC	µg/L	0.043	--	0.087

A summary of CTR/NTR performance goals is provided in section IV.E of this Fact Sheet.

5. Basin Plan Objective Effluent Limitations

This Order establishes effluent limitations for Basin Plan Objectives as MDEs, considering dilution, similar to the ECA calculations for CTR parameters specified in the SIP. The resulting effluent limitations are protective of beneficial uses and water quality objectives. Primary MCLs for non-CTR/NTR parameters have also been established as daily maximums, considering dilution. Secondary MCLs for non-CTR/NTR parameters have been established as monthly averages, based on available dilution.

Table F-11. Basin Plan-based Effluent Limitations

Parameter	Units ¹	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	standard units	--	--	--	6.5	8.5
Aluminum, Total Recoverable	mg/L	--	--	2.2	--	--
	lbs/day	--	--	117	--	--
Total Trihalomethanes	µg/L	--	--	1.1	--	--
	lbs/day	--	--	0.059	--	--
Nitrite (as Nitrogen)	mg/L	--	--	8.1	--	--
	lbs/day	--	--	432	--	--
Ammonia, Un-ionized (NH ₃)	mg/L	--	--	0.025	--	--
	lbs/day	--	--	1.3	--	--
Color	units	--	--	20	--	--
Total Phosphorus	mg/L	--	--	0.1	--	--
	lbs/day	--	--	5.3	--	--
Total Nitrogen	mg/L	--	--	1	--	--
	lbs/day	--	--	53	--	--
Total Dissolved Solids	mg/L	--	--	500	--	--
	lbs/day	--	--	26,688	--	--
Sulfate	mg/L	--	--	250	--	--
	lbs/day	--	--	13,344	--	--
Phenolic Compounds	µg/L	--	--	1	--	--
	lbs/day	--	--	0.053	--	--
Manganese	mg/L	0.05	--	--	--	--
	lbs/day	2.7	--	--	--	--

- ¹ The Mass Emission Rate (MER) values in this table were calculated using a flow rate of 6.4 MGD and the indicated concentration values. When the discharge flowrate is lower than 6.4 MGD, the MER calculations should be correspondingly lower.

6. Whole Effluent Toxicity (WET)

The Basin Plan defines toxicity as the adverse response of organisms to chemical or physical agents.

The Basin Plan establishes a narrative water quality objective for toxicity:

“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.”

Whole effluent toxicity (WET) testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period of time and may measure mortality, reproduction, and growth. A chemical at a low concentration could have chronic effects but no acute effects until the chemical was at a higher concentration. Because of the nature of industrial discharges into the POTW sewershed, it is possible that toxic constituents could be present in the Facility effluent, or could have synergistic or additive effects.

For this Order’s RPA, the above narrative objective is translated into a numeric criterion of 1.0 chronic toxicity unit (TUc). At 1.0 TUc, there is no observable detrimental effect when the indicator organism is exposed to 100 percent effluent; therefore, 1.0 TUc is a direct translation of the narrative objective into a number. Moreover, in the Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) (see section 3.3.3, “Step 3: Decision Criteria for Permit Limit Development”), USEPA recommends that 1.0 TUc be used as a criterion continuous concentration. Such concentrations are typically expressed as four-day averages.

Chronic and acute toxicity tests are conducted monthly on the secondary effluent. There were exceedences of TUc. Using the RPA procedures from the SIP, the effluent does have reasonable potential to cause an exceedance of the narrative water quality objective for toxicity and an effluent limitation for chronic toxicity is required.

Order No. R9-2003-0394 established acute toxicity effluent limitations for the discharge of treated wastewater. However, chronic toxicity is a more stringent requirement than acute toxicity. Therefore, to ensure the aggregated impacts of pollutants present within the Discharger’s effluent does not result in the presence of toxicity within the receiving water, this Order replaces effluent limitations for acute toxicity with effluent limitations for chronic toxicity. Removal of the numeric acute toxicity effluent limitations does not constitute backsliding because chronic toxicity is a more stringent requirement than acute toxicity. Numeric effluent limitations for chronic toxicity are necessary, feasible, and appropriate because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the toxicity WQOs.

In the past, the State Water Board reviewed the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential with respect to SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 (Los Coyotes Order) deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State

Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1.0 TUC trigger, in the Long Beach and Los Coyotes WRP NPDES permits.

However, many facts have changed since the State Water Board adopted the Los Coyotes Order in 2003. USEPA published two new guidance documents with respect to chronic toxicity testing; the California Regional Water Quality Board, Los Angeles Region adopted NPDES permits for industrial facilities incorporating TST-based effluent limits for chronic toxicity and has adopted numeric chronic toxicity effluent limits for industrial facilities and POTWs with TMDL WLAs of 1 TUC; and the California Regional Water Quality Board, Santa Ana Region adopted an NPDES permit for a POTW incorporating TST-based effluent limits for chronic toxicity. In addition to these and other factual developments, the State Water Board has not adopted a revised policy that addresses chronic toxicity effluent limitations in NPDES permits for inland discharges, as anticipated by the Los Coyotes Order. Because the Los Coyotes Order explicitly “declined to make a determination ... regarding the propriety of the final numeric effluent limitations for chronic toxicity...,” (Los Coyotes Order, p. 9) and because of the differing facts before the San Diego Water Board in 2015 as compared to the facts that were the basis for the Los Coyotes Order in 2003, the San Diego Water Board concludes that the Los Coyotes Order does not require inclusion of narrative rather than numeric effluent limitations for chronic toxicity. Further, the San Diego Water Board finds that numeric effluent limitations for chronic toxicity are necessary, feasible, and appropriate because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the toxicity water quality objective. This Order contains numeric chronic toxicity effluent limitations. Compliance with the chronic toxicity requirement contained in this Order shall be determined in accordance with sections VII.O of this Order.

On July 7, 2014, the Chief Deputy of the Water Quality Division announced that the State Water Board would be releasing a revised version of the Chronic Toxicity Plan for public comment within a few weeks. San Diego Water Board awaits its release. Because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the water quality objective, this Order contains numeric chronic toxicity effluent limitations. Compliance with the chronic toxicity requirement contained in this Order shall be determined in accordance to sections VII.O of this Order. Never the less, this Order contains a reopener to require the San Diego Water Board to modify the permit, if necessary, to make it consistent with any new policy, law, or regulation.

For this permit, chronic toxicity in the discharge is evaluated using a median monthly effluent limitation and a maximum daily effluent limitation that utilizes USEPA’s 2010 Test of Significant Toxicity (TST) hypothesis testing approach. The chronic toxicity effluent limitations are expressed as “Pass” for the median monthly summary results and as “Pass” or “<50% Effect” for each maximum daily individual results.

In January 2010, USEPA published a guidance document titled; “EPA Regions 8, 9 and 10 Toxicity Training Tool,” which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR 122.45(d) require that all permit limits be expressed, unless impracticable, as an average weekly limit (AWL) and Average Monthly Limitation (AML) for POTWs. Following section 5.2.3 of the Technical Support Document (TSD), the use of an AWL is not appropriate for WET. In lieu of an AWL for POTWs, USEPA recommends establishing a Maximum Daily Limitation (MDL) for toxic pollutants and pollutants in water quality permitting, including WET. This is appropriate for two reasons. The basis for the average weekly requirement for POTWs derives from secondary treatment regulations and is not related to the requirement to assure achievement of water quality standard. Moreover, an average weekly requirement comprising up to seven daily

samples could average out daily peak toxic concentrations for WET and therefore, the discharge's potential for causing acute and chronic effects would be missed. It is impracticable to use an AWL, because short-term spikes of toxicity levels that would be permissible under the 7-day average scheme would not be adequately protective of all beneficial uses. The MDL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AML is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. However, in cases where a chronic mixing zone is not authorized, EPA Regions 8, 9 and 10 continue to recommend that the AML for chronic WET should be expressed as a median monthly limit (MML).

Later in June 2010, USEPA published another guidance document titled, National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 2010), in which they recommend the following: "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to USEPA's WET test methods. Section 9.4.1.2 of USEPA's Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002), recognizes that, "the statistical methods in this manual are not the only possible methods of statistical analysis." The TST approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine EPA WET test methods.

USEPA's WET testing program and acute and chronic WET methods rely on the measurement result for a specific test endpoint, not upon achievement of specified concentration-response patterns to determine toxicity. USEPA's WET methods do not require achievement of specified effluent or ambient concentration-response patterns prior to determining that toxicity is present. Nevertheless, USEPA's acute and chronic WET methods require that effluent and ambient concentration-response patterns generated for multi-concentration acute and chronic toxicity tests be reviewed—as a component of test review following statistical analysis—to ensure that the calculated measurement result for the toxicity test is interpreted appropriately. (EPA-821-R-02-012, section 12.2.6.2; EPA-821-R-02-013, section 10.2.6.2.). In 2000, EPA provided guidance for such reviews to ensure that test endpoints for determining toxicity based on the statistical approaches utilized at the time the guidance was written (NOEC, LC50's, IC25s) were calculated appropriately (EPA 821-B-00-004).

USEPA designed its 2000 guidance as a standardized step-by step review process that investigates the causes for ten commonly observed concentration-response patterns and provides for the proper interpretation of the test endpoints derived from these patterns for NOECs, LC50s, and IC25s, thereby reducing the number of misclassified test results. The guidance provides one of three determinations based on the review steps: that calculated effect concentrations are reliable and should be reported, that calculated effect concentrations are anomalous and should be explained, or that the test was inconclusive and should be repeated with a newly collected sample. The standardized review of the effluent and receiving water concentration-response patterns provided by EPA's 2000 guidance decreased discrepancies in data interpretation for NOEC, LC50, and IC25 test results, thereby lowering the chance that a truly nontoxic sample would be misclassified and reported as toxic.

Appropriate interpretation of the measurement result from USEPA's TST statistical approach (pass/fail) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for those samples. Therefore, when using the TST statistical approach, application of EPA's 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria and other test review procedures—including those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicity tests, and control performance (mean, standard deviation, and coefficient of variation)—described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods manual. The guidance does not apply to single-concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The San Diego Water Board will not consider a concentration-response pattern as sufficient basis to determine that a TST t- test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or PMSDs must be submitted for review by the San Diego Water Board, in consultation with USEPA and the State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditation Program (40 CFR 122.44(h)). As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

D. Final Effluent Limitation Considerations

1. Satisfaction of Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits unless specific criteria apply. 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. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, except where constituents had no reasonable potential to cause or contribute to a water quality violation. 11 constituents were found to have no reasonable potential: bromoform, gamma-BHC, mercury, methylene chloride, selenium, tetrachloroethylene, chloride, iron, methylene blue active substances, boron, and fluoride. The effluent limitations for these pollutants have been removed and replaced with performance goals, which are less stringent than those in the previous Order. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of section 402(o)(2) and/or 303(d)(4) of CWA for the reasons stated below:

Under section 303(d)(4), the removal of an effluent limitation is permitted in waters that are in attainment as long as anti-degradation requirements are met. Federal and state

Anti-degradation 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. Escondido Creek is in attainment for five out of the 11 constituents identified above: chloride, iron, methylene blue active substances, boron, and fluoride. Data submitted by the Discharger established that the discharge does not have reasonable potential to cause or contribute to an exceedance of water quality objectives for these constituents. Because the removal of effluent limitations for chloride, iron, methylene blue active substances, boron, and fluoride is not expected to affect water quality, the beneficial uses in Escondido Creek will be maintained. Therefore, the removal of these effluent limitations is consistent with anti-backsliding requirements.

Under section 402(o)(2)(B)(i), the removal of an effluent limitation for a water quality standard is permissible when new information becomes available that would have justified the application of a less stringent standard in the prior permit. New monitoring data indicates that the discharge does not have reasonable potential to cause or contribute to an exceedance of water quality objectives for bromoform, gamma-BHC, mercury, methylene chloride, selenium, and tetrachloroethylene. Because the removal of these effluent limitations does not have the reasonable potential to degrade water quality in Escondido Creek, based on the RPA, the removal of these effluent limitations is consistent with anti-backsliding requirements.

2. Antidegradation Policies

WDRs for the Discharger must conform with federal and state antidegradation policies provided at 40 CFR section 131.12 and in State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the San Diego Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

As discussed above, this Order removes WQBELs for bromoform, gamma-BHC, mercury, methylene chloride, selenium, tetrachloroethylene, chloride, iron, methylene blue active substances, boron, and fluoride. A complete anti-degradation analysis is not required because no significant lowering of water quality has been allowed. This permit requires the Discharger to continue operating at current treatment efficiency. The discharge has no reasonable potential to cause exceedances for these constituents such that the removal of these effluent limitations is not expected to result in an increase of pollutant loading to the receiving water.

Because changes in this Order are not expected to result in a lowering of water quality of the receiving water, the requirements of this Order are consistent with federal and state antidegradation requirements.

3. Stringency of Requirements for Individual Pollutants

This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on CBOD₅, TSS, and pH. Specifically, this Order includes effluent limitations for CBOD₅ and TSS that are more stringent than applicable federal standards,

but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The San Diego Water Board has considered the factors listed in Water Code section 13241.1 in establishing these requirements. These limitations remain unchanged from those established in the previous Order and are discussed in section IV.B.2.a of this Fact Sheet. The Discharger has demonstrated the ability to consistently comply with the limitations. No Facility upgrades are necessary to comply with the TBELs established within this Order.

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the CTR implemented by the SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to 40 CFR section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order were approved by USEPA and are applicable water quality standards pursuant to 40 CFR section 131.21(c)(2). 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 support state and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected level of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives 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 indicators that the effluent may be causing or contributing to a water quality exceedance. Repeated exceedances of performance goals may prompt the San Diego Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit renewal.

A summary of applicable performance goals is provided in Table F-12:

Table F-12. Performance Goals (Discharge Point No. EFF-001)

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
BASED ON BASIN PLAN OBJECTIVES					
Radioactivity, Gross Alpha	pCi/L	--	150	--	Basin Plan
Radioactivity, Gross Beta	pCi/L	--	50	--	Basin Plan
Radium 226 and 228	pCi/L	--	5	--	Basin Plan
Chloride	mg/L	--	2,800	--	Basin Plan
	lbs/day	--	149,453	--	
Iron, Total Recoverable	mg/L	--	3.3	--	Basin Plan
	lbs/day	--	176	--	

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
Methylene Blue Active Substances	mg/L	--	5.5	--	Basin Plan
	lbs/day	--	294	--	
Methyl Tert-Butyl Ether	mg/L	--	0.056	--	Basin Plan
	lbs/day	--	3.0	--	
Boron	mg/L	--	8.3	--	Basin Plan
	lbs/day	--	443	--	
Fluoride	mg/L	--	11	--	Basin Plan
	lbs/day	--	587	--	
Percent Sodium	%	--	60	--	Basin Plan
Color	Units	--	20	--	Basin Plan
Dissolved Oxygen	mg/L	--	6.0 ³	--	Basin Plan
Barium	mg/L	--	11	--	Primary MCL
Nitrate	mg/L	--	410	--	Primary MCL
	lbs/day	--	21,884	--	
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	--	0.78	--	Primary MCL
	lbs/day	--	42	--	
Alachor	mg/L	--	0.022	--	Primary MCL
	lbs/day	--	1.2	--	
Atrazine	mg/L	--	0.011	--	Primary MCL
	lbs/day	--	0.59	--	
Bentazon	mg/L	--	0.2	--	Primary MCL
	lbs/day	--	11	--	
Carbofuran	mg/L	--	0.2	--	Primary MCL
	lbs/day	--	11	--	
cis-1,2-Dichloroethylene	mg/L	--	0.067	--	Primary MCL
	lbs/day	--	4	--	
Dalapon	mg/L	--	2.2	--	Primary MCL
	lbs/day	--	117	--	
Di(2-ethylhexyl)adipate	mg/L	--	4.4	--	Primary MCL
	lbs/day	--	235	--	
Di(2-ethylhexyl)phthalate	mg/L	--	0.044	--	Primary MCL
	lbs/day	--	2.3	--	
Dibromochloropropane (DBCP)	mg/L	--	0.0011	--	Primary MCL
	lbs/day	--	0.059	--	
Dinoseb	mg/L	--	0.078	--	Primary MCL
	lbs/day	--	4.2	--	
Diquat	mg/L	--	0.22	--	Primary MCL
	lbs/day	--	12	--	
Endothall	mg/L	--	1.1	--	Primary MCL
	lbs/day	--	59	--	
Ethylene Dibromide (EDB)	mg/L	--	0.00022	--	Primary MCL
	lbs/day	--	0.012	--	
Glyphosate	mg/L	--	7.8	--	Primary MCL
	lbs/day	--	416	--	
Methoxychlor	mg/L	--	0.33	--	Primary MCL
	lbs/day	--	18	--	
Molinate	mg/L	--	0.22	--	Primary MCL
	lbs/day	--	12	--	
Monochlorobenzene	mg/L	--	0.33	--	Primary MCL
	lbs/day	--	18	--	
Oxamyl	mg/L	--	0.56	--	Primary

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
Picloram	lbs/day	--	30	--	MCL
	mg/L	--	5.6	--	Primary MCL
Simazine	lbs/day	--	299	--	Primary MCL
	mg/L	--	0.044	--	Primary MCL
Styrene	lbs/day	--	2.3	--	Primary MCL
	mg/L	--	1.1	--	Primary MCL
Trichlorofluoromethane	lbs/day	--	59	--	Primary MCL
	mg/L	--	1.7	--	Primary MCL
Xylenes	lbs/day	--	91	--	Primary MCL
	mg/L	--	19	--	Primary MCL
Nitrate + Nitrite (sum as nitrogen)	lbs/day	--	1,014	--	Primary MCL
	mg/L	--	110	--	Primary MCL
Thiobencarb	lbs/day	0.011	--	--	Secondary MCL
	mg/L	0.59	--	--	Secondary MCL
BASED ON CTR AND NTR STANDARDS					
Antimony, Total Recoverable	lbs/day	67	130	--	MCL
	ug/L	4	7	--	MCL
Arsenic, Total Recoverable	lbs/day	110	220	--	MCL
	ug/L	5.9	12	--	MCL
Beryllium, Total Recoverable	lbs/day	44	89	--	MCL
	ug/L	2.3	4.8	--	MCL
Cadmium, Total Recoverable	lbs/day	66	130	--	CAL
	ug/L	4	7	--	CAL
Chromium (III) , Total Recoverable	lbs/day	5,800	12,000	--	CAL
	ug/L	310	641	--	CAL
Chromium (VI) , Total Recoverable	lbs/day	90	180	--	AAL
	ug/L	4.8	10	--	AAL
Chromium (Total) , Total Recoverable	lbs/day	560	1,100	--	MCL
	ug/L	30	59	--	MCL
Copper, Total Recoverable	lbs/day	280	560	--	AAL
	ug/L	15	30	--	AAL
Lead, Total Recoverable	lbs/day	170	340	--	CAL
	ug/L	9	18	--	CAL
Mercury, Total Recoverable	lbs/day	0.56	1.1	--	HH
	ug/L	0.030	0.059	--	HH
Nickel, Total Recoverable	lbs/day	1,500	3,100	--	CAL
	ug/L	80	165	--	CAL
Selenium, Total Recoverable	lbs/day	4.1	8.2	--	CAL
	ug/L	0.22	0.44	--	CAL
Silver, Total Recoverable	lbs/day	240	490	--	AAL
	ug/L	13	26	--	AAL
Thallium, Total Recoverable	lbs/day	19	38	--	HH
	ug/L	1.0	2.0	--	HH
Zinc, Total Recoverable	lbs/day	2,100	4,300	--	AAL
	ug/L	112	230	--	AAL
Asbestos	lbs/day	78,000,000	160,000,000	--	HH
	ug/L	4,163,328	8,540,160	--	HH
2,3,7,8-TCDD	lbs/day	0.00000014	0.00000029	--	HH
	ug/L	0.00000001	0.00000002	--	HH
Acrolein	lbs/day	3,000	7,100	--	HH
	ug/L	160	379	--	HH

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
Acrylonitrile	ug/L	0.65	1.3	--	HH
	lbs/day	0.035	0.1	--	
Benzene	ug/L	11	22	--	MCL
	lbs/day	0.59	1.2	--	
Bromoform	ug/L	48	96	--	HH
	lbs/day	2.6	5.1	--	
Carbon Tetrachloride	ug/L	2.8	5.6	--	HH
	lbs/day	0.15	0.30	--	
Chlorobenzene	ug/L	780	1,600	--	MCL
	lbs/day	42	85	--	
1,1-Dichloroethane	ug/L	56	110	--	MCL
	lbs/day	3.0	5.9	--	
1,2-Dichloroethane	ug/L	4.2	8.5	--	HH
	lbs/day	0.22	0.45	--	
1,1-Dichloroethylene	ug/L	0.6	1.3	--	HH
	lbs/day	0	0	--	
1,2-Dichloropropane	ug/L	5.8	12	--	HH
	lbs/day	0.31	0.64	--	
1,3-Dichloropropylene	ug/L	5.6	11	--	MCL
	lbs/day	0.30	0.59	--	
Ethylbenzene	ug/L	3,300	6,700	--	MCL
	lbs/day	176	358	--	
Methyl Bromide	ug/L	530	1,100	--	HH
	lbs/day	28	59	--	
Methylene Chloride (Dichloromethane)	ug/L	52	110	--	HH
	lbs/day	2.8	5.9	--	
1,1,2,2-Tetrachloroethane	ug/L	1.9	3.8	--	HH
	lbs/day	0.10	0.20	--	
Tetrachloroethylene	ug/L	8.9	18	--	HH
	lbs/day	0.48	1.0	--	
Toluene	ug/L	1,700	3,300	--	MCL
	lbs/day	91	176	--	
1,2-Trans-Dichloroethylene	ug/L	110	220	--	MCL
	lbs/day	5.9	12	--	
1,1,1-Trichloroethane	ug/L	2,200	4,500	--	MCL
	lbs/day	117	240	--	
1,1,2-Trichloroethane	ug/L	6.7	13	--	HH
	lbs/day	0.4	1	--	
Trichloroethylene	ug/L	30	60	--	HH
	lbs/day	1.6	3.2	--	
Chlorophenol	ug/L	1,300	2,700	--	HH
	lbs/day	69	144	--	
2,4-Dichlorophenol	ug/L	1,000	2,100	--	HH
	lbs/day	53	112	--	
2,4-Dimethylphenol	ug/L	6,000	12,000	--	HH
	lbs/day	320	641	--	
2-Methyl-4,6-Dinitrophenol	ug/L	150	300	--	HH
	lbs/day	8	16	--	
2,4-Dinitrophenol	ug/L	780	1,600	--	HH
	lbs/day	42	85	--	
Pentachlorophenol	ug/L	3.1	6.2	--	HH

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
Phenol	lbs/day	0.17	0.33	--	HH
	ug/L	230,000	470,000	--	
2,4,6-Trichlorophenol	lbs/day	12,276	25,087	--	HH
	ug/L	23	47	--	
Acenaphthene	lbs/day	1.2	2.5	--	HH
	ug/L	13,000	27,000	--	
Anthracene	lbs/day	694	1,441	--	HH
	ug/L	110,000	210,000	--	
Benzidine	lbs/day	0.0001	0.0001	--	HH
	ug/L	0.0013	0.0027	--	
Benzo(a)Anthracene	lbs/day	0.0026	0.0052	--	HH
	ug/L	0.049	0.098	--	
Benzo(a)Pyrene	lbs/day	0.0026	0.0052	--	HH
	ug/L	0.049	0.098	--	
Benzo(b)Fluoranthene	lbs/day	0.0026	0.0052	--	HH
	ug/L	0.049	0.098	--	
Benzo(k)Fluoranthene	lbs/day	0.0026	0.0052	--	HH
	ug/L	0.049	0.098	--	
Bis(2-Chloroethyl)Ether	lbs/day	0.018	0.037	--	HH
	ug/L	0.34	0.69	--	
Bis(2-Chloroisopropyl)Ether	lbs/day	854	1,655	--	HH
	ug/L	16,000	31,000	--	
Butylbenzyl Phthalate	lbs/day	1,761	3,576	--	HH
	ug/L	33,000	67,000	--	
2-Chloronaphthalene	lbs/day	1,014	2,028	--	HH
	ug/L	19,000	38,000	--	
Chrysene	lbs/day	0.0026	0.0053	--	HH
	ug/L	0.049	0.1	--	
Dibenzo(a,h)Anthracene	lbs/day	0.0026	0.0053	--	HH
	ug/L	0.049	0.1	--	
1,2-Dichlorobenzene	lbs/day	358	694	--	MCL
	ug/L	6,700	13,000	--	
1,3-Dichlorobenzene	lbs/day	235	475	--	HH
	ug/L	4,400	8,900	--	
1,4-Dichlorobenzene	lbs/day	3.0	5.9	--	MCL
	ug/L	56	110	--	
3,3'-Dichlorobenzidine	lbs/day	0.023	0.048	--	HH
	ug/L	0.44	0.89	--	
Diethyl Phthalate	lbs/day	13,878	27,222	--	HH
	ug/L	260,000	510,000	--	
Dimethyl Phthalate	lbs/day	186,816	373,632	--	HH
	ug/L	3,500,000	7,000,000	--	
Di-n-Butyl Phthalate	lbs/day	1,601	3,203	--	HH
	ug/L	30,000	60,000	--	
2,4-Dinitrotoluene	lbs/day	0.06	0.13	--	HH
	ug/L	1.2	2.5	--	
1,2-Diphenylhydrazine	lbs/day	0.023	0.048	--	HH
	ug/L	0.44	0.89	--	
Fluoranthene	lbs/day	176	358	--	HH
	ug/L	3,300	6,700	--	

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
Fluorene	ug/L	14,000	29,000	--	HH
	lbs/day	747	1,548	--	
Hexachlorobenzene	ug/L	0.008	0.017	--	HH
	lbs/day	0.00043	0.0009	--	
Hexachlorobutadiene	ug/L	4.9	10	--	HH
	lbs/day	0.26	0.53	--	
Hexachlorocyclopentadiene	ug/L	560	1,100	--	MCL
	lbs/day	30	59	--	
Hexachloroethane	ug/L	21	42	--	HH
	lbs/day	1.1	2.2	--	
Indeno(1,2,3-cd) Pyrene	ug/L	0.049	0.1	--	HH
	lbs/day	0.0026	0.0053	--	
Isophorone	ug/L	93	190	--	HH
	lbs/day	5	10	--	
Nitrobenzene	ug/L	190	380	--	HH
	lbs/day	10	20	--	
N-Nitrosodi-n-Propylamine	ug/L	0.056	0.11	--	HH
	lbs/day	0.0030	0.0059	--	
N-Nitrosodiphenylamine	ug/L	56	110	--	HH
	lbs/day	3.0	5.9	--	
Pyrene	ug/L	11,000	21,000	--	HH
	lbs/day	587	1,121	--	
1,2,4-Trichlorobenzene	ug/L	56	110	--	MCL
	lbs/day	3.0	5.9	--	
Aldrin	ug/L	0.0014	0.0029	--	HH
	lbs/day	0.00007	0.00015	--	
beta-BHC	ug/L	0.16	0.31	--	HH
	lbs/day	0.009	0.017	--	
gamma-BHC (Lindane)	ug/L	0.21	0.42	--	AAL
	lbs/day	0.011	0.022	--	
Chlordane	ug/L	0.0063	0.013	--	CAL
	lbs/day	0.00034	0.001	--	
4,4-DDT	ug/L	0.00082	0.0016	--	CAL
	lbs/day	0.000044	0.00009	--	
4,4-DDE	ug/L	0.0065	0.013	--	HH
	lbs/day	0.00035	0.001	--	
4,4-DDD	ug/L	0.0092	0.019	--	HH
	lbs/day	0.0005	0.0010	--	
Dieldrin	ug/L	0.0016	0.0031	--	CAL
	lbs/day	0.00009	0.00017	--	
alpha-Endosulfan	ug/L	0.51	1	--	CAL
	lbs/day	0.027	0.053	--	
beta-Endosulfan	ug/L	0.51	1	--	CAL
	lbs/day	0.027	0.053	--	
Endosulfan Sulfate	ug/L	1,200	2,500	--	HH
	lbs/day	64	133	--	
Endrin	ug/L	0.33	0.65	--	CAL
	lbs/day	0.018	0.035	--	
Endrin Aldehyde	ug/L	8.4	17	--	HH
	lbs/day	0.45	0.9	--	
Heptachlor	ug/L	0.0023	0.0047	--	CAL

Parameter	Performance Goals				Basis ²
	Units ¹	Average Monthly	Maximum Daily	Instantaneous Maximum	
Heptchlor Epoxide	lbs/day	0.00012	0.00025	--	CAL
	ug/L	0.0011	0.0022	--	
	lbs/day	0.00006	0.00012	--	
PCBs sum	ug/L	0.0019	0.0038	--	CAL
	lbs/day	0.00010	0.00020	--	
Toxaphene	ug/L	0.0018	0.0036	--	CAL
	lbs/day	0.00010	0.00019	--	

¹ The Mass Emission Rate (MER) values in this table were calculated using a flow rate of 6.4 MGD and the indicated concentration values. When the discharge flowrate is lower than 6.4 MGD, the MER calculations should be correspondingly lower.

² HH – CTR Human Health Criteria
 CAL – CTR Chronic Aquatic Life Criteria
 AAL – CTR Acute Aquatic Life Criteria

³ Applied as a daily minimum.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Section 303(a-c) of the CWA, requires states to adopt water quality standards, including criteria necessary to protect beneficial uses. The San Diego Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states “*water quality objectives must protect the most sensitive of the beneficial uses which have been designated for a water body.*” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies.

Receiving water limitations of this Order are derived from the water quality objectives for Inland Surface Waters established by the Basin Plan.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 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.

Sections 122.41(a)(1) and (b) through (n) of 40 CFR 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) of 40 CFR allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

This Order may be re-opened and modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements.

Causes for modifications include, but are not limited to, the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Whole Effluent Toxicity (WET)

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 San Diego Water Board.*” The Basin Plan further states, “*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 bioassays of effluent will be prescribed where appropriate. This Order incorporates acute toxicity effluent limitations, a chronic toxicity trigger, and monitoring requirements.

This Order requires the Discharger to conduct additional toxicity testing for exceedances of the acute toxicity effluent limitations or the chronic toxicity trigger. If the additional tests demonstrate toxicity, the Discharger is required to submit a Toxicity Reduction Evaluation (TRE) Work Plan in accordance with USEPA guidance which shall include: further steps taken by the Discharger to investigate, identify, and correct the causes of toxicity; actions the Discharge will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for these actions. This provision also includes requirements to conduct the TRE/TIE process in accordance with the workplan if the results of toxicity testing exceed the effluent limitation for toxicity.

3. Best Management Practices and Pollution Prevention

The Discharger is required to minimize the discharge of pollutants consistent with the requirements of section 2.4.5.1 of the SIP. The goal of the pollutant minimization program is to reduce all potential sources of a priority pollutant through pollutant minimization strategies to maintain the effluent concentration at or below water quality-based effluent limitations.

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

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

The special provisions for this POTW are addressed in Order No. R9-2010-0086 NPDES No. CA0107981, Waste Discharge Requirements for the City Of Escondido, Hale Avenue Resource Recovery Facility, discharge to the Pacific Ocean via the San Elijo Ocean Outfall.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program

(MRP), Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Core Monitoring Requirements

1. Influent Monitoring

Influent monitoring is required to assess the performance of treatment facilities, and to evaluate compliance with TBELs for CBOD₅ and TSS. Influent monitoring requirements have been carried over from the previous Order with one exception.

The previous Order establishes a monitoring frequency of once per year for CBOD₅ and TSS. This Order establishes a monitoring frequency of once per week. This ensures that discharges that last greater than one week are monitored more frequently to provide additional data for the calculation of percent removals to evaluate compliance with secondary treatment standards. This revision further ensures that multiple discharges over a short period (< one week) do not have to be monitored more frequently.

2. 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. Many effluent monitoring requirements have been carried over from the previous Order with some exceptions.

The previous Order established monitoring for parameters with effluent limitations of once per year during the first discharge of each year. Tertiary wastewater data indicate that the Discharger has reasonable potential to exceed applicable water quality objectives/criteria for multiple parameters. The monitoring frequency for parameters with effluent limitations has been revised to once per day to evaluate compliance with applicable effluent limitations.

Monitoring for parameters without applicable effluent limitations has been carried over as twice per year during the first two discharges of each year. This data will be used to evaluate reasonable potential, if necessary, in the future, and evaluate consistency with applicable performance goals.

3. WET Testing Requirements

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 San Diego Water Board." The Basin Plan further states, "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 bioassays of effluent will be prescribed where appropriate. This Order incorporates acute and chronic toxicity effluent limitations and monitoring requirements.

This Order and MRP require the Discharger to conduct additional toxicity testing for exceedances of the chronic toxicity effluent limitations. If the additional tests demonstrate toxicity, the Discharger is required to submit a Toxicity Reduction Evaluation (TRE) workplan in accordance with USEPA guidance which shall include further steps taken by the Discharger to investigate, identify, and correct the causes of

toxicity; actions the Discharge will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for these actions. This provision also includes requirements to conduct the Toxicity Identification Evaluation (TRE/TIE) process in accordance with the Workplan if the results of toxicity testing exceed the effluent limitation for toxicity.

B. Receiving Water Monitoring

1. Surface Water

The previous Order established receiving water monitoring to evaluate compliance with applicable water quality objectives and evaluate reasonable potential. This Order establishes monitoring requirements to evaluate compliance with applicable water quality objectives/criteria, and evaluate reasonable potential, if necessary in the future. Additionally, this Order requires priority pollutant monitoring in the receiving water once per year for the purposes of completing a reasonable potential analysis.

C. Other Monitoring Requirements

1. Regional Monitoring

The Discharger's effluent has the potential to impact the receiving water, and downstream receiving waters to which Escondido Creek is a tributary. The Discharger is required to participate in regional monitoring activities as required by the San Diego Water Board. The intent of regional monitoring activities is to maximize efforts of all monitoring partners using a more cost effective monitoring design and to best utilize the pooled resources of the region.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties

The San Diego Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following San Diego Union Tribune and San Diego Water Board's website.

The public had access to the agenda and any changes in dates and locations through the San Diego Water Board's website at <http://www.waterboards.ca.gov/sandiego/>.

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the San Diego Water Board at 2375 Northside Drive, Suite 100, San Diego, CA 92108.

To be fully responded to by staff and considered by the San Diego Water Board, the written comments were due at the San Diego Water Board office by 5:00 p.m. on Monday, May 11, 2015.

C. Public Hearing

The San Diego Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: June 24, 2015
Time: 9:00 AM
Location: Regional Water Quality Control Board
Regional Board Meeting Room
2375 Northside Drive, Suite 100, San Diego, CA 92108

Interested persons were invited to attend. At the public hearing, the San Diego Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Appeal of Waste Discharge Requirements

Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. 30 calendar days after the adoption of this Order at the following address:

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

Copies of the law and regulations applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

E. Information and Copying

The ROWD, other supporting documents, and comments received are on file and may be inspected at the San Diego Water Board, 2375 Northside Drive, Suite 100, San Diego, CA 92108 at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling 619-516-1990.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Vicente Rodriguez at 619-521-3966 or vrodriquez@waterboards.ca.gov.

ATTACHMENT G – BASIN PLAN DISCHARGE PROHIBITIONS

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by WDRs or the terms described in Water Code section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in Water Code section 13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.
7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR section 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR section 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from firefighting activities.] [section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].
9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.
10. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in Water Code section 13264, is prohibited.
11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.
13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.
14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

ATTACHMENT H – ANALYTICAL METHODS FOR CTR/NTR PRIORITY POLLUTANTS AND OTHER TOXIC POLLUTANTS

The following table lists the suggested analytical methods and minimum levels (ML) for toxic pollutants that shall be used, unless otherwise specified.

For priority pollutant monitoring, when there is more than one ML value for a give substance, the Discharger may select any of the analytical methods cited in the following table for compliance determination, or any other method described in 40 CFR part 136 or approved by USEPA if authorized by the San Diego Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in the table below. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total) ³	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note) ⁴												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			

¹ The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

² Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

³ Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).

⁴ The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAAs	DCP
14.	Cyanide	SM 4500 CN C or I				5								
15.	Asbestos (only required for dischargers to MUN waters) ⁵	0100.2 ⁶												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichloromethane	601	0.5	2										
37.	1,1,1,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										

⁵ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

⁶ Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVA	DCP
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note) ⁷	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										

⁷ Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											