

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

2375 Northside Drive, Suite 100, San Diego, CA 92108
Phone (619) 516-1990 O Fax (619) 516-1994
San Diego Water Board Website (<https://www.waterboards.ca.gov/sandiego>)

**TENTATIVE ORDER NO. R9-2023-0004
NPDES NO. CA0107239**

**WASTE DISCHARGE REQUIREMENTS FOR THE UNIVERSITY OF CALIFORNIA,
SAN DIEGO, SCRIPPS INSTITUTION OF OCEANOGRAPHY
DISCHARGE TO THE PACIFIC OCEAN**

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

Discharger Name of Facility Facility Address	University of California, San Diego University of California, San Diego-Scripps Institution of Oceanography 9500 Gilman Drive, MC0089
--	--

Administrative Information

This Order was adopted on: This Order shall become effective on: This Order shall expire on:	March 8, 2023 May 1, 2023 April 30, 2028
--	---

Table 1. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Aquaria wastewater and filtered seawater	32 °, 52', 2" N	117 °, 15', 14" W	Pacific Ocean
002	Stormwater	32 °, 51', 56" N	117 °, 15', 16" W	Pacific Ocean
003	Aquaria wastewater and filtered seawater	32 °, 51', 58" N	117 °, 15', 15" W	Pacific Ocean
004a	Unfiltered raw seawater	32 °, 51', 57" N	117 °, 15', 15" W	Pacific Ocean
004b	Filter backwash water	32 °, 51', 58" N	117 °, 15', 15" W	Pacific Ocean

The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations (CCRs), 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 United States Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) have classified this discharge as a **Minor 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**.

TENTATIVE

David W. Gibson, Executive Officer

TABLE OF CONTENTS

1. Facility Information	6
2. Findings.....	6
2.1. Legal Authorities	6
2.2. Background and Rationale for Requirements	6
2.3. Provisions and Requirements Implementing State Law.....	6
2.4. Executive Order Delegation of Authority	6
2.5. Notice of Interested Parties.....	6
2.6. Consideration of Public Comment.....	7
3. Discharge Prohibitions	7
4. Effluent Limitations and Discharge Specifications.....	8
4.1. Effluent Limitations.....	8
4.2. Land Discharge Specifications – Not Applicable.....	20
4.3. Recycling Specifications – Not Applicable	20
5. Receiving Water Limitations	21
5.1. Surface Water Limitation.....	21
5.2. Groundwater Limitations – Not Applicable	23
6. Provisions	23
6.1. Standard Provisions.....	23
6.2. Monitoring and Reporting Program (MRP) Requirements	24
6.3. Special Provisions.....	24
7. Compliance Determination	27
7.1. Compliance with Average Monthly Effluent Limitation (AMEL)	27
7.2. Compliance with Average Weekly Effluent Limitation (AWEL).....	27
7.3. Compliance with Maximum Daily Effluent Limitation (MDEL)	27
7.4. Compliance with Instantaneous Minimum Effluent Limitation	27
7.5. Compliance with Instantaneous Maximum Effluent Limitation	28
7.6. Compliance with Six-Month Median Effluent Limitation	28
7.7. Mass and Concentration Limitations	28
7.8. Mass Emission Rate (MER).....	28
7.9. Bacterial Standards and Analysis	28
7.10. Chronic Toxicity	29

TABLES

Table 1. Discharge Location.....	1
Table 2. Technology Based Effluent Limitations at Monitoring Locations EFF-001, 003, 004a, and 004b	8
Table 3. Water Quality Based Effluent Limitations for Monitoring Locations 001, 003, 004a, and 004b	10
Table 4. Performance Goals at Monitoring Locations EFF-001, 002, 003, 004a, and 004b	16

ATTACHMENTS

ATTACHMENT A – ABBREVIATIONS AND DEFINITIONS 1
ATTACHMENT B – MAP..... 1
ATTACHMENT C – FLOW SCHEMATIC..... 1
ATTACHMENT D – STANDARD PROVISIONS 1
ATTACHMENT E – MONITORING AND REPORTING PROGRAM..... 1
ATTACHMENT F – FACT SHEET 1
ATTACHMENT G – DISCHARGE PROHIBITIONS 1

1. Facility Information

Information describing the University of California, San Diego – Scripps Institution of Oceanography (Facility) is summarized in Table 1 and in sections 1 and 2 of the Fact Sheet (Attachment F). Section 1 of the Fact Sheet also includes information regarding the Facility's permit application.

2. Findings

The San Diego Water Board finds:

2.1. 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). This Order shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order.

2.2. 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 are also incorporated into this Order.

2.3. Provisions and Requirements Implementing State Law

The provisions/requirements in subsections 4.2, 4.3, and 5.2 are included to implement State of California (State) law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

2.4. Executive Order 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.

2.5. Notice 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.

The San Diego Water Board has also provided an opportunity for the Discharger and interested agencies and persons to submit oral comments and recommendations at a public hearing. Details of the notification are provided in the Fact Sheet (Attachment F).

2.6. Consideration of Public Comment

The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F).

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order No. R9-2015-0070, as amended by Order No. R9-2019-0176, 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. The Discharger is hereby authorized to discharge subject to WDRs in this Order at the discharge locations described in Table 1 to the Pacific Ocean offshore of the coast of San Diego County. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of Order No. R9-2015-0070, as amended by Order No. R9-2019-0176.

3. Discharge Prohibitions

- 3.1.** 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.
- 3.2.** The Discharger must comply with Waste Discharge Prohibitions contained in chapter 4 of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan), incorporated into this Order as if fully set forth herein and summarized in Attachment G, as a condition of this Order.
- 3.3.** The Discharger must comply with Discharge Prohibitions contained in the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan), incorporated into this Order as if fully set forth herein and summarized in Attachment G, as a condition of this Order.
- 3.4.** The discharge of industrial waste other than seawater that has been pumped from the Pacific Ocean and circulated through the Facility's aquaria as discussed in section 2 of the Fact Sheet is prohibited.
- 3.5.** The dumping or deposition of oil, trash, or other industrial waste into the ocean or adjacent to the ocean in any manner that may permit it to be washed into the ocean is prohibited.
- 3.6.** The total combined discharge of seawater in excess of 1.25 million gallons per day (MGD) from Outfalls 001, 003, 004a, and 004b is prohibited unless the discharger obtains revised WDRs for the proposed increase in flow.
- 3.7.** Discharges of wastes to Areas of Special Biological Significance (ASBS) not covered by an Ocean Plan exception are prohibited.

3.8. The discharge of copper additives is prohibited.

3.9. All discharges of non-storm water urban runoff (i.e., any discharge of urban runoff to a storm drain that is not composed entirely of storm water), except those associated with emergency firefighting, are prohibited.

4. Effluent Limitations and Discharge Specifications

4.1. Effluent Limitations

4.1.1. Effluent Limitations - Outfalls 001, 003, 004a, and 004b

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points Nos. 001, 003, 004a, and 004b (also known as Outfalls 001, 003, 004a, and 004b), with compliance measured at Monitoring Locations EFF-001, EFF-003, EFF-004a, and EFF-004b as described in the Monitoring and Reporting Program (MRP, Attachment E):

Table 2. Technology Based Effluent Limitations at Monitoring Locations EFF-001, 003, 004a, and 004b^{1,2,3}

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	milligrams per liter (mg/L)	60	--	120	--
TSS	pounds per day (lbs/day)	626	--	1251	--
pH	standard units	--	--	6.0	9.0
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day	261	417	--	782

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Settleable Solids	milliliter per liter (ml/L)	1.0	1.5	--	3.0
Turbidity	nephelometric turbidity unit (NTU)	75	100	--	225

Notes for Table 2.

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The mass-based effluent limitations were calculated using the following equation: $8.34 \times Q \times C$, where 8.34 is a conversion factor, Q is 1.25 MGD which is based on Discharge Prohibition 3.6 of this Order, and C is the concentration, mg/L.

The mass-based effluent limitations apply to the total mass emission rate (MER) from Outfalls 001, 003, 004a, and 004b which shall be calculated using the following equation: $8.34 \times [(measured\ concentration-Outfall\ 001,\ mg/L \times measured\ flow-Outfall\ 001,\ MGD) + (measured\ concentration-Outfall\ 003,\ mg/L \times estimated/measured\ flow-Outfall\ 003,\ MGD) + (measured\ concentration-Outfall\ 004a,\ mg/L \times estimated/measured\ flow-Outfall\ 004a,\ MGD) + (measured\ concentration-Outfall\ 004b,\ mg/L \times estimated/measured\ flow-Outfall\ 004b,\ MGD)]$.
3. Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1 E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^2 or 610, and 6.1E+00 represents 6.1 x 100 or 6.1.

Table 3. Water Quality Based Effluent Limitations for Monitoring Locations 001, 003, 004a, and 004b^{1,2,3}

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
Ammonia, expressed as nitrogen (effluent limitations apply at monitoring location EFF-004b only)	microgram per liter (µg/L)	4.8E+03	--	--	1.92E+04	4.8E+04	--
Ammonia, expressed as nitrogen (effluent limitations apply at monitoring location EFF-004b only)	lbs/day	5.0E+01	--	--	2.0E+02	5.0E+02	--
Bis (2-ethylhexyl) phthalate (effluent limitations apply at monitoring location EFF-001 only)	µg/L	--	28	--	--	--	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
Bis (2-ethylhexyl) phthalate (effluent limitations apply at monitoring location EFF-001 only)	lbs/day	--	2.9E-01	--	--	--	--
Chronic Toxicity ^{4,5} (effluent limitations apply at monitoring location EFF-004b only)	Toxic Units Chronic (TUc)	--	--	--	8	--	--
Hexavalent Chromium, Total Recoverable (effluent limitations apply at monitoring location EFF-004b only)	µg/L	16	--	--	64	160	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
Hexavalent Chromium, Total Recoverable (effluent limitations apply at monitoring location EFF-004b only)	lbs/day	1.7E-01	--	--	6.7E-01	1.7E+00	--
Cyanide (effluent limitations apply at monitoring location EFF-004b only)	µg/L	8	--	--	32	80	--
Cyanide (effluent limitations apply at monitoring location 004b only)	lbs/day	8.34E-02	--	--	3.33E-01	8.34E-01	--
DDT (effluent limitations apply at monitoring locations 001,003, 004a, and 004b only)	µg/L	--	1.36E-03	--	--	--	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
DDT (effluent limitations apply at monitoring locations 001,003, 004a, and 004b only)	lbs/day	--	1.4E-02	--	--	--	--
PAHs (effluent limitations apply at monitoring locations 003, 004a, and 004b only)	µg/L	--	7.04E-02	--	--	--	--
PAHs (effluent limitations apply at monitoring locations 003, 004a, and 004b only)	lbs/day	--	7.3E-04	--	--	--	--
TCDD Equivalents (effluent limitations apply at monitoring locations 001,003, 004a, and 004b only)	µg/L	--	3.12E-08	--	--	--	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
TCDD Equivalents (effluent limitations apply at monitoring locations 001,003, 004a, and 004b only)	lbs/day	-	3.3E-10	-	-	-	-

Notes for Table 3.

1. See Attachment A for definitions of abbreviations and a glossary of commo terms used in this Order.
2. The mass-based effluent limitations were calculated using the following equation: $8.34 \times Q \times C$, where 8.34 is a conversion factor, Q is 1.25 MGD which is based on Discharge Prohibition 3.6 of this Order, and C is the concentration, mg/L.
 The mass-based effluent limitations apply to the total mass emission rate (MER) from Outfalls 001, 003, 004a, and 004b which shall be calculated using the following equation: $8.34 \times [(measured\ concentration-Outfall\ 001,\ mg/L \times measured\ flow-Outfall\ 001,\ MGD) + (measured\ concentration-Outfall\ 003,\ mg/L \times estimated/measured\ flow-Outfall\ 003,\ MGD) + (measured\ concentration-Outfall\ 004a,\ mg/L \times estimated/measured\ flow-Outfall\ 004a,\ MGD) + (measured\ concentration-Outfall\ 004b,\ mg/L \times estimated/measured\ flow-Outfall\ 004b,\ MGD)]$.
3. Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1 E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^2 or 610, and 6.1E+00 represents 6.1×10^0 or 6.1.
4. As specified in section 7.10 of this Order and section 3.3 of the MRP (Attachment E).

5. The chronic toxicity effluent limitation is protective of both numeric and acute chronic toxicity water quality objectives established in the 2019 Ocean Plan. The effluent limitation shall be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Chronic toxicity expressed as $TU_c = 100/NOEC$, where NOEC (No Observed Effect Concentration; also referred to as the No Observed Effect Level or NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

4.1.2. Performance Goals - Outfalls 001, 002, 003, 004a, and 004b

4.1.2.1. Outfalls 001, 003, 004, and 004b

Parameters 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 parameters and are assigned the performance goals listed in Table . Performance goal parameters for Outfalls 001, 003, 004a, and 004b shall be monitored at monitoring locations EFF-001, EFF-003, EFF-004a, EFF-004b respectively as described in the MRP (Attachment E). The San Diego Water Board will use the results for informational purposes only, not compliance determinations.

The performance goals in Table are not water quality-based effluent limitations (WQBELs) and are not enforceable, as such. However, the Discharger shall maintain, if not improve, the effluent quality to levels at or below the performance goal. The Discharger shall report all exceedances of performance goals at monitoring locations EFF-001, EFF-003, EFF-004a, or EFF-004b in the cover letter of the semiannual self-monitoring report (SMR).

Any two consecutive exceedances of the performance goals at monitoring locations EFF-001, EFF-003, EFF-004a, or EFF-004b shall trigger an investigation into the cause of the exceedance. The Discharger is required to submit a Performance Goal Exceedance Investigation Work Plan to the San Diego Water Board if the exceedance persists in three consecutive successive monitoring events within 30 days of the Discharger becoming aware of the third successive exceedance. However, exceedances of the performance goals for total residual chlorine are exempt from the performance goal investigation requirements described in this section of the Order. The Performance Goal Exceedance Investigation Work Plan shall outline the investigative steps being taken, whether outside technical expertise is being retained to assist in the investigation, and the proposed schedule for completing a Performance Goal Exceedance Report. The Performance Goal Exceedance Report shall include a description of the nature of the exceedance(s), the results of the investigation including the cause of the exceedance(s), the corrective actions taken, any proposed corrective measures, and a schedule for implementation, if necessary.

The San Diego Water Board may reopen this Order to include effluent limitations for parameters that exceed performance goals.

4.1.2.2. Outfall 002

Performance goal parameters for Outfall 002 shall be monitored at monitoring location EFF-002, as described in the MRP (Attachment E).

If a performance goal is exceeded at monitoring location EFF-002 in two consecutive monitoring periods, the Discharger shall include an attachment in the semiannual SMR which 1) lists the parameters that exceeded the performance goals in Table 4 below at monitoring location EFF-002, if any; 2) describes best management practices (BMPs) that are currently being implemented, BMPs that are planned for in the Storm Water Management Plan (SWMP), and additional BMPs that may be added to the SWMP; and 3) includes a new or modified implementation schedule. The reporting schedule for the semiannual SMR is contained in Table E-9 of the MRP (Attachment E).

Within 30 days following submittal of the semiannual SMR, the Discharger shall revise its SWMP to incorporate any new or modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required. The implementation of any new or modified BMPs must be within one year of submittal to the San Diego Water Board. The San Diego Water Board may, for good cause, approve a longer time period for structural BMPs. In any event, a schedule longer than one year must be as short as practicable, as determined by the San Diego Water Board.

Table 4. Performance Goals at Monitoring Locations EFF-001, 002, 003, 004a, and 004b^{1,2,3}

Parameter	Units [3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Arsenic, Total Recoverable	µg/L	4.3 E+01	--	2.4 E+02	6.2E+02
Cadmium, Total Recoverable	µg/L	8.0 E+00	--	3.2 E+01	8.0 E+01
Hexavalent Chromium, Total Recoverable (except for monitoring location 004b which has effluent limitations)	µg/L	1.6 E+01	--	6.4 E+01	1.6 E+02
Copper, Total Recoverable	µg/L	1.0 E+01	--	8.2 E+01	2.26 E+02
Lead, Total Recoverable	µg/L	1.6 E+01	--	6.4 E+01	1.6 E+02
Mercury, Total Recoverable	µg/L	3.2E-01		1.2E+00	3.2E+00

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Nickel, Total Recoverable	µg/L	4.0 E+01	--	1.6 E+02	4.0E+02
Selenium, Total Recoverable	µg/L	1.2 E+02	--	4.8 E+02	1.2 E+03
Silver, Total Recoverable	µg/L	4.48E+00	--	2.1E+01	5.5E+01
Zinc, Total Recoverable	µg/L	1.04E+02	--	5.84E+02	1.54E+03
Cyanide, Total Recoverable (except for monitoring location 004b which has effluent limitations)	µg/L	8E+00	--	3.2E+01	8.0E+01
Total Chlorine Residual	µg/L	1.6E+01	--	6.4E+01	4.80E+02
Ammonia, expressed as nitrogen (except for monitoring location 004b which has effluent limitations)	(µg/L	4.8E+03	--	1.92E+04	4.8E+04
Chronic Toxicity ^{4,5} (except for monitoring location 004b, which has effluent limitations)	TUc	--	--	8	--
Phenolic Compounds (non-chlorinated)	µg/L	2.40E+02	--	9.60E+02	2.40E+03
Chlorinated Phenolics	µg/L	8.0E+00	--	3.2E+01	8.0E+01
Endosulfan	µg/L	7.2E-02	--	1.44E-01	2.16E-01
Endrin	µg/L	1.6 E-02	--	3.2 E-02	4.8 E-02
HCH	µg/L	3.2 E-02	--	6.4 E-02	9.6 E-02
Radioactivity	picocuries per liter	See note 6	See note 6	See note 6	See note 6
Acrolein	µg/L	--	1.76E+03	--	--
Antimony, Total Recoverable	µg/L	--	9.60E+03	--	--
Bis(2-chloroethoxy) Methane	µg/L	--	3.52E+01	--	--
Bis(2-chloroisopropyl) Ether	µg/L	--	9.60E+03	--	--
Chlorobenzene	µg/L	--	4.56E+03	--	--
Chromium (III), Total Recoverable	µg/L	--	1.52E+06	--	--
Di-n-butyl Phthalate	µg/L	--	2.80E+04	--	--
Dichlorobenzenes	µg/L	--	4.08E+04	--	--
Diethyl Phthalate	µg/L	--	2.64E+05	--	--

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Dimethyl Phthalate	µg/L	--	6.56E+06	--	--
4,6-dinitro-2-methylphenol	µg/L	--	1.76E+03	--	--
2,4-dinitrophenol	µg/L	--	3.20E+01	--	--
Ethylbenzene	µg/L	--	3.28E+04	--	--
Fluoranthene	µg/L	--	1.20E+02	--	--
Hexachlorocyclopentadiene	µg/L	--	4.64E+02	--	--
Nitrobenzene	µg/L	--	3.92E+01	--	--
Thallium	µg/L	--	1.60E+01	--	--
Toluene	µg/L	--	6.80E+05	--	--
Tributyltin	µg/L	--	1.12E-02	--	--
1,1,1-trichloroethane	µg/L	--	4.32E+06	--	--
Acrylonitrile	µg/L	--	8.00E-01	--	--
Aldrin	µg/L	--	1.76E-04	--	--
Benzene	µg/L	--	4.72E+01	--	--
Benzidine	µg/L	--	5.52E-04	--	--
Beryllium, Total Recoverable	µg/L	--	2.64E-01	--	--
Bis(2-chloroethyl) Ether	µg/L	--	3.60E-01	--	--
Bis(2-ethylhexyl) Phthalate (except for monitoring location 001 which has effluent limitations)	µg/L	--	2.80E+01	--	--
Carbon Tetrachloride	µg/L	--	7.20E+00	--	--
Chlordane	µg/L	--	1.84E-04	--	--
Chlorodibromomethane	µg/L	--	6.88E+01	--	--
Chloroform	µg/L	--	1.04E+03	--	--
DDT (except for monitoring locations EFF-001, 003, 004a, and 004b, which have effluent limitations)	µg/L	--	1.36E-03	--	--
1,4-dichlorobenzene	µg/L	--	1.44E+02	--	--
3,3'-dichlorobenzidine	µg/L	--	6.48E-02	--	--
1,2-dichloroethane	µg/L	--	2.24E+02	--	--
1,1-dichloroethylene	µg/L	--	7.20E+00	--	--

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Dichlorobromomethane	µg/L	--	4.96E+01	--	--
Dichloromethane (Methylene Chloride)	µg/L	--	3.60E+03	--	--
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	--	7.12E+01	--	--
Dieldrin	µg/L	--	3.20E-04	--	--
2,4-dinitrotoluene	µg/L	--	2.08E+01	--	--
1,2-diphenylhydrazine	µg/L	--	1.28E+00	--	--
Halomethanes	µg/L	--	1.04E+03	--	--
heptachlor	µg/L	--	4.00E-04	--	--
heptachlor epoxide	µg/L	--	1.60E-04	--	--
hexachlorobenzene	µg/L	--	1.68E-03	--	--
Hexachlorobutadiene	µg/L	--	1.12E+02	--	--
Hexachloroethane	µg/L	--	2.00E+01	--	--
Isophorone	µg/L	--	5.84E+03	--	--
N-nitrosodimethylamine	µg/L	--	5.84E+01	--	--
N-nitrosodi-N-propylamine	µg/L	--	3.04E+00	--	--
N-nitrosodiphenylamine	µg/L	--	2.00E+01	--	--
PAHs ¹ (except for monitoring locations 003, 004a, and 004b which have effluent limitations)	µg/L	--	7.04E-02	--	--
PCBs	µg/L	--	1.52E-04	--	--
TCDD equivalents (except for monitoring locations 001, 003, 004a, and 004b which have effluent limitations)	µg/L	--	3.12E-08	--	--
1,1,2,2-tetrachloroethane	µg/L	--	1.84E+01	--	--
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	1.60E+01	--	--
Toxaphene	µg/L	--	1.68E-03	--	--
Trichloroethylene (Trichloroethene)	µg/L	--	2.16E+02	--	--
1,1,2-trichloroethane	µg/L	--	7.52E+01	--	--

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
2,4,6-trichlorophenol	µg/L	--	2.32E+00	--	--
Vinyl Chloride	µg/L	--	2.88E+02	--	--

Notes for Table 4

- 1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
- 2 Scientific “E” notation is used to express certain values. In scientific “E” notation, the number following the “E” indicates the position of the decimal point in the value. Negative numbers after the “E” indicate that the value is less than 1, and positive numbers after the “E” indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1 x 10⁻² or 0.061, 6.1E+02 represents 6.1 x 10² or 610, and 6.1E+00 represents 6.1 x 10⁰ or 6.1.
- 3 The concentration-based performance goals stated in Table 4 are also applicable as mass-based performance goals expressed as lbs/day which are calculated as follows using the maximum flow rate at each outfall:

$$\text{Parameter Concentration } (\mu\text{g/L}) \times \text{Maximum Flow Rate (MGD)} \times 0.00834 \text{ (conversion factor)} = \text{Mass-based Performance Goal expressed as lbs/day.}$$
 The Flow Limit (MGD) values used in this equation are as follows: Outfall 001 – 0.7 MGD; Outfall 002 – storm water only/not applicable/no maximum flow rate for Outfall 002; Outfall 003 – 0.35 MGD; Outfall 004a – 0.019 MGD; and Outfall 004b – 0.060 MGD.
- 4 As specified in section 7.10 of this Order and section 3.3 of the MRP (Attachment E).
- 5 The chronic toxicity performance goal is protective of both numeric and acute chronic toxicity water quality objectives established in the 2019 Ocean Plan. The performance goal shall be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Chronic toxicity expressed as TUC = 100/NOEC, where NOEC is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.
- 6 Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations (CCR). Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

4.2. Land Discharge Specifications – Not Applicable

4.3. Recycling Specifications – Not Applicable

5. Receiving Water Limitations

5.1. Surface Water Limitation

The receiving water limitations set forth below for ocean waters are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge of waste shall not cause or contribute to violation of these limitations in the Pacific Ocean. Compliance with these limitations shall be determined from samples collected at stations representative of the area outside of the zone of initial dilution (ZID).

5.1.1. Bacterial Characteristics

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

5.1.1.1.1. Fecal Coliform

5.1.1.1.1.1. A thirty-day geometric mean of fecal coliform density not to exceed 200 colony forming units (CFU) per 100 milliliters (mL) calculated based on the five most recent samples from each site.

5.1.1.1.1.2. Single sample maximum not to exceed 400 CFU per 100 mL.

5.1.1.1.2. Enterococci

5.1.1.1.2.1. Six-week rolling geometric mean not to exceed 30 CFU per 100 mL, calculated weekly.

5.1.1.1.2.2. Statistical threshold value (STV) of 110 CFU per 100 mL not to be exceeded by more than 10 percent of samples collected in a calendar month, calculated in a static manner.

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

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

5.1.2. Physical Characteristics

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

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

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

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

5.1.2.5. Trash shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

5.1.3. Chemical Characteristics

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

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

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

5.1.3.4. The concentration of substances set forth in chapter II, Table 3 of the Ocean Plan shall not be increased in marine sediments to levels that would degrade indigenous biota.

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

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

5.1.3.7. The water quality objectives established in chapter II, Table 3 of the Ocean Plan shall not be exceeded. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.

5.1.4. Biological Characteristics

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

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

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

5.1.5. Radioactivity

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

5.1.5.2. The radioactivity in the receiving waters shall not exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, section 30253 of the CCR. Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

5.1.6. Natural Water Quality Conditions

Natural water quality conditions in the receiving water, seaward of the surf zone, shall not be altered as a result of the discharge. The surf zone is defined as the area between the breaking waves and the shoreline at any one time. Natural water quality is defined as: that water quality (based on selected physical chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of:

- 5.1.6.1. Man-made constituents (e.g., DDT);
- 5.1.6.2.1. Other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and
- 5.1.6.2.2 Non-Indigenous (e.g., invasive algal bloom species) or Genetically Modified biota that has been introduced either deliberately or accidentally by man.

5.2. Groundwater Limitations – Not Applicable

6. Provisions

6.1. Standard Provisions

6.1.1. Federal Standard Provisions

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

6.1.2. **San Diego Water Board Standard Provisions.** 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.

- 6.1.2.1. The expiration date of this Order is contained on page 1 of this Order. After the expiration date, the terms and conditions of this Order are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at title 40 of the 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 CCR regarding the continuation of expired permits and WDRs are met.
- 6.1.2.3. The Discharger shall maintain a copy of this Order for access in hard copy at a prominent on-site location at the Facility or access in electronic format. The Order shall be available to site personnel, San Diego Water Board, State Water Resources Control Board (State Water Board), and USEPA or their authorized representative at all times. Electronic access to the Order through a device that provide on-line access on the premises of the Facility shall be considered equivalent to on-site access.

6.2. Monitoring and Reporting Program (MRP) Requirements

- 6.2.1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.
- 6.2.2. Notifications required to be provided under this Order to the San Diego Water Board shall be made to:
- E-mail – SanDiego@waterboards.ca.gov, or
Telephone – (619) 516-1990, or
Facsimile – (619) 516-1994.

6.3. Special Provisions

6.3.1. Reopener Provisions

- 6.3.1.1. 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 a performance goal(s) set forth in section 4.1.2, Table 4 of this Order or as otherwise described in Table 3 of the Ocean Plan. (40 CFR section 122.44(d)(1))
- 6.3.1.2. 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 implement recommendations from Southern California Coastal Water Research Project (SCCWRP); (ii) to develop, refine, implement, and/or coordinate a regional monitoring program; (iii) 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 (iv) to add provisions to require the Discharger to evaluate and provide information on cost and values of the MRP (Attachment E).
- 6.3.1.3. This Order may be modified, revoked and reissued, or terminated for cause in accordance with the provisions of 40 CFR parts 122, 124, and 125 at any time prior to its expiration under any of the following circumstances:
- 6.3.1.3.1. Violation of any terms or conditions of this Order. (Water Code section 13381(a));
- 6.3.1.3.2. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts. (Water Code section 13381(b)); and
- 6.3.1.3.3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. (Water Code section 13381(c)).
- 6.3.1.4. 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))

- 6.3.1.5. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA section 307(a) 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 this Order to conform to the toxic effluent standard or prohibition. (40 CFR section 122.44(b)(1))
- 6.3.1.6. This Order may be reopened and modified for consistency with any new water quality control plan, policy, law, or regulation. (40 CFR section 122.62(a)(3).)
- 6.3.1.7. This Order may be reopened and modified to revise effluent limitations as a result of future Ocean Plan, Basin Plan, and/or other statewide Water Quality Control Plan amendments; or the adoption of a total maximum daily load (TMDL) for the receiving water. (40 CFR section 122.62(a)(3))
- 6.3.1.8. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the San Diego Water Board, to provide for dilution credits or a mixing zone, as may be appropriate. (40 CFR section 122.62(a)(2))
- 6.3.1.9. This Order may be reopened 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 endangerment to human health or the environment resulting from the permitted activity.
- 6.3.1.10. The performance goals contained in section 4.1.2. of this Order, may be re-evaluated and modified during this Order term, or this Order may be modified to incorporate WQBELs, in accordance with the requirements set forth at 40 CFR sections 122.62 and 124.5.

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

6.3.2.1. Receiving Water Violation Assessment

In the event of a violation of any receiving water limitation established within this Order, the San Diego Water Board may require the Discharger to perform a special assessment to investigate the nature and cause of the receiving water violation. The receiving water assessment shall identify measures needed to ensure future compliance with receiving water limitations. The Discharger shall submit the required assessment to the San Diego Water Board within 90 days of receipt of the San Diego Water Board's notification to perform a Receiving Water Violation Assessment.

6.3.3. Best Management Practices (BMPs) and Pollution Prevention.

6.3.3.1. Stormwater Management Plan

The Discharger shall submit a revised Stormwater Management Plan (SWMP) within 180 days of the effective date of this Order. The SWMP shall:

- 6.3.3.1.1. Address the prohibition of non-stormwater urban runoff, except associated with emergency firefighting, and the reduction of pollutants in stormwater discharges draining to the ASBS;
- 6.3.3.1.2. Include a map of all entry points for urban runoff entering the Facility's drainage system;
- 6.3.3.1.3. Include a procedure for updating the map and plan when other entry points are discovered;
- 6.3.3.1.4. Describe the measures by which non-stormwater discharges will be eliminated and interim measures that will be employed to reduce non-stormwater flows until the ultimate measures are implemented;
- 6.3.3.1.5. Address stormwater discharges and how pollutants will be reduced in stormwater runoff into the ASBS through the implementation of Best Management Practices (BMPs) or on-site treatment to prevent alteration of natural water quality conditions;
- 6.3.3.1.6. Include an implementation schedule to ensure that non-structural BMPs are implemented within one year of the approval date of the revised SWMP by the San Diego Water Board; and
- 6.3.3.1.7. Implement any necessary revisions to its SWMP to comply with the requirements in the Phase II Small Municipal Separate Storm Sewer Systems (MS4) General Permit, Order No. 2013-0001 DWQ.

Prior to development and submittal of a revised SWMP, the Discharger shall continue to implement the previous SWMP. The SWMP is subject to the approval of this San Diego Water Board.

6.3.3.2. Controls for Waste Seawater Containing Non-Indigenous Species and Genetically Modified Organisms

The Discharger shall maintain administrative and/or engineering controls that result in a negligible risk of the release of exotic species, including foreign pathogens (parasites, protozoa, bacteria, and viruses) according to the following:

- *Non-Indigenous Species Pilot Treatment Study Results for Scripps Institution of Oceanography and the Stephen Birch Aquarium at Scripps.*
- *Non-Indigenous Species and Genetically Modified Organisms Administrative Controls: Standard Operating Procedures, Scripps Institution of Oceanography (August 2019).*
- *Standard Operating Procedures Detailing Administrative Controls to Manage Non-Indigenous Species at Birch Aquarium at Scripps (July 2022)*

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

6.3.5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable

6.3.6. Other Special Provisions – Not Applicable

6.3.7. Compliance Schedules – Not Applicable

7. Compliance Determination

7.1. 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.

7.2. 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 seven 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.

7.3. Compliance with Maximum Daily Effluent Limitation (MDEL)

The MDEL shall apply to flow weighted 24-hour composite samples, or grab samples, 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.

7.4. 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, an alleged 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).

7.5. 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, an alleged 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).

7.6. Compliance with Six-Month Median Effluent Limitation

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

7.7. 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 non-detect (ND) or detected but not quantified (DNQ), the corresponding MER determined from that sample concentration shall also be reported as “ND” or “DNQ.”

7.8. Mass Emission Rate (MER)

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

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

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

7.9. Bacterial Standards and Analysis

7.9.1. Geometric Mean

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

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

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

7.9.2. Statistical Threshold Value (STV)

The statistical threshold value (STV) used for determining compliance with bacterial standards shall not be exceeded by more than 10 percent of the samples collected in a calendar month, collected in a static manner.

7.9.3. Sample Dilutions

Sample dilutions for fecal coliform bacterial analyses should be performed so the range of values extends from 2 to 16,000 CFU. Sample dilutions for enterococci bacterial analyses shall range from 1 to 10,000 CFU per 100 mL. The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for fecal coliform 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 enterococci shall be those presented in USEPA publication USEPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, listed under 40 CFR part 136, and any other method approved by the San Diego Water Board.

7.10. Chronic Toxicity

Chronic toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with the chronic toxicity effluent limit or performance goal established in section 4.1 of this Order shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2019) and restated in the MRP (Attachment E). Chronic toxicity shall be expressed as TU_c , where:

$$TU_c = 100 / NOEC$$

where NOEC is the No Observed Effect Concentration (also referred to as the No Observed Effect Level or NOEL) and is expressed as the maximum percent of effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test. The MDEL for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test results in greater than or equal to 8 TU_c . The MDEL for chronic toxicity is set at the "In-Stream" Waste Concentration (IWC) for the discharge (14.3% effluent¹).

¹ IWC = 1/minimum initial dilution factor (D_m) = 1/7 = 0.143 = 14.3%
Waste Discharge Requirements

ATTACHMENT A – ABBREVIATIONS AND DEFINITIONS

Part 1. – Abbreviations

For the abbreviations with an asterisk (*), see Part 2 of Attachment A (Glossary of Common Terms) for further definition.

Abbreviation	Definition
40 CFR	Title 40 of the Code of Federal Regulations
AMEL*	Average Monthly Effluent Limitation
AQUA	Aquaculture
ASBS*	Areas of Special Biological Significance
ATP	Alternative Test Procedures
AWEL*	Average Weekly Effluent Limitation
Basin Plan	<i>Water Quality Control Plan for the San Diego Basin</i>
Bight	Southern California Bight Regional Monitoring Program
BIOL	Preservation of Biological Habitats of Special Significance
BOD ₅	Biochemical Oxygen Demand (5-Day @ 20°C)
BPJ	Best Professional Judgement
BRI	Benthic Response Index
°C	Degrees Celsius
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CERF	Coastal Environmental Rights Foundation
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CFU	Colony Forming Units
CIWQS	California Integrated Water Quality System
CO ₂	Carbon Dioxide
COMM	Commercial and Sport Fishing
CSI	Chemical Score Index
CSM	Conceptual Site Model
CWA	Clean Water Act
DDT*	Dichlorodiphenyltrichloroethane
DMR*	Discharge Monitoring Report
DNQ*	Detected, But Not Quantified
E. Coli	Escherichia coli
EC ₂₅	Effects Concentration at 25 Percent
ELAP	Environmental Laboratory Accreditation Program
eSMR	Electronic Self-Monitoring Reports
°F	Degrees Fahrenheit
GPS	Global Positioning System
H	Shannon-Weiner's Diversity Index
HCH*	Hexachlorocyclohexane

Abbreviation	Definition
H _o	Hypothesis
HSA	Hydrologic Subarea
HU	Hydrologic Unit
IBI	Index of Biotic Integrity
IND	Industrial Service Supply
IU	Industrial User
IWC*	"In-Stream" Waste Concentration
LC	Lethal Concentration
LC 50	Percent Waste Giving 50 Percent Survival of Test Organisms
MAR	Marine Habitat
MCL	Maximum Contaminant Level
MDEL*	Maximum Daily Effluent Limitation
MDL*	Method Detection Limit
MEC	Maximum Effluent Concentration
MER	Mass Emission Rate
MGD	Million Gallons per Day
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MIGR	Migration of Aquatic Organisms
ML*	Minimum Level
mL	Milliliter
MRP	Monitoring and Reporting Program
NAV	Navigation
ND*	Not Detected
NH ₃	Ammonia
NOA	Notice of Applicability
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
Ocean Plan	<i>Water Quality Control Plan for Ocean Waters of California, California Ocean Plan</i>
PAHs*	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PMP*	Pollutant Minimization Program
PMSD	Percent Minimum Significant Difference
POTWs	Publicly-Owned Treatment Works
PPP	Pollution Prevention Plan
ppth	Parts per Thousand
psu	Practical Salinity Unit
QA	Quality Assurance
QAPP	Quality Assurance Project Plan

Abbreviation	Definition
QC	Quality Control
RARE	Rare, Threatened, or Endangered Species
RBI	Relative Benthic Index
REC-1	Contact Water Recreation
REC-2	Non-Contact Water Recreation
Regional Water Boards	Regional Water Quality Control Boards
RL	Reporting Level
ROWD	Report of Waste Discharge
RPA	Reasonable Potential Analysis
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SCCWRP	Southern California Coastal Water Research Project
Sediment Quality Provisions	<i>Water Quality Control Plan for Enclosed Bays and Estuaries of California –Sediment Quality Provisions</i>
SHELL	Shellfish Harvesting
SIC	Standard Industrial Classification
SMR	Self-Monitoring Report
SOPs	Standard Operating Procedures
SOU	Single Operational Upset
SPP	Spill Prevention Plan
SPWN	Spawning, Reproduction, and/or Early Development
SRP	Spill Response Plan
State	State of California
State Implementation Policy or SIP	<i>Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California</i>
State Water Board	State Water Resources Control Board
State Water Board Resolution No. 68-16	<i>Statement of Policy with Respect to Maintaining High Quality of Waters in California</i>
STV	Statistical Threshold Value
TAC	Test Acceptability Criteria
TBELs	Technology-Based Effluent Limitations
TCDD*	Tetrachlorodibenzodioxin
Thermal Plan	<i>Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries</i>
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solids
TUa	Toxic Units Acute

Abbreviation	Definition
TUc*	Toxic Units Chronic
µg	Microgram
µg/L	Microgram per Liter
U.S.	United States
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
Water Code	California Water Code
WDID	Waste Discharge Identification
WDRs	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA	Wasteload Allocation
WQBELs	Water Quality-Based Effluent Limitations
ZID	Zone of Initial Dilution

Part 2 – Definitions

30-day average

The arithmetic mean of pollutant parameter values of samples collected in a period of 30 consecutive days.

6-Month Median Effluent Limitation

The highest allowable moving median of all daily discharges for any 180-day period.

Acute Toxicity

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

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

b. Lethal Concentration 50% (LC₅₀)

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

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

where:

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

Antidegradation

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

Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Resources Control Board (State Water Board) as ocean areas requiring protection of species or biological communities to the

extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of State Water Quality Protection Areas.

Average Monthly Effluent Limitation (AMEL)

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

Average Weekly Effluent Limitation (AWEL)

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

Beneficial Uses

The uses of water necessary for the survival or well-being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. "Beneficial Uses" of the waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. In the Basin Plan, existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [Water Code section 13050(f)].

Bioaccumulation

The accumulation of contaminants in the tissues of organisms through any route, including respiration, ingestion, or direct contact with contaminated water, sediment, food, or dredged material.

Bypass

The intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 122.41(m)(1)(i).)

Chlordane

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

Chlorinated Phenolics

The sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

Chronic Toxicity

Chronic toxicity is the measure of the sub-lethal effects of a discharge or ambient water sample (e.g., reduced growth or reproduction). Certain chronic toxicity tests include an

additional measurement of lethality. Compliance with the effluent limitation for chronic toxicity in this Order is demonstrated by conducting chronic toxicity tests for the effluent as described in section 7.10 of this Order and section 3.3 of the MRP (Attachment E). Chronic Toxicity effluent limitation is expressed as Toxic Units Chronic (TUc) and is calculated by the following equation:

$$\text{TUc} = 100/\text{NOEC}$$

where NOEC is the No Observed Effect Concentration (also referred to as the No Observed Effect Level or NOEL) or the maximum percent effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test.

Composite Sample

A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliter (mL), collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. Unless otherwise authorized by the San Diego Water Board, the composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. The 100 ml minimum volume of an aliquot does not apply to automatic self-purging samplers. If one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Daily 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.

A grab sample is an individual sample of at least 100 mL collected at a randomly selected time over a period not exceeding 15 minutes.

Dichlorobenzenes

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

Dichlorodiphenyltrichloroethane (DDT)

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

Degrade

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

Detected, But Not Quantified (DNQ)

Sample results that are less than the reported ML, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dichlorobenzenes

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

Dichlorodiphenyltrichloroethane (DDT)

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

Discharge Monitoring Reports (DMRs)

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

Discharge of a Pollutant

Discharge of a pollutant means: (a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or (b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the U.S. from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Enclosed Bays

Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the

greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan

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

Estuaries and Coastal Lagoons

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

Facility

University of California San Diego, Scripps Institution of Oceanography

Halomethanes

The sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH

The sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution

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

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

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

In-stream Waste Concentration (IWC)

The concentration of a toxicant of effluent in the receiving water after mixing (the inverse of the dilution factor). A discharge of 100% effluent will be considered the IWC whenever mixing zones or dilution credits are not authorized by the applicable Water Board.

Kelp Beds

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

Mariculture

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

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)

The minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 CFR part 136, Attachment B.

Minimum Level (ML)

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

Natural Light

Natural water quality is defined as: that water quality (based on selected physical chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of:

- Man-made constituents (e.g., DDT);

- Other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and
- Non-Indigenous (e.g., invasive algal bloom species) or Genetically Modified biota that has been introduced either deliberately or accidentally by man.

Not Detected (ND)

Those sample results less than the laboratory's MDL.

Ocean Waters

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

PAHs (polynuclear aromatic hydrocarbons)

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

PCBs (polychlorinated biphenyls)

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

Phenolic Compounds (non-chlorinated)

The sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

Pollutant

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean: (a) Sewage from vessels; or (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Pollutant Minimization Program (PMP)

A program to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation.

Reported Minimum Level (ML)

The reported ML (also known as the Reporting Level or 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 II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Shellfish

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

Significant Difference

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

Six-Month Median Effluent Limitation

See 6-Month Median above for definition of this term.

State Water Quality Protection Areas (SWQPAs)

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

Statistical Threshold Value (STV)

A set value that approximates the 90th percentile of the water quality distribution for a bacterial population.

TCDD Equivalents

The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors and bioaccumulation equivalency factor, as shown in the table below:

$$\text{TCDD Equivalents} = \sum C_x \times \text{TEF}_x \times \text{BEF}_x$$

where:

C_x is the measured or estimated concentration of congener x
 TEF_x is the toxicity equivalency factor for congener x ; and
 BEF_x is the bioaccumulation equivalency factor for congener x .

Isomer Group	Minimum Level (picogram per liter, pg/L)	2005 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-tetra CDD	10	1.0	1.0
1,2,3,7,8-penta CDD	50	1.0	0.9
1,2,3,4,7,8-hexa CDDs	50	0.1	0.3
1,2,3,6,7,8-hexa CDDs	50	0.1	0.1
1,2,3,7,8,9-hexa CDDs	50	.01	0.1
1,2,3,4,6,7,8-hepta CDD	50	0.01	0.05
octa CDD	100	0.0003	0.01
2,3,7,8-tetra CDF	10	0.1	0.8
1,2,3,7,8-penta CDF	50	0.03	0.2
2,3,4,7,8-penta CDF	50	0.3	1.6
1,2,3,4,7,8-hexa CDFs	50	0.1	0.08
1,2,3,6,7,8-hexa CDFs	50	0.1	0.2
1,2,3,7,8,9-hexa CDFs	50	0.1	0.6
2,3,4,6,7,8-hexa CDFs	50	0.1	0.7
1,2,3,6,7,8-hepta CDFs	50	0.01	0.01
1,2,3,4,7,8,9-hepta CDFs	50	0.1	0.4
octa CDF	100	0.0003	0.02

Thirty-Day Average

See 30-day average above for definition of this term.

Toxicity Identification Evaluation (TIE)

A set of procedures conducted 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.

Toxicity Reduction Evaluation (TRE)

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

Waste

“Waste” includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Water Quality Control Plans

There are two types of water quality control plans - Basin Plans and Statewide Plans. Regional Boards adopt Basin Plans for each region based upon surface water hydrologic basin boundaries. The Regional Basin Plans designates or describes (1) existing and potential beneficial uses of ground and surface water; (2) water quality objectives to protect the beneficial uses; (3) implementation programs to achieve these objectives; and (4) surveillance and monitoring activities to evaluate the effectiveness of the water quality control plan. The Statewide Plans address water quality concerns for surface waters that overlap Regional Board boundaries, are statewide in scope, or are otherwise considered significant and contain the same four elements. Statewide Water Quality Control Plans include the Ocean Plan, the Enclosed Bays and Estuaries Plan, the Inland Surface Waters Plan, and the Thermal Plan. A water quality control plan consists of a designation or establishment for the waters within a specified area of (1) beneficial uses to be protected, (2) water quality objectives, and (3) a program of implementation needed for achieving water quality objectives [Water Code section 13050(j)].

Water Quality Objectives

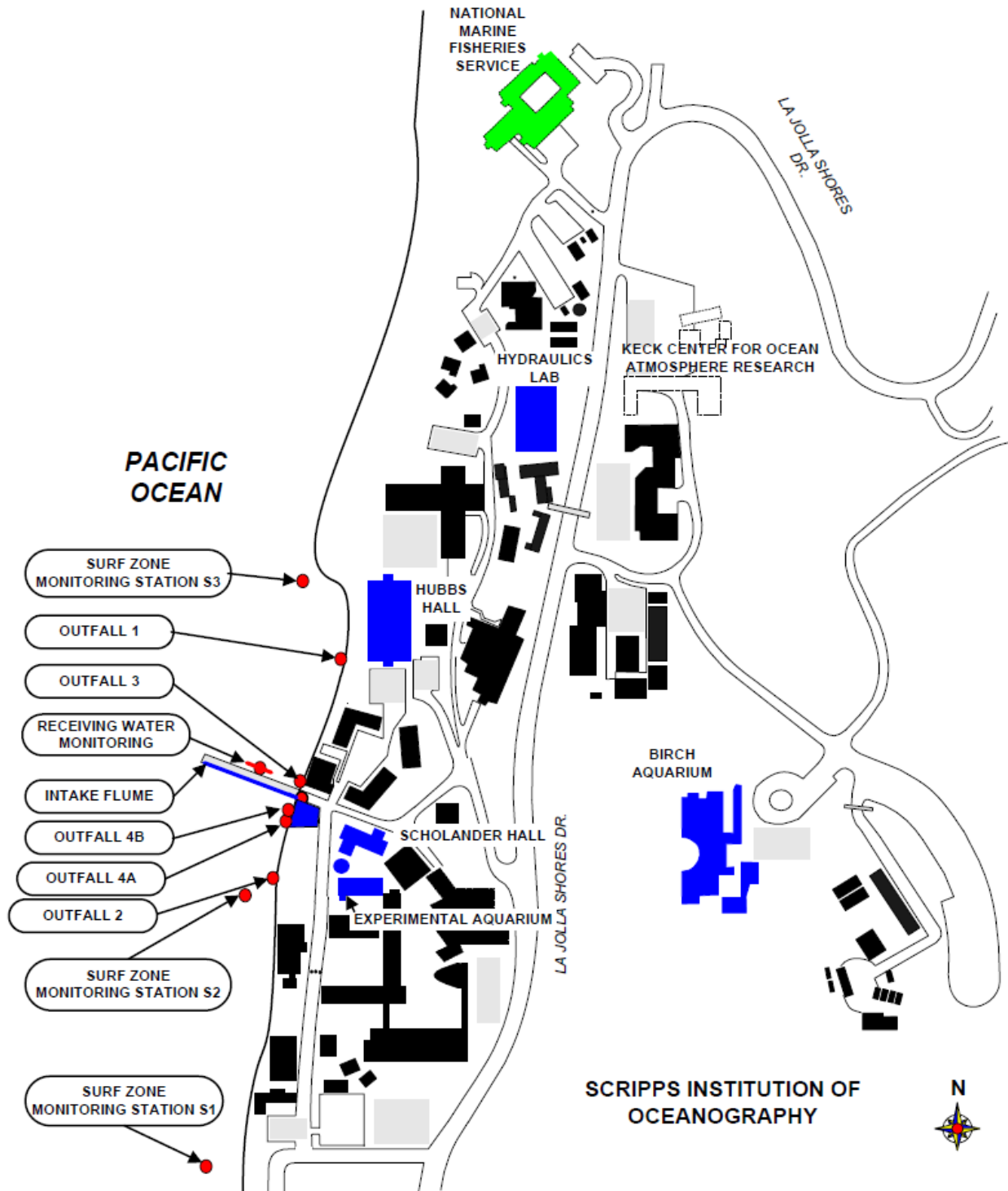
Numerical or narrative limits on constituents or characteristics of water designed to protect designated beneficial uses of the water. [Water Code section 13050(h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

Water Quality Standards

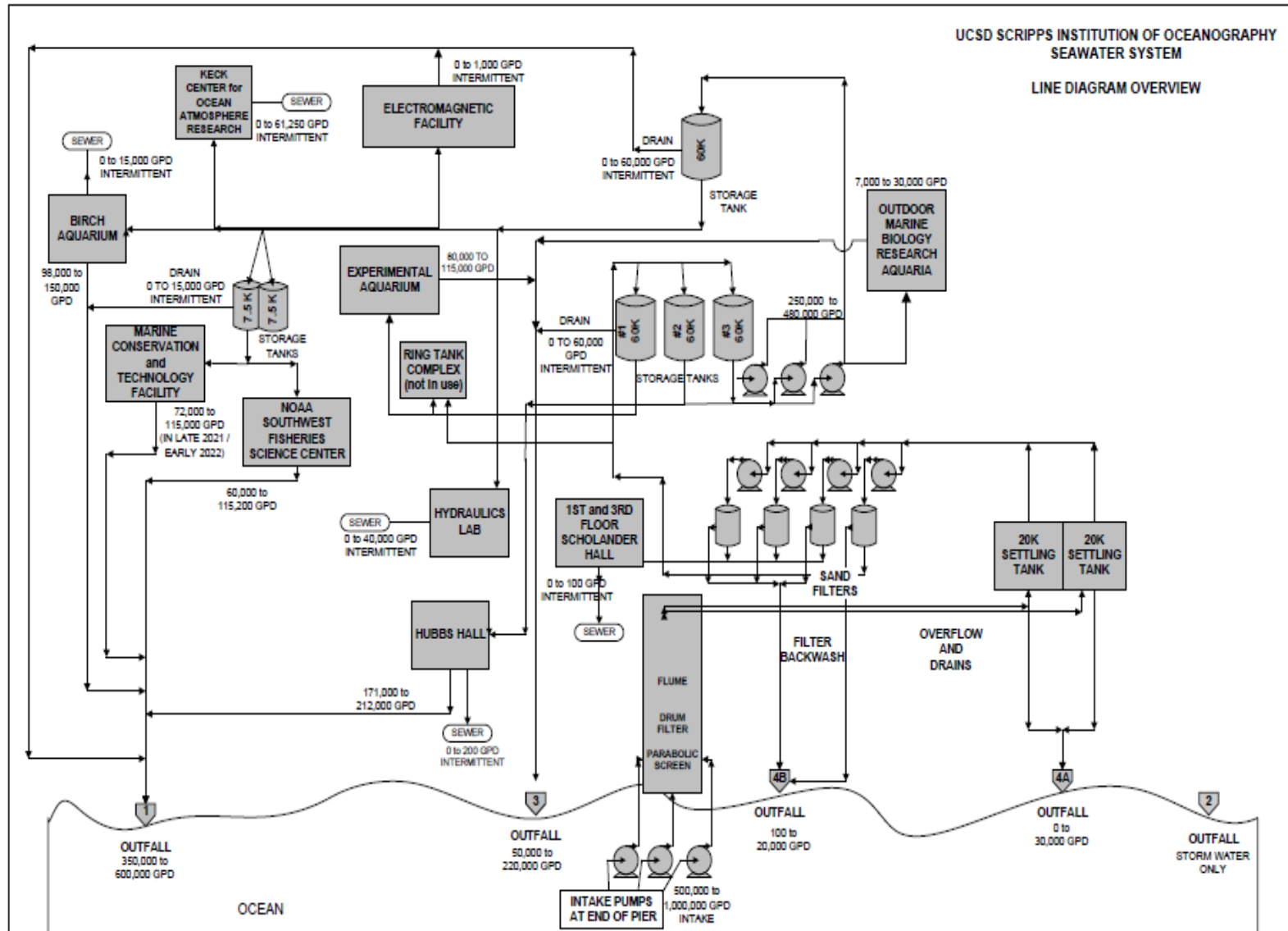
Provisions of State or federal law which consist of a designated use or uses for waters of the U.S. and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act [40 CFR section 131.3(i)]. Under State law, the Water Boards establish beneficial uses and water quality objectives in

their water quality control plans or basin plans. Together with an antidegradation policy, these beneficial uses and water quality objectives serve as water quality standards under the Clean Water Act. In Clean Water Act parlance, state beneficial uses are called “designated uses” and state water quality objectives are called “criteria.” Throughout this Order, the relevant term is used depending on the statutory scheme.

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

- 1.1.1. The Discharger must comply with all of the terms, requirements, and 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; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (title 40 Code of Federal Regulations (40 CFR) section 122.41(a); Water Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
- 1.1.2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants 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).)

1.2. 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).)

1.3. Duty to Mitigate

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

1.4. 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).)

1.5. Property Rights

- 1.5.1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR section 122.41(g).)
- 1.5.2. 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).)

1.6. 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 (33 U.S.C. section 1318(a)(4)(B); 40 CFR section 122.41(i); Water Code, sections 13267, 13383):

- 1.6.1. 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 (33 U.S.C. section 1318(a)(4)(B)(i); 40 CFR section 122.41(i)(1); Water Code, sections 13267, 13383);
- 1.6.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 CFR section 122.41(i)(2); Water Code, sections 13267, 13383);
- 1.6.3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 CFR section 122.41(i)(3); Water Code, sections 13267, 13383); and
- 1.6.4. 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. (33 U.S.C. section 1318(a)(4)(B); 40 CFR section 122.41(i)(4); Water Code, sections 13267, 13383)

1.7. Bypass

1.7.1. Definitions

- 1.7.1.1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 122.41(m)(1)(i))
- 1.7.1.2. "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))

1.7.2. **Bypass not exceeding limitations.** The Dischargers 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 1.7.3, 1.7.4, and 1.7.5 below. (40 CFR section 122.41(m)(2))

1.7.3. **Prohibition of bypass.** Bypass is prohibited, and the San Diego Water Board may take enforcement action against the Dischargers for bypass, unless (40 CFR section 122.41(m)(4)(i)):

- 1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR section 122.41(m)(4)(i)(A));

- 1.7.3.2. 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
- 1.7.3.3. The Dischargers submitted notice to the San Diego Water Board as required under Standard Provisions – Permit Compliance 1.7.5 below. (40 CFR section 122.41(m)(4)(i)(C))
- 1.7.4. 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 1.7.3 above. (40 CFR section 122.41(m)(4)(ii))

2. STANDARD PROVISIONS – PERMIT ACTION

2.1. 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))

2.2. 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))

2.3. 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 sections 122.41(l)(3), 122.61)

3. STANDARD PROVISIONS – MONITORING

- 3.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR section 122.41(j)(1))
- 3.2. Monitoring must be conducted according to test procedures approved under 40 CFR part 136 for the analyses of pollutants unless another method is required under 40 CFR chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

- 3.2.1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
- 3.2.2. The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter 1, subchapter N for the measured pollutant or pollutant parameter. In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136, or otherwise required under 40 CFR chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 CFR sections 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv))

4. STANDARD PROVISIONS – RECORDS

4.1. 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))

4.2. Records of monitoring information shall include:

- 4.2.1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));
- 4.2.2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
- 4.2.3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
- 4.2.4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
- 4.2.5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
- 4.2.6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi))

4.3. Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):

- 4.3.1. The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and
- 4.3.2. Permit applications and attachments, permits and effluent data. (40 CFR section 122.7(b)(2))

5. STANDARD PROVISIONS – REPORTING

5.1. 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, sections 13267, 13383)

5.2. Signatory and Certification Requirements

5.2.1. 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 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 CFR section 122.41(k))

5.2.2. All permit applications shall be signed as follows:

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

5.2.2.2. For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 CFR § 122.22(a)(2))

5.2.2.3. For a municipality, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).)

- 5.2.3. 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 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- 5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting 5.2.2 above (40 CFR section 122.22(b)(1));
 - 5.2.3.2. 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
 - 5.2.3.3. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR section 122.22(b)(3))
- 5.2.4. If an authorization under Standard Provisions – Reporting 5.2.3 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 5.2.3 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))
- 5.2.5. Any person signing a document under Standard Provisions – Reporting 5.2.2 or 5.2.3 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))
- 5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting 5.2, and shall ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 CFR section 122.22(e))

5.3. Monitoring Reports

- 5.3.1. 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))
- 5.3.2. 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. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(l)(4)(i))
- 5.3.3. 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 chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the San Diego Water Board or State Water Board. (40 CFR section 122.41(l)(4)(ii))
- 5.3.4. 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))

5.4. 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 fourteen (14) days following each schedule date. (40 CFR section 122.41(l)(5))

5.5. Twenty-Four Hour Reporting

- 5.5.1. The Discharger shall report any noncompliance which 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 report shall also be provided within five business (5) days of the time the Discharger becomes aware of the circumstances. The report 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.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of

human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

5.5.2. The following shall be included as information that must be reported within 24 hours:

5.5.2.1. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(A))

5.5.2.2. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B))

5.5.3. The San Diego Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR section 122.41(l)(6)(iii))

5.6. 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)):

5.6.1. 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

5.6.2. 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));

5.6.3. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels 7.1.1). (40 CFR § 122.41(l)(1)(ii))

5.7. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego 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))

5.8. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5.5 above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting 5.5 and the applicable required data in appendix A to 40 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR § 122.41(l)(7))

5.9. 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))

5.10. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b).

USEPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group. USEPA will update and maintain this listing. (40 CFR section 122.41(l)(9))

6. STANDARD PROVISIONS – ENFORCEMENT

6.1. 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 13268, 13385, 13386, and 13387.

7. ADDITIONAL PROVISIONS - NOTIFICATION LEVELS

7.1. 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)):

7.1.1. 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)):

7.1.1.1 100 micrograms per liter ($\mu\text{g/L}$) (40 CFR section 122.42(a)(1)(i));

7.1.1.2. 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 one milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(1)(ii));

7.1.1.3 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

7.1.1.4. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(1)(iv).)

7.1.2. 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).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

TABLE OF CONTENTS

1. GENERAL MONITORING PROVISIONS.....	3
2. MONITORING LOCATIONS	4
3. CORE MONITORING REQUIREMENTS.....	5
3.1. Influent Monitoring Requirements – Not Applicable	5
3.2. Effluent Monitoring Requirements.....	5
3.3. Whole Effluent Toxicity Testing Requirements.....	30
3.4. Land Discharge Monitoring Requirements – Not Applicable.....	36
3.5. Recycling Monitoring Requirements – Not Applicable	36
4. RECEIVING WATER MONITORING REQUIREMENTS.....	36
4.1. Surf Zone Water Quality Monitoring.....	36
4.2. Receiving Water Monitoring at Monitoring Location RSW-001	37
4.3. Benthic Survey.....	41
5. REGIONAL MONITORING REQUIREMENTS.....	42
5.1. Southern California Bight Monitoring Program.....	43
6. SPECIAL STUDIES AND ADDITIONAL MONITORING REQUIREMENTS.....	43
6.1. Climate Change Action Plan	43
6.2. Chemical Log.....	44
7. REPORTING REQUIREMENTS	44
7.1. General Monitoring and Reporting Requirements.....	44
7.2. Self-Monitoring Reports (SMRs).....	44
7.3. Discharge Monitoring Reports (DMRs)	48
7.4. Other Reports	48

TABLE

Table E-1. Monitoring Station Locations.....	5
Table E-2. Effluent Monitoring at Monitoring Location EFF-001 (Outfall 001)	6
Table E-3. Effluent Monitoring at Monitoring Location EFF-002 (Outfall 002)	10
Table E-4. Effluent Monitoring at Monitoring Location EFF-003 (Outfall 003)	14
Table E-5. Effluent Monitoring at Monitoring Location EFF-004 (Outfall 004a)	17
Table E-6. Effluent Monitoring at Monitoring Location EFF-004b (Outfall 004b)	25
Table E-7. Receiving Water Monitoring Requirements.....	37
Table E-8. Monitoring Periods.....	47
Table E-9. SMR Due Dates and Required Contents	47

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) section 13383 also authorizes the California Regional Water Quality Control Board, San Diego Region (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 University of California San Diego (Discharger) to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified 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. While the San Diego Water Board is not required to consider MRP costs, it recognizes that monitoring and reporting costs can be a significant burden. The Discharger estimates that the burden and cost of compliance with the MRP may range from \$338,000 to \$365,000 per year. The San Diego Water Board has assessed this MRP to reduce and eliminate unnecessary or overlapping monitoring and reporting requirements where appropriate. The MRP is reasonable given the needs and benefits of the reports.

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 5 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.

1. GENERAL MONITORING PROVISIONS

- 1.1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified in section 2, Table E-1 and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board. Samples shall be collected at times representative of “worst case” conditions with respect to compliance with the requirement of this Order.
- 1.2. 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. 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 flow measurement devices shall be installed, calibrated at least once per year (i.e., no more than 12 months between calibrations) or more frequently, and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. The flow measurement 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.
- 1.3. Monitoring must be conducted according to U.S. Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, or an alternative test procedure (ATP) approved by USEPA, or by the San Diego Water Board when there are no test methods specified for a pollutant at 40 CFR part 136.

- 1.4. Data produced and reports submitted pursuant to this Order shall be generated by a laboratory accredited by the State of California Environmental Laboratory Accreditation Program (ELAP). The laboratory must hold a valid certificate of accreditation for the analytical test method specified in 40 CFR 136, an ATP approved by USEPA, or by the San Diego Water Board when there are no methods specified for a pollutant at 40 CFR part 136. The laboratory must include quality assurance/quality control data in all data reports required by this Order and submit electronic data as required by the San Diego Water Board. Data generated using field tests is exempt pursuant to California Water Code Section 13176.
- 1.5. Records of monitoring information shall include information required under Standard Provision, Attachment D, section 4 of this Order.
- 1.6. 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. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the San Diego Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.
- 1.7. Analysis for toxic pollutants, including chronic toxicity, with effluent limitations or performance goals based on water quality objectives and criteria of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) and the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.
- 1.9. 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 or performance objective. The minimum levels must be consistent with the requirements of 40 CFR part 136 and consistent with the Ocean Plan Appendix II, or otherwise approved by USEPA and authorized by the San Diego Water Board. If no authorized ML value is below the effluent limitation or performance objective, then the method must achieve an ML no greater than the lowest ML value indicated in Ocean Plan (or if not listed in the Ocean Plan, be the lowest ML provided for in 40 CFR part 136).
- 1.10. 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. The Executive Officer is authorized to modify the provisions of this MRP in accordance with applicable law. Unless otherwise indicated by this MRP, if the Discharger wishes to modify any monitoring requirements specified in this MRP, then the Discharger shall submit a written request to the Executive Officer for review and approval. The Executive Officer may approve the request to modify the MRP in accordance with applicable law.

2. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate

compliance with the effluent limitations, discharge specifications, and other requirements in the Order.

Table E-1. Monitoring Station Locations¹

Discharge Point Name	Monitoring Location Name Monitoring	Monitoring Location Description
001	EFF-001	Aquaria Wastewater; 32 °, 52', 1" N; 117 °, 15', 13" W, at a location where aquaria wastewater can be collected, prior to mixing with storm water
002	EFF-002	Stormwater; 32 °, 51', 57" N; 117 °, 15', 15" W
003	EFF-003	Aquaria wastewater and seawater 32 °, 51', 58" N; 117 °, 15', 15" W
004a	EFF-004a	Unfiltered raw seawater; 32 °, 51', 57" N; 117 °, 15', 15" W
004b	EFF-004b	Filter Backwash water; 32 °, 51', 58" N; 117 °, 15', 15" W
--	RSW-001	Just outside the surf zone or at a location that is identified in the benthic marine survey
--	S1	Surf Zone, 1,000 feet south of the Scripps Institution of Oceanography (SIO) Pier
--	S2	Surf Zone, 250 feet south of the SIO Pier
--	S3	Surf Zone, 500 feet north of the SIO Pier

Notes for Table E-1

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

3. CORE MONITORING REQUIREMENTS

3.1. Influent Monitoring Requirements – Not Applicable

3.2. Effluent Monitoring Requirements

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:

- (1) 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?
- (2) What is the mass of constituents that are discharged daily, monthly, or annually?

- (3) Is the effluent concentration or mass changing over time?
- (4) Is the University of California, San Diego – Scripps Institution of Oceanography (Facility) being properly operated and maintained to ensure compliance with the conditions of the Order?

3.2.1. Effluent Monitoring at Monitoring Location EFF-001 (Outfall 001)

The Discharger shall monitor aquaria wastewater/filtered seawater at monitoring location EFF-001 as described in Table E-2

Table E-2. Effluent Monitoring at Monitoring Location EFF-001 (Outfall 001)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	million gallons per day (MGD)	Recorder / totalizer	continuous ¹	2
Oil and Grease	mg/L	Grab	2/Year	2
Total Suspended Solids	milligrams per liter (mg/L)	24-hour Composite	2/Year	2
Settleable Solids	milliliters per liter (ml/L)	24-hour Composite	2/Year	2
Turbidity	Nephelometric Turbidity Units (NTU)	24-hour Composite	2/Year	2
pH	pH Units	Grab	2/Year	2
Chronic Toxicity	Toxicity Units Chronic (TUC)	24-hour Composite	2/Year	3
Bis (2-ethylhexyl) phthalate	µg/L	24-hour Composite	2/Year	2
DDT	µg/L	24-hour Composite	2/Year	2
TCDD Equivalents	µg/L	24-hour Composite	2/Year	2
Arsenic, Total Recoverable	µg/L	24-hr Composite	4	2
Cadmium, Total Recoverable	µg/L	24-hr Composite	4	2
Chromium (VI), Total Recoverable ⁵	µg/L	24-hr Composite	4	2
Copper, Total Recoverable	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Lead, Total Recoverable	µg/L	24-hr Composite	4	2
Mercury, Total Recoverable	µg/L	24-hr Composite	4	2
Nickel, Total Recoverable	µg/L	24-hr Composite	4	2
Selenium, Total Recoverable	µg/L	24-hr Composite	4	2
Silver, Total Recoverable	µg/L	24-hr Composite	4	2
Zinc, Total Recoverable	µg/L	24-hr Composite	4	2
Cyanide, Total	µg/L	24-hr Composite	4	2
Total Residual Chlorine	µg/L	Grab	4	2
Phenolic Compounds (nonchlorinated) ⁶	µg/L	24-hr Composite	4	2
Phenolic Compounds (chlorinated) ⁶	µg/L	24-hr Composite	4	2
Endosulfan ⁶	µg/L	24-hr Composite	4	2
Endrin	µg/L	24-hr Composite	4	2
HCH ⁶	µg/L	24-hr Composite	4	2
Radioactivity	Picocuries per liter (pCi/L)	24-hr Composite	4	2
Acrolein	µg/L	Grab	4	2
Antimony, Total Recoverable	µg/L	24-hr Composite	4	2
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	4	2
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	4	2
Chlorobenzene	µg/L	Grab	4	2
Chromium (III), Total Recoverable ⁵	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Di-n-butyl Phthalate	µg/L	24-hr Composite	4	2
Dichlorobenzenes ⁶	µg/L	Grab	4	2
Diethyl Phthalate	µg/L	24-hr Composite	4	2
Dimethyl Phthalate	µg/L	24-hr Composite	4	2
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	4	2
2,4-dinitrophenol	µg/L	24-hr Composite	4	2
Ethylbenzene	µg/L	Grab	4	2
Fluoranthene	µg/L	24-hr Composite	4	2
Hexachlorocyclopentadiene	µg/L	24-hr Composite	4	2
Nitrobenzene	µg/L	24-hr Composite	4	2
Thallium, Total Recoverable	µg/L	24-hr Composite	4	2
Toluene	µg/L	Grab	4	2
Tributyltin	µg/L	24-hr Composite	4	2
1,1,1-trichloroethane	µg/L	Grab	4	2
Acrylonitrile	µg/L	Grab	4	2
Aldrin	µg/L	24-hr Composite	4	2
Benzene	µg/L	Grab	4	2
Benzidine	µg/L	24-hr Composite	4	2
Beryllium, Total Recoverable	µg/L	24-hr Composite	4	2
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	4	2
Carbon Tetrachloride	µg/L	Grab	4	2
Chlordane	µg/L	24-hr Composite	4	2
Chlorodibromomethane	µg/L	Grab	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloroform	µg/L	Grab	4	2
1,4-dichlorobenzene	µg/L	Grab	4	2
3,3'-dichlorobenzidine	µg/L	24-hr Composite	4	2
1,2-dichloroethane	µg/L	Grab	4	2
1,1-dichloroethylene	µg/L	Grab	4	2
Dichlorobromomethane	µg/L	Grab	4	2
Dichloromethane	µg/L	Grab	4	2
1,3-dichloropropene	µg/L	Grab	4	2
Dieldrin	µg/L	24-hr Composite	4	2
2,4-dinitrotoluene	µg/L	24-hr Composite	4	2
1,2-diphenylhydrazine	µg/L	24-hr Composite	4	2
Halomethanes ⁶	µg/L	Grab	4	2
Heptachlor	µg/L	24-hr Composite	4	2
Heptachlor Epoxide	µg/L	24-hr Composite	4	2
Hexachlorobenzene	µg/L	24-hr Composite	4	2
Hexachlorobutadiene	µg/L	24-hr Composite	4	2
Hexachloroethane	µg/L	24-hr Composite	4	2
Isophorone	µg/L	24-hr Composite	4	2
N-nitrosodimethylamine	µg/L	24-hr Composite	4	2
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	4	2
N-nitrosodiphenylamine	µg/L	24-hr Composite	4	2
Polynuclear Aromatic Hydrocarbons (PAHs) ⁶	µg/L	24-hr Composite	4	2
Polychlorinated Biphenyls (PCBs) ⁶	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,1,2,2-tetrachloroethane	µg/L	Grab	4	2
Tetrachloroethylene	µg/L	Grab	4	2
Toxaphene	µg/L	24-hr Composite	4	2
Trichloroethylene	µg/L	Grab	4	2
1,1,2-trichloroethane	µg/L	Grab	4	2
2,4,6-trichlorophenol	µg/L	24-hr Composite	4	2
Vinyl Chloride	µg/L	Grab	4	2

Note for Table E-2

1. Report the average daily flow and monthly average flow.
2. Analytical methods as required under 40 CFR part 136.
3. Monitoring for whole effluent toxicity (WET) shall be conducted as specified in section 3.3 of this MRP.
4. During the first year of the permit cycle, two samples must be collected from monitoring location EFF-001 (one during dry weather and one during wet weather). For wet weather samples, the effluent samples must also be analyzed for Ocean Plan indicator bacteria (total coliform, fecal coliform, and enterococcus. After the first year of the permit cycle, the monitoring frequency may be reduced to once per year, unless notified otherwise by the San Diego Water Board.
5. The Discharger may, at their option, meet the performance goals for chromium (VI) (hexavalent chromium) as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
6. See Attachment A of this Order for definitions.

3.2.2. Effluent Monitoring at Monitoring Location EFF-002 (Outfall 002)

The Discharger shall monitor storm water at monitoring location EFF-002 as described in Table E-3.

Table E-3. Effluent Monitoring at Monitoring Location EFF-002 (Outfall 002)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Estimate or recorder/totalizer	Continuous ¹	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Oil and Grease	mg/L	Grab	1/Year	2
Total Suspended Solids	mg/L	24-hour Composite	1/Year	2
Settleable Solids	ml/L	24-hour Composite	1/Year	2
Turbidity	NTU	24-hour Composite	1/Year	2
pH	pH Units	Grab	1/Year	2
Chronic Toxicity	TUc	24-hour Composite	4	3
Arsenic, Total Recoverable	µg/L	24-hr Composite	5	2
Cadmium, Total Recoverable	µg/L	24-hr Composite	5	2
Chromium (VI), Total Recoverable ⁶	µg/L	24-hr Composite	5	2
Copper, Total Recoverable	µg/L	24-hr Composite	5	2
Lead, Total Recoverable	µg/L	24-hr Composite	5	2
Mercury, Total Recoverable	µg/L	24-hr Composite	5	2
Nickel, Total Recoverable	µg/L	24-hr Composite	5	2
Selenium, Total Recoverable	µg/L	24-hr Composite	5	2
Silver, Total Recoverable	µg/L	24-hr Composite	5	2
Zinc, Total Recoverable	µg/L	24-hr Composite	5	2
Cyanide, Total	µg/L	24-hr Composite	5	2
Total Residual Chlorine	µg/L	Grab	5	2
Phenolic Compounds (nonchlorinated) ⁷	µg/L	24-hr Composite	5	2
Phenolic Compounds (chlorinated) ⁷	µg/L	24-hr Composite	5	2
Endosulfan ⁷	µg/L	24-hr Composite	5	2
Endrin	µg/L	24-hr Composite	5	2
HCH ⁷	µg/L	24-hr Composite	5	2
Radioactivity	Picocuries per liter (pCi/L)	24-hr Composite	5	2
Acrolein	µg/L	Grab	5	2
Antimony, Total Recoverable	µg/L	24-hr Composite	5	2
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	5	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	5	2
Chlorobenzene	µg/L	Grab	5	2
Chromium (III), Total Recoverable ⁶	µg/L	24-hr Composite	5	2
Di-n-butyl Phthalate	µg/L	24-hr Composite	5	2
Dichlorobenzenes ⁷	µg/L	Grab	5	2
Diethyl Phthalate	µg/L	24-hr Composite	5	2
Dimethyl Phthalate	µg/L	24-hr Composite	5	2
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	5	2
2,4-dinitrophenol	µg/L	24-hr Composite	5	2
Ethylbenzene	µg/L	Grab	5	2
Fluoranthene	µg/L	24-hr Composite	5	2
Hexachlorocyclopentadiene	µg/L	24-hr Composite	5	2
Nitrobenzene	µg/L	24-hr Composite	5	2
Thallium, Total Recoverable	µg/L	24-hr Composite	5	2
Toluene	µg/L	Grab	5	2
Tributyltin	µg/L	24-hr Composite	5	2
1,1,1-trichloroethane	µg/L	Grab	5	2
Acrylonitrile	µg/L	Grab	5	2
Aldrin	µg/L	24-hr Composite	5	2
Benzene	µg/L	Grab	5	2
Benzidine	µg/L	24-hr Composite	5	2
Beryllium, Total Recoverable	µg/L	24-hr Composite	5	2
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	5	2
Bis (2-ethylhexyl) Phthalate	µg/L	24-hr Composite	5	2
Carbon Tetrachloride	µg/L	Grab	5	2
Chlordane ⁷	µg/L	24-hr Composite	5	2
Chlorodibromomethane	µg/L	Grab	5	2
Chloroform	µg/L	Grab	5	2
Dichlorodiphenyltrichloroethane (DDT) ⁷	µg/L	24-hr Composite	5	2
1,4-dichlorobenzene	µg/L	Grab	5	2
3,3'-dichlorobenzidine	µg/L	24-hr Composite	5	2
1,2-dichloroethane	µg/L	Grab	5	2
1,1-dichloroethylene	µg/L	Grab	5	2
Dichlorobromomethane	µg/L	Grab	5	2
Dichloromethane	µg/L	Grab	5	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,3-dichloropropene	µg/L	Grab	5	2
Dieldrin	µg/L	24-hr Composite	5	2
2,4-dinitrotoluene	µg/L	24-hr Composite	5	2
1,2-diphenylhydrazine	µg/L	24-hr Composite	5	2
Halomethanes ⁷	µg/L	Grab	5	2
Heptachlor	µg/L	24-hr Composite	5	2
Heptachlor Epoxide	µg/L	24-hr Composite	5	2
Hexachlorobenzene	µg/L	24-hr Composite	5	2
Hexachlorobutadiene	µg/L	24-hr Composite	5	2
Hexachloroethane	µg/L	24-hr Composite	5	2
Isophorone	µg/L	24-hr Composite	5	2
N-nitrosodimethylamine	µg/L	24-hr Composite	5	2
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	5	2
N-nitrosodiphenylamine	µg/L	24-hr Composite	5	2
Polynuclear Aromatic Hydrocarbons (PAHs) ⁷	µg/L	24-hr Composite	5	2
Polychlorinated Biphenyls (PCBs) ⁷	µg/L	24-hr Composite	5	2
TCDD equivalents ⁷	µg/L	24-hr Composite	5	2
1,1,2,2-tetrachloroethane	µg/L	Grab	5	2
Tetrachloroethylene	µg/L	Grab	5	2
Toxaphene	µg/L	24-hr Composite	5	2
Trichloroethylene	µg/L	Grab	5	2
1,1,2-trichloroethane	µg/L	Grab	5	2
2,4,6-trichlorophenol	µg/L	24-hr Composite	5	2
Vinyl Chloride	µg/L	Grab	5	2

Notes for Table E-3

1. The Discharger shall estimate the flow rates. If a flow meter is installed at Monitoring Location EFF-002, then the recorded daily flow rate shall be reported.
2. Analytical methods as required under 40 CFR part 136.
3. Monitoring for whole effluent toxicity (WET) shall be conducted as specified in section 3.3 of this MRP.
4. Two samples must be collected from monitoring location EFF-002 (once during dry weather and once during wet weather). If there is no flow during the dry weather from Outfall 002, only one sample must be collected from monitoring location EFF-002 during the wet weather.
5. During the first year of the permit cycle, two samples must be collected from monitoring location EFF-002 (once during dry weather and once during wet

weather). For wet weather samples, the effluent samples must also be analyzed for Ocean Plan indicator bacteria (total coliform, fecal coliform, and enterococcus). If there is no flow during the dry weather from monitoring location EFF-002 during the first year of the permit cycle, only one sample must be collected from monitoring location EFF-002 during the wet weather. After the first year of the permit cycle, the monitoring frequency may be reduced to once per year, unless notified otherwise by the San Diego Water Board.

6. The Discharger may, at their option, meet the performance goals for chromium (VI) (hexavalent chromium) as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
7. See Attachment A of this Order for definitions.

3.2.3. Effluent Monitoring at Monitoring Location EFF-003 (Outfall 003)

The Discharger shall monitor aquaria wastewater/filtered seawater at monitoring location EFF-003 as described in Table E-4.

Table E-4. Effluent Monitoring at Monitoring Location EFF-003 (Outfall 003)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Estimate or recorder/totalizer	Continuous ¹	2
Oil and Grease	mg/L	Grab	2/Year	2
Total Suspended Solids	mg/L	24-hour Composite	2/Year	2
Settleable Solids	ml/L	24-hour Composite	2/Year	2
Turbidity	NTU	24-hour Composite	2/Year	2
pH	pH Units	Grab	2/Year	2
Chronic Toxicity	TUc	24-hour Composite	2/Year	3
DDT	µg/L	24-hour Composite	2/Year	2
TCDD Equivalents	µg/L	24-hour Composite	2/Year	2
Arsenic, Total Recoverable	µg/L	24-hr Composite	4	2
Cadmium, Total Recoverable	µg/L	24-hr Composite	4	2
Chromium (VI), Total Recoverable ⁵	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper, Total Recoverable	µg/L	24-hr Composite	4	2
Lead, Total Recoverable	µg/L	24-hr Composite	4	2
Mercury, Total Recoverable	µg/L	24-hr Composite	4	2
Nickel, Total Recoverable	µg/L	24-hr Composite	4	2
Selenium, Total Recoverable	µg/L	24-hr Composite	4	2
Silver, Total Recoverable	µg/L	24-hr Composite	4	2
Zinc, Total Recoverable	µg/L	24-hr Composite	4	2
Cyanide, Total	µg/L	24-hr Composite	4	2
Total Residual Chlorine	µg/L	Grab	4	2
Phenolic Compounds (nonchlorinated) ⁶	µg/L	24-hr Composite	4	2
Phenolic Compounds (chlorinated) ⁶	µg/L	24-hr Composite	4	2
Endosulfan ⁶	µg/L	24-hr Composite	4	2
Endrin	µg/L	24-hr Composite	4	2
HCH ⁶	µg/L	24-hr Composite	4	2
Radioactivity	Picocuries per liter (pCi/L)	24-hr Composite	4	2
Acrolein	µg/L	Grab	4	2
Antimony, Total Recoverable	µg/L	24-hr Composite	4	2
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	4	2
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	4	2
Chlorobenzene	µg/L	Grab	4	2
Chromium (III), Total Recoverable ⁵	µg/L	24-hr Composite	4	2
Di-n-butyl Phthalate	µg/L	24-hr Composite	4	2
Dichlorobenzenes ⁶	µg/L	Grab	4	2
Diethyl Phthalate	µg/L	24-hr Composite	4	2
Dimethyl Phthalate	µg/L	24-hr Composite	4	2
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	4	2
2,4-dinitrophenol	µg/L	24-hr Composite	4	2
Ethylbenzene	µg/L	Grab	4	2
Fluoranthene	µg/L	24-hr Composite	4	2
Hexachlorocyclopentadiene	µg/L	24-hr Composite	4	2
Nitrobenzene	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Thallium, Total Recoverable	µg/L	24-hr Composite	4	2
Toluene	µg/L	Grab	4	2
Tributyltin	µg/L	24-hr Composite	4	2
1,1,1-trichloroethane	µg/L	Grab	4	2
Acrylonitrile	µg/L	Grab	4	2
Aldrin	µg/L	24-hr Composite	4	2
Benzene	µg/L	Grab	4	2
Benzidine	µg/L	24-hr Composite	4	2
Beryllium, Total Recoverable	µg/L	24-hr Composite	4	2
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	4	2
Bis (2-ethylhexyl) phthalate	µg/L	24-hour Composite	4	2
Carbon Tetrachloride	µg/L	Grab	4	2
Chlordane ⁶	µg/L	24-hr Composite	4	2
Chlorodibromomethane	µg/L	Grab	4	2
Chloroform	µg/L	Grab	4	2
1,4-dichlorobenzene	µg/L	Grab	4	2
3,3'-dichlorobenzidine	µg/L	24-hr Composite	4	2
1,2-dichloroethane	µg/L	Grab	4	2
1,1-dichloroethylene	µg/L	Grab	4	2
Dichlorobromomethane	µg/L	Grab	4	2
Dichloromethane	µg/L	Grab	4	2
1,3-dichloropropene	µg/L	Grab	4	2
Dieldrin	µg/L	24-hr Composite	4	2
2,4-dinitrotoluene	µg/L	24-hr Composite	4	2
1,2-diphenylhydrazine	µg/L	24-hr Composite	4	2
Halomethanes ⁶	µg/L	Grab	4	2
Heptachlor	µg/L	24-hr Composite	4	2
Heptachlor Epoxide	µg/L	24-hr Composite	4	2
Hexachlorobenzene	µg/L	24-hr Composite	4	2
Hexachlorobutadiene	µg/L	24-hr Composite	4	2
Hexachloroethane	µg/L	24-hr Composite	4	2
Isophorone	µg/L	24-hr Composite	4	2
N-nitrosodimethylamine	µg/L	24-hr Composite	4	2
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	4	2
N-nitrosodiphenylamine	µg/L	24-hr Composite	4	2
PAHs ⁶	µg/L	24-hr Composite	2/year	2
PCBs ⁶	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,1,2,2-tetrachloroethane	µg/L	Grab	4	2
Tetrachloroethylene	µg/L	Grab	4	2
Toxaphene	µg/L	24-hr Composite	4	2
Trichloroethylene	µg/L	Grab	4	2
1,1,2-trichloroethane	µg/L	Grab	4	2
2,4,6-trichlorophenol	µg/L	24-hr Composite	4	2
Vinyl Chloride	µg/L	Grab	4	2

Note for Table E-4

1. The Discharger shall estimate the flow rates. If a flow meter is installed at Monitoring Location EFF-003, then the recorded daily flow rate shall be reported.
2. Analytical methods as required under 40 CFR part 136.
3. Monitoring for whole effluent toxicity (WET) shall be conducted as specified in section 3.3 of this MRP.
4. During the first year of the permit cycle, two samples must be collected from monitoring location EFF-003 (one during dry weather and one during wet weather). For wet weather samples, the effluent samples must also be analyzed for Ocean Plan indicator bacteria (total coliform, fecal coliform, and enterococcus). After the first year of the permit cycle, the monitoring frequency may be reduced to once per year, unless notified otherwise by the San Diego Water Board.
5. The Discharger may, at their option, meet the performance goals for chromium (VI) (hexavalent chromium) as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
6. See Attachment A of this Order for definitions.

3.2.4. Effluent Monitoring at Monitoring Location EFF-004a (Outfall 004a)

The Discharger shall monitor unfiltered seawater at monitoring location EFF-004a as described in Table E-5. The Discharger shall coordinate sampling date/time at monitoring location EFF-004a to correspond to the date/time when the settling tanks are switched or a settling tank is drained for maintenance.

Table E-5. Effluent Monitoring at Monitoring Location EFF-004 (Outfall 004a)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Estimate	Each batch discharge ¹	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Oil and Grease	mg/L	Grab from the batch discharge	2/Year	2
Total Suspended Solids	mg/L	Grab from the batch discharge	2/Year	2
Settleable Solids	ml/L	Grab from the batch discharge	2/Year	2
Turbidity	NTU	Grab from the batch discharge	2/Year	2
pH	pH Units	Grab from the batch discharge	2/Year	2
Chronic Toxicity	TUc	Grab from the batch discharge	2/Year	3
DDT	µg/L	Grab from the batch discharge	2/Year	2
TCDD Equivalents	µg/L	Grab from the batch discharge	2/Year	2
Arsenic, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Cadmium, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Chromium (VI), Total Recoverable ⁵	µg/L	Grab from the batch discharge	4	2
Copper, Total Recoverable	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Lead, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Mercury, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Nickel, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Selenium, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Silver, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Zinc, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Cyanide, Total	µg/L	Grab from the batch discharge	4	2
Total Residual Chlorine	µg/L	Grab from the batch discharge	4	2
Phenolic Compounds (nonchlorinated) ⁶	µg/L	Grab from the batch discharge	4	2
Phenolic Compounds (chlorinated) ⁶	µg/L	Grab from the batch discharge	4	2
Endosulfan ⁶	µg/L	Grab from the batch discharge	4	2
Endrin	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
HCH ⁶	µg/L	Grab from the batch discharge	4	2
Radioactivity	Picocuries per liter (pCi/L)	Grab from the batch discharge	4	2
Acrolein	µg/L	Grab from the batch discharge	4	2
Antimony, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Bis (2-chloroethoxy) Methane	µg/L	Grab from the batch discharge	4	2
Bis (2-chloroisopropyl) Ether	µg/L	Grab from the batch discharge	4	2
Chlorobenzene	µg/L	Grab from the batch discharge	4	2
Chromium (III), Total Recoverable ⁵	µg/L	Grab from the batch discharge	4	2
Di-n-butyl Phthalate	µg/L	Grab from the batch discharge	4	2
Dichlorobenzenes ⁶	µg/L	Grab from the batch discharge	4	2
Diethyl Phthalate	µg/L	Grab from the batch discharge	4	2
Dimethyl Phthalate	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
4,6-dinitro-2-methylphenol	µg/L	Grab from the batch discharge	4	2
2,4-dinitrophenol	µg/L	Grab from the batch discharge	4	2
Ethylbenzene	µg/L	Grab from the batch discharge	4	2
Fluoranthene	µg/L	Grab from the batch discharge	4	2
Hexachlorocyclopentadiene	µg/L	Grab from the batch discharge	4	2
Nitrobenzene	µg/L	Grab from the batch discharge	4	2
Thallium, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Toluene	µg/L	Grab from the batch discharge	4	2
Tributyltin	µg/L	Grab from the batch discharge	4	2
1,1,1-trichloroethane	µg/L	Grab from the batch discharge	4	2
Acrylonitrile	µg/L	Grab from the batch discharge	4	2
Aldrin	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Benzene	µg/L	Grab from the batch discharge	4	2
Benzidine	µg/L	Grab from the batch discharge	4	2
Beryllium, Total Recoverable	µg/L	Grab from the batch discharge	4	2
Bis (2-chloroethyl) Ether	µg/L	Grab from the batch discharge	4	2
Bis (2-ethylhexyl) phthalate	µg/L	Grab from the batch discharge	4	2
Carbon Tetrachloride	µg/L	Grab from the batch discharge	4	2
Chlordane ⁶	µg/L	Grab from the batch discharge	4	2
Chlorodibromomethane	µg/L	Grab from the batch discharge	4	2
Chloroform	µg/L	Grab from the batch discharge	4	2
1,4-dichlorobenzene	µg/L	Grab from the batch discharge	4	2
3,3'-dichlorobenzidine	µg/L	Grab from the batch discharge	4	2
1,2-dichloroethane	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,1-dichloroethylene	µg/L	Grab from the batch discharge	4	2
Dichlorobromomethane	µg/L	Grab from the batch discharge	4	2
Dichloromethane	µg/L	Grab from the batch discharge	4	2
1,3-dichloropropene	µg/L	Grab from the batch discharge	4	2
Dieldrin	µg/L	Grab from the batch discharge	4	2
2,4-dinitrotoluene	µg/L	Grab from the batch discharge	4	2
1,2-diphenylhydrazine	µg/L	Grab from the batch discharge	4	2
Halomethanes ⁶	µg/L	Grab from the batch discharge	4	2
Heptachlor	µg/L	Grab from the batch discharge	4	2
Heptachlor Epoxide	µg/L	Grab from the batch discharge	4	2
Hexachlorobenzene	µg/L	Grab from the batch discharge	4	2
Hexachlorobutadiene	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hexachloroethane	µg/L	Grab from the batch discharge	4	2
Isophorone	µg/L	Grab from the batch discharge	4	2
N-nitrosodimethylamine	µg/L	Grab from the batch discharge	4	2
N-nitrosodi-N-propylamine	µg/L	Grab from the batch discharge	4	2
N-nitrosodiphenylamine	µg/L	Grab from the batch discharge	4	2
PAHs ⁶	µg/L	Grab from the batch discharge	2/year	2
PCBs ⁶	µg/L	Grab from the batch discharge	4	2
1,1,2,2-tetrachloroethane	µg/L	Grab from the batch discharge	4	2
Tetrachloroethylene	µg/L	Grab from the batch discharge	4	2
Toxaphene	µg/L	Grab from the batch discharge	4	2
Trichloroethylene	µg/L	Grab from the batch discharge	4	2
1,1,2-trichloroethane	µg/L	Grab from the batch discharge	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
2,4,6-trichlorophenol	µg/L	Grab from the batch discharge	4	2
Vinyl Chloride	µg/L	Grab from the batch discharge	4	2

Note for Table E-5

1. The Discharger shall estimate the flow rates.
2. Analytical methods as required under 40 CFR part 136.
3. Monitoring for whole effluent toxicity (WET) shall be conducted as specified in section 3.3 of this MRP.
4. During the first year of the permit cycle, two samples must be collected from monitoring location EFF-004a (one during dry weather and one during wet weather). For wet weather samples, the effluent samples must also be analyzed for Ocean Plan indicator bacteria (total coliform, fecal coliform, and enterococcus). After the first year of the permit cycle, the monitoring frequency may be reduced to once per year, unless notified otherwise by the San Diego Water Board.
5. The Discharger may, at their option, meet the performance goals for chromium (VI) (hexavalent chromium) as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
6. See Attachment A of this Order for definitions.

3.2.5. Effluent Monitoring at Monitoring Location EFF-004b (Outfall 004b)

The Discharger shall monitor filter backwash at monitoring location EFF-004b as described in Table E-6.

Table E-6. Effluent Monitoring at Monitoring Location EFF-004b (Outfall 004b)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Estimate or recorder/totalizer	Continuous ¹	2
Oil and Grease	mg/L	Grab	2/Year	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Suspended Solids	mg/L	24-hour Composite	2/Year	2
Settleable Solids	ml/L	24-hour Composite	2/Year	2
Turbidity	NTU	24-hour Composite	2/Year	2
pH	pH Units	Grab	2/Year	2
Chronic Toxicity	TUc	24-hour Composite	2/Year	3
Ammonia (expressed as nitrogen)	µg/L	24-hour Composite	2/Year	2
Cyanide	µg/L	24-hour Composite	2/Year	2
DDT	µg/L	24-hour Composite	2/Year	2
TCDD equivalents	µg/L	24-hour Composite	2/Year	2
Arsenic, Total Recoverable	µg/L	24-hr Composite	4	2
Cadmium, Total Recoverable	µg/L	24-hr Composite	4	2
Chromium (VI), Total Recoverable ⁵	µg/L	24-hr Composite	4	2
Copper, Total Recoverable	µg/L	24-hr Composite	4	2
Lead, Total Recoverable	µg/L	24-hr Composite	4	2
Mercury, Total Recoverable	µg/L	24-hr Composite	4	2
Nickel, Total Recoverable	µg/L	24-hr Composite	4	2
Selenium, Total Recoverable	µg/L	24-hr Composite	4	2
Silver, Total Recoverable	µg/L	24-hr Composite	4	2
Zinc, Total Recoverable	µg/L	24-hr Composite	4	2
Total Residual Chlorine	µg/L	Grab	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Phenolic Compounds (nonchlorinated) ⁶	µg/L	24-hr Composite	4	2
Phenolic Compounds (chlorinated) ⁶	µg/L	24-hr Composite	4	2
Endosulfan ⁶	µg/L	24-hr Composite	4	2
Endrin	µg/L	24-hr Composite	4	2
HCH ⁶	µg/L	24-hr Composite	4	2
Radioactivity	Picocuries per liter (pCi/L)	24-hr Composite	4	2
Acrolein	µg/L	Grab	4	2
Antimony, Total Recoverable	µg/L	24-hr Composite	4	2
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	4	2
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	4	2
Chlorobenzene	µg/L	Grab	4	2
Chromium (III), Total Recoverable ⁵	µg/L	24-hr Composite	4	2
Di-n-butyl Phthalate	µg/L	24-hr Composite	4	2
Dichlorobenzenes ⁶	µg/L	Grab	4	2
Diethyl Phthalate	µg/L	24-hr Composite	4	2
Dimethyl Phthalate	µg/L	24-hr Composite	4	2
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	4	2
2,4-dinitrophenol	µg/L	24-hr Composite	4	2
Ethylbenzene	µg/L	Grab	4	2
Fluoranthene	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hexachlorocyclopentadiene	µg/L	24-hr Composite	4	2
Nitrobenzene	µg/L	24-hr Composite	4	2
Thallium, Total Recoverable	µg/L	24-hr Composite	4	2
Toluene	µg/L	Grab	4	2
Tributyltin	µg/L	24-hr Composite	4	2
1,1,1-trichloroethane	µg/L	Grab	4	2
Acrylonitrile	µg/L	Grab	4	2
Aldrin	µg/L	24-hr Composite	4	2
Benzene	µg/L	Grab	4	2
Benzidine	µg/L	24-hr Composite	4	2
Beryllium, Total Recoverable	µg/L	24-hr Composite	4	2
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	4	2
Carbon Tetrachloride	µg/L	Grab	4	2
Chlordane ⁶	µg/L	24-hr Composite	4	2
Chlorodibromomethane	µg/L	Grab	4	2
Chloroform	µg/L	Grab	4	2
1,4-dichlorobenzene	µg/L	Grab	4	2
3,3'-dichlorobenzidine	µg/L	24-hr Composite	4	2
1,2-dichloroethane	µg/L	Grab	4	2
1,1-dichloroethylene	µg/L	Grab	4	2
Dichlorobromomethane	µg/L	Grab	4	2
Dichloromethane	µg/L	Grab	4	2
1,3-dichloropropene	µg/L	Grab	4	2
Dieldrin	µg/L	24-hr Composite	4	2
2,4-dinitrotoluene	µg/L	24-hr Composite	4	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,2-diphenylhydrazine	µg/L	24-hr Composite	4	2
Halomethanes ⁶	µg/L	Grab	4	2
Heptachlor	µg/L	24-hr Composite	4	2
Heptachlor Epoxide	µg/L	24-hr Composite	4	2
Hexachlorobenzene	µg/L	24-hr Composite	4	2
Hexachlorobutadiene	µg/L	24-hr Composite	4	2
Hexachloroethane	µg/L	24-hr Composite	4	2
Isophorone	µg/L	24-hr Composite	4	2
N-nitrosodimethylamine	µg/L	24-hr Composite	4	2
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	4	2
N-nitrosodiphenylamine	µg/L	24-hr Composite	4	2
PAHs ⁶	µg/L	24-hr Composite	2/year	2
PCBs ⁶	µg/L	24-hr Composite	4	2
1,1,2,2-tetrachloroethane	µg/L	Grab	4	2
Tetrachloroethylene	µg/L	Grab	4	2
Toxaphene	µg/L	24-hr Composite	4	2
Trichloroethylene	µg/L	Grab	4	2
1,1,2-trichloroethane	µg/L	Grab	4	2
2,4,6-trichlorophenol	µg/L	24-hr Composite	4	2
Vinyl Chloride	µg/L	Grab	4	2

Note for Table E-6

1. The Discharger shall estimate the flow rates. If a flow meter is installed at monitoring location EFF-004b, then the recorded daily flow rate shall be reported.

2. Analytical methods as required under 40 CFR part 136.
3. Monitoring for whole effluent toxicity (WET) shall be conducted as specified in section 3.3 of this MRP.
4. During the first year of the permit cycle, two samples must be collected from monitoring location EFF-004b (one during dry weather and one during wet weather). For wet weather samples, the effluent samples must also be analyzed for Ocean Plan indicator bacteria (total coliform, fecal coliform, and enterococcus). After the first year of the permit cycle, the monitoring frequency may be reduced to once per year, unless notified otherwise by the San Diego Water Board.
5. The Discharger may, at their option, meet the performance goals for chromium (VI) (hexavalent chromium) as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
6. See Attachment A of this Order for definitions.

3.3. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) 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?

3.3.1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic IWC is calculated by dividing 100 percent by the dilution ratio. The chronic toxicity IWC is 14.3 percent effluent.

3.3.2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume of the effluent shall be collected to perform the required toxicity test. 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.

3.3.3. Chronic Marine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity greater than one parts per thousand (ppt), the Discharger shall conduct the following chronic toxicity tests on effluent samples, at the Discharge IWC (14.3 percent effluent), in accordance with species and test methods in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. In no case shall these species be substituted with another test species unless written authorization from the San Diego Water Board is received.

- 3.3.3.1. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01). If laboratory-held cultures of the topsmelt, *Atherinops affinis*, are not available for testing, then the Discharger shall conduct a static renewal toxicity test with the inland silverside, *Menidia beryllina* (Larval Survival and Growth Test Method 1006.01), found in the third edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA-821-R-02-014, 2002; Table IA, 40 CFR part 136). Additional species may be used by the Discharger if approved by the San Diego Water Board.
- 3.3.3.2. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus* or sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0 or Larval Development Test Method); or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).
- 3.3.3.3. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

3.3.4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this Order's first required sample collection, or within 36 months of the most recent screening, whichever is later.

For each suite during the species sensitivity screening, 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 *Atherinops affinis*, a second and third sample shall be collected for use as test solution renewal water as the seven-day toxicity test progresses. The species exhibiting the highest Toxicity Units Chronic (TUC) at the discharge IWC is considered the most sensitive species for that suite.

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.

Species sensitivity rescreening is required every 36 months. The Discharger shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species.

The species used during routine monitoring shall be the most sensitive species from the most recent species sensitivity screening.

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 maximum daily effluent limitation (MDEL) or performance goal.

3.3.5. Quality Assurance (QA) and Additional Requirements

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

- 3.3.5.1. The discharge is subject to an MDEL and maximum daily performance goal for chronic toxicity based on TUC using the No Observed Effect Concentration (NOEC; also referred to as the No Observed Effect Level or NOEL) approach described in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA-821/600/R-95/136. TUC is calculated by the following equation: $TUC = 100 / NOEC$
- 3.3.5.2. 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 West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), the test should be declared invalid, then the Discharger must resample and re-test within 14 days of test termination.
- 3.3.5.3. Dilution water and control water, including brine controls, shall be 1-micrometer-filtered uncontaminated natural seawater, hypersaline brine prepared using uncontaminated natural seawater, or laboratory water prepared and used as specified in the test methods manual. Dilution water and control water, including brine controls, shall be uncontaminated natural water, 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.
- 3.3.5.4. Reference toxicant testing shall be conducted in accordance with *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). All reference toxicant test results should be reviewed and reported using the effects concentration at 25 percent (EC_{25}).

3.3.5.5. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of this MRP and the rationale is explained in the Fact Sheet (Attachment F).

3.3.6. 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,² and shall include:

- 3.3.6.1. The valid toxicity test results for the NOEC approach, reported in TUC 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 in the SMR as specified in Table E-9.
- 3.3.6.2. Summary water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
- 3.3.6.3. The statistical methods used to calculate the endpoints.
- 3.3.6.4. Statistical program output results, including graphical plots, for each toxicity test.
- 3.3.6.5. 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.
- 3.3.6.6. Any additional quality assurance/quality control (QA/QC) documentation or any additional chronic toxicity-related information, upon written request from the San Diego Water Board.

3.3.7. 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 Order. 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), or most current version, as guidance. The TRE Work Plan shall describe the steps that the Discharger intends to follow if toxicity is detected, and shall include, at a minimum:

² Section 10 of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to the West Coast Marine and Estuarine Organisms*, August 1995, EPA/600/R-95-136, https://cfpub.epa.gov/si/si_public_file_download.cfm?p_download_id=524691

- 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;
- A description of the Discharger'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,
- If a TIE is necessary, an indication of the person who would conduct the TIE (i.e., an in-house expert or an outside contractor).

3.3.8. Accelerated Monitoring Schedule for Maximum Daily Single Result:

The maximum daily single result of greater than or equal to 8 TUc shall be used to determine if accelerated testing needs to be conducted.

Once the Discharger becomes aware that the maximum daily single result is greater than or equal to 8 TUc, the Discharger shall notify the San Diego Water Board and implement an accelerated monitoring schedule within ten calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Discharger shall ensure that the San Diego Water Board is notified, and the first of six accelerated monitoring tests is initiated within ten calendar days of the Discharger becoming aware of the result. The accelerated monitoring schedule shall consist of six toxicity tests (including the discharge IWC), conducted at approximately two-week intervals, over a twelve-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 less than 8 TUc, the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in greater than or equal to 8 TUc, the Discharger shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, chronic toxicity test results shall be used to determine compliance the the MDEL or maximum daily performance goal for chronic toxicity.

3.3.9. TRE Process

During the TRE Process, minimum effluent monitoring shall resume and results for chronic toxicity tests shall be used to determine compliance with MDEL or maximum daily performance goal for the chronic toxicity.

- 3.3.9.1. 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) or EPA TRE manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989), within 15 days of receiving validated results, submit to the San Diego Water Board a Detailed TRE Work Plan, which shall follow the Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. The TRE Work Plan shall include the following information, and comply with additional conditions set by the San Diego Water Board:

- Further actions by the Discharger to investigate, identify, and correct the causes of toxicity;
 - Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and
 - A schedule for these actions, progress reports, and the final report.
- 3.3.9.2. 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); *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005, 1991); 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.
- 3.3.9.3. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, 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.
- 3.3.9.4. The Discharger shall continue to conduct the minimum effluent monitoring while the TRE and/or TIE process is taking place. Additional accelerated monitoring and TRE Work Plans are not required once a TRE is begun.
- 3.3.9.5. 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. Upon approval from the San Diego Water Board, the TRE may be ended at any stage if routine monitoring finds there is no longer toxicity.
- 3.3.9.6. 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 TRE/TIE report, the Discharger shall provide status updates in the quarterly SMRs, indicating which TRE/TIE steps are underway, which steps have been completed, and the estimated time to completion of the final TRE/TIE report. At a minimum, the final TRE/TIE Report shall include the following:

- A description of the probable source and cause of the toxicity effluent limitation exceedances (if known);
- A summary of the findings including a tabulation, evaluation, and interpretation of the data generated;
- A list of corrective actions taken or planned by the Discharger to reduce toxicity so that the Discharger can achieve consistent compliance with the toxicity effluent limitation of this Order and prevent recurrence of exceedances of the limitation; and
- If the exceedances of the toxicity effluent limitation have not been corrected, the anticipated time it is expected to continue and a time schedule for the steps planned to reduce, eliminate, and prevent recurrence of the exceedances.

3.3.9.7. The San Diego Water Board may consider the results of any TRE/TIE studies in an enforcement action.

3.4. Land Discharge Monitoring Requirements – Not Applicable

3.5. Recycling Monitoring Requirements – Not Applicable

4. RECEIVING WATER MONITORING REQUIREMENTS

Receiving water and sediment monitoring in the vicinity of the Facility discharge shall be conducted as specified below. 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) Does the effluent cause or contribute to an exceedance of the water quality standards in the receiving water?
- (4) Are densities of bacteria in water contact areas below levels protective of public health?

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.

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

4.1. Surf Zone Water Quality Monitoring

All surf zone stations shall be monitored as follows:

- 4.1.1. Grab samples shall be collected and analyzed for total and fecal coliform and enterococcus bacteria at a minimum frequency of once per week with at least five samples collected within any 30-day period. If possible, surf zone samples

shall be taken when Outfall 004b has had a filter backwash discharge and the discharge has reached or has the potential to reach the surf zone.

- 4.1.2. If a single sample exceeds the single sample fecal coliform standard of 400 CFU per 100 mL, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the single sample fecal coliform standard or until a sanitary survey is conducted that determines the source of the exceedance.
- 4.1.3. At the same time that samples are collected from surf zone stations, the following information shall be recorded: observation of wind (e.g., direction and speed), weather (e.g., cloudy, sunny, or rainy), current (e.g., direction and speed), and tidal conditions; observations of water color, discoloration, oil and grease, turbidity, odor, and materials of sewage, storm water, or seawater system origin in the water or on the beach; filter backwash discharge from Outfall 004b and if the discharge reached the surf zone, and water temperature (°C).
- 4.1.4. Monitoring samples collected by the County of San Diego may be used in the monitoring report for compliance with the bacterial monitoring requirements.

4.2. Receiving Water Monitoring at Monitoring Location RSW-001

The Discharger shall monitor the receiving water at Monitoring Location RSW-001 twice annually, once during dry weather and once during wet weather, for the parameters listed in Table E-7. During wet weather, the receiving water must be sampled both before and during a storm event. Sampling during a storm water discharge event shall be conducted either during the storm water discharge or after the storm has passed and when the Discharger can safely collect a receiving water sample that is representative of storm water discharge conditions. During wet weather, a reference site shall also be monitored for Ocean Plan Table 3 parameters as a proxy for natural water quality. The requirement for wet weather receiving water and reference site monitoring may be met by participating in a regional monitoring program approved by the Deputy Director of the State Water Board Division of Water Quality.³

Table E-7. Receiving Water Monitoring Requirements.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total coliform	Colony Forming Units per 100 milliliters	Grab	2/Year	1

³ Based on Appendix A, condition 12 of State Water Board Resolution No. R9-2015-0025.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
	(CFU/100 mL)			
Fecal coliform	CFU/100 mL	Grab	2/Year	1
Enterococcus	CFU/100 mL	Grab	2/Year	1
Arsenic, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Cadmium, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Chromium (VI), Total Recoverable ²	µg/L	24-hr Composite	2/Year	1
Copper, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Lead, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Mercury, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Nickel, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Selenium, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Silver, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Zinc, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Cyanide, Total	µg/L	24-hr Composite	2/Year	1
Total Residual Chlorine	µg/L	Grab	2/Year	1
Phenolic Compounds (nonchlorinated) ³	µg/L	24-hr Composite	2/Year	1
Phenolic Compounds (chlorinated) ³	µg/L	24-hr Composite	2/Year	1
Endosulfan ³	µg/L	24-hr Composite	2/Year	1
Endrin	µg/L	24-hr Composite	2/Year	1
HCH ³	µg/L	24-hr Composite	2/Year	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Radioactivity	Picocuries per liter (pCi/L)	24-hr Composite	2/Year	1
Acrolein	µg/L	Grab	2/Year	1
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	2/Year	1
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	2/Year	1
Chlorobenzene	µg/L	Grab	2/Year	1
Chromium (III), Total Recoverable ²	µg/L	24-hr Composite	2/Year	1
Di-n-butyl Phthalate	µg/L	24-hr Composite	2/Year	1
Dichlorobenzenes ³	µg/L	Grab	2/Year	1
Diethyl Phthalate	µg/L	24-hr Composite	2/Year	1
Dimethyl Phthalate	µg/L	24-hr Composite	2/Year	1
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	2/Year	1
2,4-dinitrophenol	µg/L	24-hr Composite	2/Year	1
Ethylbenzene	µg/L	Grab	2/Year	1
Fluoranthene	µg/L	24-hr Composite	2/Year	1
Hexachlorocyclopentadiene	µg/L	24-hr Composite	2/Year	1
Nitrobenzene	µg/L	24-hr Composite	2/Year	1
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Toluene	µg/L	Grab	2/Year	1
Tributyltin	µg/L	24-hr Composite	2/Year	1
1,1,1-trichloroethane	µg/L	Grab	2/Year	1
Acrylonitrile	µg/L	Grab	2/Year	1
Aldrin	µg/L	24-hr Composite	2/Year	1
Benzene	µg/L	Grab	2/Year	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Benzidine	µg/L	24-hr Composite	2/Year	1
Beryllium, Total Recoverable	µg/L	24-hr Composite	2/Year	1
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	2/Year	1
Carbon Tetrachloride	µg/L	Grab	2/Year	1
Chlordane	µg/L	24-hr Composite	2/Year	1
Chlorodibromomethane	µg/L	Grab	2/Year	1
Chloroform	µg/L	Grab	2/Year	1
Dichlorodiphenyltrichloroethane (DDT) ³	µg/L	Grab	2/Year	1
1,4-dichlorobenzene	µg/L	Grab	2/Year	1
3,3'-dichlorobenzidine	µg/L	24-hr Composite	2/Year	1
1,2-dichloroethane	µg/L	Grab	2/Year	1
1,1-dichloroethylene	µg/L	Grab	2/Year	1
Dichlorobromomethane	µg/L	Grab	2/Year	1
Dichloromethane	µg/L	Grab	2/Year	1
1,3-dichloropropene	µg/L	Grab	2/Year	1
Dieldrin	µg/L	24-hr Composite	2/Year	1
2,4-dinitrotoluene	µg/L	24-hr Composite	2/Year	1
1,2-diphenylhydrazine	µg/L	24-hr Composite	2/Year	1
Halomethanes ³	µg/L	Grab	2/Year	1
Heptachlor	µg/L	24-hr Composite	2/Year	1
Heptachlor Epoxide	µg/L	24-hr Composite	2/Year	1
Hexachlorobenzene	µg/L	24-hr Composite	2/Year	1
Hexachlorobutadiene	µg/L	24-hr Composite	2/Year	1
Hexachloroethane	µg/L	24-hr Composite	2/Year	1
Isophorone	µg/L	24-hr Composite	2/Year	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
N-nitrosodimethylamine	µg/L	24-hr Composite	2/Year	1
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	2/Year	1
N-nitrosodiphenylamine	µg/L	24-hr Composite	2/Year	1
Polynuclear Aromatic Hydrocarbons (PAHs) ³	µg/L	24-hr Composite	2/Year	1
Polychlorinated Biphenyls (PCBs) ³	µg/L	24-hr Composite	2/Year	1
TCDD equivalents	µg/L	24-hr Composite	2/Year	1
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year	1
Tetrachloroethylene	µg/L	Grab	2/Year	1
Toxaphene	µg/L	24-hr Composite	2/Year	1
Trichloroethylene	µg/L	Grab	2/Year	1
1,1,2-trichloroethane	µg/L	Grab	2/Year	1
2,4,6-trichlorophenol	µg/L	24-hr Composite	2/Year	1
Vinyl Chloride	µg/L	Grab	2/Year	1

Notes for Table E-7

1. Analytical methods as required under 40 CFR part 136.
2. The Discharger may, at their option, meet the performance goals for chromium (VI) (hexavalent chromium) as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
3. See Attachment A of this Order for definitions.

4.3. Benthic Survey

Once every permit cycle, a quantitative survey of benthic marine life must be performed to determine the concentrations of metals near field and far field (up and down coast, and offshore) in the ASBS. The San Diego Water Board Executive Officer, in consultation with the Deputy Director or designee at the State Water Board Division of Water Quality, must approve the survey design. The results of the survey must be completed and submitted to the San Diego Water Board within six months before the end of the permit cycle. Alternatively, this requirement may

be met by participating in a regional monitoring program approved by the Deputy Director of the State Water Board Division of Water Quality.⁴

5. REGIONAL MONITORING REQUIREMENTS

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through intercalibration exercise. The coalitions, that are implementing regional monitoring, enable sharing of technical resources, trained personnel, and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger shall, as directed by the San Diego Water Board, participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and improved monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters. These programs shall be developed and implemented so as to:

- (1) Determine the status and trends of conditions in ocean waters in the San Diego Region with regard to beneficial uses, e.g.,
 - Are fish and shellfish safe to eat?
 - Is water quality safe for swimming?
 - Are ecosystems healthy?
- (2) Identify the primary stressors causing or contributing to conditions of concern;
- (3) Identify the major sources of the stressors causing or contributing to conditions of concern; and
- (4) Evaluate the effectiveness (i.e., environmental outcomes) of actions taken to address such stressors and sources.

Development and implementation of new and improved monitoring and assessment programs for ocean waters will be guided by the following:

- (1) Ocean Plan;

⁴ Based on Appendix A, condition 9 of State Water Board Resolution No. R9-2015-0025.

- (2) *San Diego Water Board Resolution No. R9-2012-0069, "Resolution in Support of a Regional Monitoring Framework;"*
- (3) San Diego Water Board staff report entitled "*A Framework for Monitoring and Assessment in the San Diego Region;*" and
- (4) Other guidance materials, as appropriate.

5.1. Southern California Bight Monitoring Program

The Discharger is required to participate in the Southern California Bight Regional Monitoring Program coordinated by the Southern California Coastal Water Research Project (SCCWRP), or any other coordinator named by the San Diego Water Board, pursuant to Water Code section 13383, and 40 CFR section 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

As noted in section 4 of this MRP, the requirement for wet weather receiving water and reference site monitoring and quantitative survey of benthic marine life may be met by participating in a regional monitoring program approved by the Deputy Director of the State Water Board Division of Water Quality.⁵

6. SPECIAL STUDIES AND ADDITIONAL MONITORING REQUIREMENTS

6.1 Climate Change Action Plan

The Discharger shall prepare and submit a Climate Change Action Plan (CCAP) within three years of the effective date of this Order. The Discharger may make use of existing climate-change related plans to comply with this requirement. Changing climate conditions may fundamentally alter the way devices and systems used in the storage, treatment, collection, and conveyance of wastewater are designed and operated. Climate change research indicates the overarching driver of change is increased atmospheric carbon dioxide (CO₂) from human activity. The increased CO₂ emissions trigger changes to climatic patterns, which increase sea level and the intensity of coastal storm surges (Δ Sea Level) lead to more erratic local weather patterns (Δ Weather Patterns), increased incidents of flooding, trigger a gradual warming of freshwater and ocean temperatures (Δ Water Temperature), and trigger changes to ocean water chemistry (Δ Water pH). The CCAP shall identify the magnitude and timing of projected regional impacts on the Facility (includes intake structures, storage and conveyance facilities, treatment facilities, and outfalls), and operations ability to meet the requirements of this Order due to climate change if current trends continue.

The CCAP shall identify steps being taken or planned to address flooding, sea level rise, volatile rain period impacts (both dry and wet weather); impacts on intake water quality; impacts on operations of treatment systems and on quality of

⁵ Based on Appendix A, conditions 9 and 12 of State Water Board Resolution No. R9-2015-0025.

the discharge; the potential need to adjust NPDES permit conditions; the financing needed to pay for planned actions; schedules to update the CCAP as more information on climate change and its effect become more available; and any other factors as appropriate. Any impacts or risks projected to jeopardize permit compliance must be addressed by a plan that includes scheduled risk assessments and mitigation measures as needed to maintain compliance. The CCAP shall also address challenges posed to the Discharger in addressing the impacts of changing climate conditions which may fundamentally alter the way intake structures, storage and conveyance facilities, treatment facilities, and outfalls are designed and operated as well as how aquatic systems are managed and regulated.

6.2 Chemical Log

The Discharger shall log all chemical additives, if any, discharged via the seawater system to the ocean. The log shall include the chemical, time, date, concentration, quantity, location, identification of personnel that added the chemicals, and outfall that discharged the chemicals. The log shall be included as a pdf attachment in the quarterly report. If no chemical additives were discharged via the seawater system to the ocean for the calendar year, the Discharger shall record this in the log and report this in the quarterly report for that quarter.

7. REPORTING REQUIREMENTS

This section includes the dates and procedures for all the reporting requirements.

7.1. General Monitoring and Reporting Requirements

- 7.1.1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
- 7.1.2. The Discharger shall report all instances of noncompliance not reported under sections 5.5, 5.7, and 5.8 of the Standard Provisions (Attachment D) at the time monitoring reports are submitted.

7.2. Self-Monitoring Reports (SMRs)

- 7.2.1. 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/water_issues/programs/ciwqs/

The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal. SMRs must be signed and certified as required by section 5 of the Standards Provisions (Attachment D). The Discharger shall maintain sufficient staffing and resources to ensure it submits SMRs that are complete and timely. This includes provision for training and supervision of individuals on how to prepare and submit SMRs.

- 7.2.2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections 3 through 6. The Discharger shall submit SMRs including the results of all required monitoring using U.S.

EPA-approved test methods or other test methods specified in this Order. SMRs are to 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.

- 7.2.3. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (reported ML, also known as the Reporting Level, or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. 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:

- 7.2.3.1. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- 7.2.3.2. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
- For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. 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.
- 7.2.3.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- 7.2.3.4. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
- 7.2.4. Compliance Determination. Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).
- 7.2.5. Multiple Sample Data. When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of

“Detected, but Not Quantified” (DNQ) or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- 7.2.5.1. 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.
- 7.2.5.2. 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.
- 7.2.6. The Discharger shall submit SMRs in accordance with the following requirements:
 - 7.2.6.1. 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.
 - 7.2.6.2. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - 7.2.6.3. The Discharger shall add all violations, including violations of receiving water limitations, to CIWQS under the “Violations” tab.
- 7.2.7. Monitoring Periods. Monitoring periods for all required monitoring shall be completed as described in Table E-8:

Table E-8. Monitoring Periods

Sampling Frequency	Monitoring Period
Continuous	Midnight through 11:59pm
1/Week	Sunday through Saturday
1/Quarter (or quarterly)	January 1 through March 30 April 1 through June 30 July 1 through September 30 October 1 through December 31
2/Year	January 1 through June 30 July 1 through December 31
1/Year	January 1 through December 31

7.2.8. SMR Due Dates and Content. The Discharger shall submit SMRs by the due dates and with contents specified in Table E-9.

Table E-9. SMR Due Dates and Required Contents

SMR Type	Monitoring Period	Due Date	Required Contents
Quarterly SMR	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	<ul style="list-style-type: none"> • Cover letter • Effluent flow data for all outfalls (see Tables E2-E6 of this MRP) • Chemical log (see section 6.3 of this MRP) • Surf zone monitoring results (see section 4.1 of this MRP)
Semiannual SMR	January 1 through June 30 July 1 through December 31	September 1 March 1	<ul style="list-style-type: none"> • Cover letter • Effluent monitoring results for parameters sampled twice per year or once per year (see Tables E2-E6 of this MRP) • Attachment describing performance goal

SMR Type	Monitoring Period	Due Date	Required Contents
			<p>exceedances at Monitoring Location EFF-002 (when applicable, see section 4.1.2.2 of Order)</p> <ul style="list-style-type: none"> • Chronic toxicity testing results/reports • Surf zone monitoring results (see section 4.1 of this MRP) • Receiving water monitoring results (see section 4.2 of this MRP)
Benthic Survey	Once per Permit Cycle	Six months before end of the permit cycle	<ul style="list-style-type: none"> • Cover letter • Benthic survey monitoring results (see section 4.3 of this MRP)

7.3. Discharge Monitoring Reports (DMRs)

DMRs are USEPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website:

http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

7.4. Other Reports

The following reports are required under Special Provisions (section 6 of this Order), sections 1, 3, 4, 5, and 6 of this MRP, and the California Code of Regulations (CCR). The reports shall be submitted to the San Diego Water Board using the State Water Board’s CIWQS program website, unless otherwise noted. The reports must be signed and certified as required by section 5 of the Standards Provisions (Attachment D). The CIWQS website will provide additional information for SMR submittal in the event of a planned or unplanned service interruption for electronic submittal.

Table E-9. Monitoring Periods and Reporting Schedule for Special Reports

Report Name	Section No.	Report Due Date
Performance Goal Exceedance Investigation Work Plan	Section 4.1.2.1 of the Order	30 days after the third successive exceedance of a performance goal
Performance Goal Exceedance Report	Section 4.1.2.1 of the Order	As specified in the Performance Goal Exceedance Investigation Work Plan
Revised Stormwater Management Plan	Section 6.3.3.1 of the Order	Within 180 days of the effective date of the Order
Initial Investigation TRE Work Plan	Section 3.3.6 of this MRP	Within 90 days of the effective date of this permit
TRE Work Plan and Report	Section 3.3.8.1 of this MRP	As specified in Section 3.3.8.1 of this MRP
Climate Change Action Plan	Section 6.1 of this MRP	Within three years of the effective date of the Order
Report of Waste Discharge (ROWD) (for reissuance)	Title 23, California Code of Regulations	180 days before the Order expiration date

ATTACHMENT F – FACT SHEET
TABLE OF CONTENTS

1. PERMIT INFORMATION.....	3
2. FACILITY DESCRIPTION	5
2.1. Description of Wastewater Treatment and Controls.....	9
2.3. Summary of Existing Requirements and SMR Data	13
2.4. Compliance Summary.....	17
2.5. Planned Changes	18
3. APPLICABLE PLANS, POLICIES, AND REGULATIONS	18
3.1. Legal Authorities	18
3.2. California Environmental Quality Act (CEQA)	18
3.3. State and Federal Laws, Regulations, Policies, and Plans	18
3.4. Impaired Water Bodies on the CWA section 303(d) List	21
3.5. Other Plans, Policies and Regulations – Not Applicable.....	22
4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS	22
4.1. Discharge Prohibitions	22
4.2. Technology Based Effluent Limitations	23
4.3. Water Quality Based Effluent Limitations (WQBELs).....	25
4.4. Final Effluent Limitations	55
4.5. Interim Effluent Limitations – Not Applicable.....	58
4.6. Land Discharge Specifications – Not Applicable.....	58
4.7. Recycling Specifications – Not Applicable	58
5. RATIONALE FOR RECEIVING WATER LIMITATIONS	58
6. RATIONALE FOR PROVISIONS	58
6.1. Standard Provisions.....	58
6.2. Special Provisions.....	59
7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS.....	60
7.1. Influent Monitoring – Not Applicable	60
7.2. Effluent Monitoring	60
7.3. Whole Effluent Toxicity Testing Requirements.....	61
8. PUBLIC PARTICIPATION.....	63
8.1. Notification of Interested Parties	63
8.2. Written Comments	64
8.3. Public Hearing.....	64
8.4. Reconsideration of Waste Discharge Requirements.....	64
8.5. Information and Copying.....	65
8.6. Register of Interested Persons.....	65
8.7. Additional Information	65

TABLES

Table F-1. Facility Information.....	3
Table F-2. Seawater Locations and Discharge Category.....	7
Table F- 3. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 001 (Monitoring Data from January 2017 – June 2022).....	13
Table F- 4. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 003 (Monitoring data from January 2017 – June 2022)	14
Table F- 5. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 004a (Monitoring Data from January 2017 – June 2022).....	14
Table F- 7. Historic Water Quality Based Effluent Limitations and Monitoring Data for Outfalls 001, 003, 004a, 004b (Monitoring Data form January 2017 – June 2022)1,2 ..	15
Table F-8. Basin Plan Beneficial Uses	19
Table F- 9. Ocean Plan Beneficial Uses.....	20
Table F-10. Summary of Technology Based Effluent Limitations (TBELs).....	24
Table F-11. RPA Results Summary – Outfall 001	28
Table F-12. RPA Results Summary – Outfall 003	31
Table F-13. RPA Results Summary – Outfall 004a	34
Table F-14. RPA Results Summary – Outfall 004b	37
Table F-15. Pollutants Having Background Concentrations	43
Table F-16. Water Quality Objectives for Ammonia and Cyanide	43
Table F-17. Summary of WQBELs at Monitoring Locations EFF-001, 003, 004a, and 004b	44
Table F-18. Performance Goals at Monitoring Locations EFF-001, 002, 003, 004a, and 004b	50

ATTACHMENT F – FACT SHEET

As described in section 2.2 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.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

Type of Information	Facility/Discharge Information
WDID	9 000000018
Discharger	University of California, San Diego
Name of Facility	University of California, San Diego – Scripps Institution of Oceanography
Facility Address	9500 Gilman Drive, MC 0089, San Diego, CA 92093-0089
Facility Contact, Title and Phone	Kimberly O’Connell, Environmental Manager, 858-534-6018
Authorized Person to Sign and Submit Reports	Kimberly O’Connell
Mailing Address	9500 Gilman Drive, MC 0089, San Diego, CA 92093-0089
Billing Address	Same as Mailing Address
Type of Facility	Educational Services; SIC Code 8221
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	Not applicable
Recycling Requirements	Not applicable
Facility Permitted Flow	Not applicable
Facility Design Flow	1.25 million gallons per day (MGD)
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

- 1.1. The University of California, San Diego (hereinafter Discharger or UCSD) is the owner and operator of the Scripps Institution of Oceanography (hereinafter Facility or SIO), an aquaria, research, and higher education facility.

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.

- 1.2. The Facility discharges aquaria wastewater, seawater, filter backwash water, storm water, and urban runoff to the Pacific Ocean, a water of the United States. The Discharger was previously regulated by Order No. R9-2015-0070 as amended by Order No. 2019-0176, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107239, which was adopted on November 18, 2015, and which expired on December 31, 2020. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- 1.3. The Discharger requested an exception to the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) for the Facility’s discharge into the San Diego-Scripps Area of Special Biological Significance (ASBS) (previously named San Diego Marine Life Refuge ASBS). On July 22, 2004, the State Water Resources Control Board (State Water Board) granted the request through adoption of Resolution No. 2004-0052.⁶ Resolution No. 2004-0052 establishes requirements and conditions applicable to the discharges into the ASBS from the seawater system at the Facility and from the municipal storm water collection system. These conditions were incorporated into Order No. R9-2015-0070.
- 1.4. On August 5, 2009, the Discharger submitted a request to the State Water Board for a renewal of the exception to the Ocean Plan for the Facility discharge into the San Diego-Scripps ASBS. On April 21, 2015, the State Water Resources Control Board adopted Resolution No. 2015-0025, which renewed the exception indefinitely.⁷ Resolution No. 2015-0025 states that all of the conditions in the exception adopted under Resolution No. 2004-0052 were met in full by the Discharger.
- 1.5. The Discharger filed a report of waste discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on July 2, 2020. The application was deemed complete on July 30, 2020. The Discharger submitted additional information on September 22, 2020 to supplement its application. A site visit was conducted on May 27, 2022, to observe operations

⁶ Resolution No. 2004-0052, *Approving an Exception to the California Ocean Plan (Ocean Plan) for the University of California Scripps Institution of Oceanography Discharge into the San Diego Marine Life Refuge Area of Special Biological Significance and Adopting a Mitigated Negative Declaration*, adopted by the State Water Board on July 22, 2004.

⁷ Resolution No. 2015-0025, *Approving an Exception to the California Ocean Plan for the University of California San Diego Scripps Institution of Oceanography and Adopting an Addendum to the Initial Study/Mitigated Negative Declaration*, adopted by the State Water Board on April 21, 2015.

and collect additional data to develop permit limitations and requirements for waste discharge.

- 1.6. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

2. FACILITY DESCRIPTION

The Facility is located along the coast immediately southwest of the University of California, San Diego's main campus and includes a span of approximately 3,000 feet of ocean frontage. The Facility property includes numerous buildings located along the ocean to the west of La Jolla Shores Drive as well as on the hillside between La Jolla Shores Drive and Torrey Pines Road, which contains the Birch Aquarium, Coast Apartments, and other SIO research facilities and surrounding open space areas. La Jolla Shores residential uses are located to the south of the Facility and additional residences which include Scripps Estates and La Jolla Farms are located to the north of the SIO.

UCSD has maintained a seawater system to support its research and teaching mission since 1910. The high-quality filtered seawater is a critical resource in numerous marine biological and oceanographic research and teaching activities. Almost all in-vivo biological research involving specimens at SIO require an open flow-through seawater system. A core component of the SIO's mission is to engage in education and outreach on ocean protection and water quality issues. UCSD has maintained a public aquarium since 1913, and the Birch Aquarium at Scripps, a public museum and aquarium since 1951 (at the present location since 1982) to elevate awareness and educate the public about the marine environment and how to protect it. The Birch Aquarium at SIO operates several educational tank displays such as a kelp tank, tide pool, and other tanks that contain plants. These tanks require an open flow-through seawater system.

The SIO flow-through seawater system currently supplies 0.50 to 1 MGD of seawater to laboratories and aquaria within the SIO, the Birch Aquarium, the NOAA - Southwest Fisheries Science Center aquaria, and three storage tank locations. This seawater is eventually discharged back into the ocean through four outfalls at an estimated average rate of 0.6 mgd with a maximum daily limit of 1.25 mgd. The area of discharge is within the San Diego-Scripps ASBS.

A flow schematic of the seawater system is included as Attachment C of this Order. The following facilities (located within the Facility's boundaries) utilize seawater (several of the facilities are shown on the map in Attachment B of this Order):

- Birch Aquarium at Scripps (public education and outreach)
- Hubbs Hall (marine research)
- The Experimental Aquarium (marine research)

- The Electromagnetic Facility (shark tank)
- NOAA National Marine Fisheries - Southwest Fisheries Science Center (marine research)
- Scholander Hall (marine research)
- Hydraulics Laboratory (marine research)
- OAR Keck Center (ocean atmosphere research)
- The Outdoor Marine Biology Research Aquaria (marine research)
- Marine Conservation Technology Facility, formerly referred to as the SIO Building D (marine research).

The Facility generates the following types of discharges:

1. *Discharges from Aquaria/Tanks Containing Indigenous Species* – Seawater that has flowed through an aquarium/tank or other facility that contains only plants and/or animals whose historic or native recorded range includes the waters of the State of California;
2. *Discharges from Aquaria/Tanks Containing Non-Indigenous Species (NIS)* – Seawater that has flowed through an aquarium tank or other facility that contains plants and/or animals whose historic or native recorded range does not include the waters of the State of California;
3. *Discharges Not Associated with Marine Organisms* – Seawater that is used for research that does not utilize marine organisms, such as physical and atmospheric oceanography;
4. *Stormwater*- Stormwater generated within the SIO premises;
5. *Unfiltered Raw Seawater* – Seawater that comes directly from the seawater pumps at the end of Scripps Institution of Oceanography (SIO) Pier and has not yet been filtered;
6. *Filtered Seawater* – Seawater that has been filtered and is stored in the seawater storage tanks. This water has not come in contact with any aquarium tanks;
7. *Filter Backwash Seawater* – Seawater that is used to backwash the filters; and
8. *Treated Seawater from Genetically Modified Species Tanks* – Seawater from aquaria/tanks at Hubbs Hall containing genetically modified species that goes through a treatment system prior to discharge.

In addition, seawater used in aquaria with indigenous and non-indigenous species may be medicated with copper sulfate and/or other antibiotics to treat diseases or prevent outbreaks and to maintain a suitable aquaria environment. Seawater used for physical and atmospheric oceanography research may be treated with chemicals. All seawater treated with medication/chemicals at the Birch Aquarium at Scripps is sent to a 12,500-gallon holding tank prior to being discharged to the City of San Diego's Metropolitan Sewer System. Seawater treated with chemicals is discharged to the

City of San Diego’s Metropolitan Sewer System in accordance with guidelines established by the City of San Diego.

Based on information provided by the Discharger, the Facility does not meet the definition of a Concentrated Aquatic Animal Production (CAAP) Facility. As a result the Facility is not subject to NPDES regulations prescribed in 40 CFR 122.24. Pursuant to Appendix C to 40 CFR 122, facilities which produce less than 9,090 harvest weight kilograms of aquatic animals per year (approximately 20,000 pounds), and which feed aquatic animals less than 2,272 kilograms of food during the calendar month of maximum feeding (approximately 5,000 pounds) are not considered CAAPs. Because the Facility does not meet the definition of a CAAP, the best management practices (BMPs) contained in the USEPA *Compliance Guide for the Concentrated Aquatic Animal Production Point Source Category* are not incorporated into this Order.

The table below summarizes the existing seawater discharge conditions by the Facility and indicates if chemical treatments are added to the seawater.

Table F-2. Seawater Locations and Discharge Category

Location	Seawater Discharge Category	Chemical Additives	Seawater Return Discharge Destination
Birch Aquarium	Discharges from aquaria/tanks containing indigenous or non-indigenous species, and Filter backwash seawater	Chemical and antibiotic treatments	Sanitary Sewer
Birch Aquarium	Discharges from aquaria/tanks containing indigenous species or non-indigenous species; and Filter backwash seawater	None	Outfall 001. Seawater from tanks containing non-indigenous species is treated prior to discharge
Birch Aquarium	Blue Fairy Penguin exhibit (non-indigenous species)	None	Sanitary Sewer

Location	Seawater Discharge Category	Chemical Additives	Seawater Return Discharge Destination
Hubbs Hall	Discharges from aquaria/tanks containing indigenous species, non-indigenous species, or genetically modified organisms	Medication (when needed to treat an animal)	Sanitary Sewer
Hubbs Hall	Discharges from aquaria/tanks containing indigenous species, non-indigenous species, or genetically modified organisms	None	Outfall 001. Seawater from tanks containing non-indigenous species and genetically modified species is treated prior to discharge
Experimental Aquarium	Discharges from aquaria/tanks containing indigenous species	None	Outfall 003
Experimental Aquarium	Discharges from aquaria/tanks containing indigenous species	Chemicals and bleach to clean tanks	Sanitary Sewer
Electromagnetic Facility	Discharges from aquaria/tanks containing indigenous species or non-indigenous species	None	Outfall 001
NOAA– Southwest Fisheries Science Center	Discharges from aquaria/tanks containing indigenous species	None	Outfall 001
Marine Conservation Technology Facility (formerly Building D)	Discharges from aquaria/tanks containing indigenous species,	Wash water on floor	Sanitary Sewer

Location	Seawater Discharge Category	Chemical Additives	Seawater Return Discharge Destination
Marine Conservation Technology Facility (formerly Building D)	Discharges from aquaria/tanks containing non-indigenous species	None	Outfall 001 (seawater from aquaria containing non-indigenous species will be treated prior to discharge)
Scholander Hall	Discharges from aquaria/tanks containing indigenous species	None	Sanitary Sewer
Hydraulics Laboratory	Discharges from aquaria/tanks containing non-indigenous species	Tracer Dye and Chlorine	Sanitary Sewer
Hydraulics Laboratory	Discharges from aquaria/tanks containing indigenous species (in the future)	None (future use)	Outfall 001 (potential connection in the future)
W.M Keck Center for Ocean Atmosphere Research (OAR)	Discharges from aquaria/tanks containing non-indigenous species	Yes (chlorine)	Sanitary Sewer
Outdoor Marine Biology Research Aquaria	Discharges from aquaria/tanks containing indigenous species	None	Outfall 003
Seawater Storage Tanks	Filtered seawater	None	Outfalls 001 and 003
Settling Tanks	Intake seawater	None	Outfall 004A
Sand Filter System	Filter backwash Seawater	None	Outfall 004B

2.1. Description of Wastewater Treatment and Controls

Intake pumps located below the seaward end of Scripps Pier pump in between 0.5 and 1 MGD of seawater from the Pacific Ocean daily (average of 615,000 gallons per day (gpd)). The incoming seawater passes through a parabolic screen and sand and debris drum filter system located on the end of the pier which removes course materials (such as kelp) from the intake water. The intake water then travels through a flume on the pier, into one of two 20,000-gallon concrete settling tanks, after which it is filtered through one of four high-speed sand filters.

It is anticipated that a fifth sand filter will be added to this system during the next permit cycle. Once filtered, the water is pumped to three 60,000-gallon storage tanks, where it is then delivered to the laboratories and aquaria of SIO, the Birch Aquarium, and the NOAA - Southwest Fisheries Science Center. Seawater is also pumped back to the Scripps Pier for use on the pier and to a dispensing station at the base of the pier for researchers. In addition, there is a public seawater dispensing station at the W.M. Keck Ocean Atmosphere Research building.

The Birch Aquarium and Hubbs Hall currently house aquaria containing non-indigenous species. Both facilities have adopted standard operating procedures that specify the administrative controls that are implemented to prevent the release of non-indigenous species into the ocean.

The Discharger conducted a pilot study to evaluate the effectiveness of non-chemical treatments (e.g., filtration, ultraviolet (UV) exposure, and ozonation) at inactivating 99% of non-indigenous species from seawater effluent discharges. The study was performed from August 2006 – December 2008 at the Birch Aquarium and at Hubbs Hall in coordination with the California Department of Fish and Wildlife. The objective of the pilot test was to determine the combination of treatments, along with their corresponding doses and exposure periods, which would most efficiently achieve a 99% kill rate while removing the resultant toxicity before the seawater is discharged. The results of the study were used to identify the appropriate size and type of equipment for two separate full-scale systems for treating wastewater containing non-indigenous species (one at the Birch Aquarium and the other at Hubbs Hall). The results determined that systems using 100-micron and 25-micron cloth filters along with a UV disinfection could achieve a 99% removal of brine shrimp, rotifers, green algae, mussel larvae, and heterotrophic bacteria. These organisms were chosen as appropriate indicator species for non-indigenous species by the Discharger with the consent of the California Department of Fish and Wildlife.

In 2011, the Discharger installed a treatment system at Hubbs Hall to inactivate potential non-indigenous species in the seawater effluent through filtration and exposure to UV light based on the results of the above pilot study. The treatment system at Hubbs Hall consists of filtration (using 100-micron and 25-micron cloth filters) and a UV disinfection. In the fall of 2012, UCSD installed a treatment system at the Birch Aquarium for treating discharges from aquaria/tanks containing non-indigenous species, which consists of filtration (using 25-micron cloth filters), UV disinfection, and protein skimming and ozonation. In August 2019, the Discharger installed a treatment system that treats seawater from aquaria/tanks containing genetically modified species, and commenced discharge from this treatment system commenced in January 2020. This treatment system treats consists of filtration, ultraviolet disinfection, and a protein skimmer with ozone treatment. Approximately 20,000-50,000 gpd of treated seawater is discharged from the aquaria/tanks containing genetically modified species to Outfall 001.

A Blue Fairy Penguin exhibit has been completed at the Birch Aquarium and was opened to the public in July 2022. The exhibit houses non-indigenous *Eudyptula minor*. The treatment system for the exhibit is a closed system that consists of mechanical filtration (sand filters), biological filtration (biofilter media), and chemical filtration (foam fractionator with ozone injection). The habitat is backwashed twice per week (using about 1,800 gallons of seawater per backwash), cleaned by divers once per week (using about 1,800 gallons of seawater), and filled with seawater after backwash and cleaning. The backwash water goes to the 12,500-gallon holding tank and is discharged to the City of San Diego's sanitary sewer system in accordance with requirements established by the City of San Diego. The administrative and engineering controls that will be implemented for this exhibit were added to the *Standard Operating Procedures Detailing Administrative Controls to Manage Non-Indigenous Species at Birch Aquarium at Scripps* and were submitted to the San Diego Water Board on July 12, 2022.

Construction of the Marine Conservation Technology Facility (formerly SIO Building D) was completed in late 2022. Aquaria in the Marine Conservation Technology Facility house both indigenous and non-indigenous species. All seawater used at the Marine Conservation Technology Facility will flow through a treatment system which includes 25-micron filters, a UV disinfection unit, and an ozone infused refractor. Discharge from the treatment system serving the Marine Conservation Technology Facility commenced in April 2023.

2.2. Discharge Points and Receiving Waters

The Facility has a total of five outfalls (Outfalls 001, 002, 003, 004a and 004b), which together discharge about 613,000 gpd of waste seawater and/or storm water, with a maximum daily flow rate of 1.25 MGD from all five outfalls. Waste seawater and/or storm water is discharged from each of the five outfalls onto the beach, where it flows across the sand into the San Diego-Scripps ASBS. A minimum dilution factor of seven to one was established by the San Diego Water Board in Order No. R9-2008-0139, a previous iteration of this permit. The dilution factor of seven to one is based on the results of a dilution and dispersion study submitted to the San Diego Water Board on February 9, 2007, and is retained in this Order. (See section 4.3.3 of this Fact Sheet for more details).

A description of each outfall and the type of discharge from each outfall is provided as follows:

Outfall 001: Outfall 001 is located approximately 500 feet north of the SIO Pier and discharges approximately 350,000 to 600,000 gpd of aquaria wastewater/filtered seawater that has circulated through the Birch Aquarium at Scripps, Hubbs Hall Aquaria, the NOAA Southwest Fisheries Science Center Aquaria, and the SIO Electromagnetic Facility. Discharges from Hubbs Hall to Outfall 001 will also include approximately 20,000-50,000 gpd of treated seawater from the aquaria/tanks at Hubbs Hall containing genetically modified species.

The daily average flow from July 2019 to March 2020 was approximately 460,278 gpd. This flow also includes intermittent discharges that occur several times per year from one 60,000-gallon and two 7,500-gallon seawater storage tanks when they are drained for maintenance. The SIO Marine Conservation Technology Facility (formerly referred to as SIO Building D) opened in late 2022 and . Seawater used at the Marine Conservation Technology Facility flow throughs a treatment system which on average discharges an additional 72,000-115,200 gpd of seawater to Outfall 001. Discharge from the treatment system serving the Marine Conservation Technology Facility commenced in April 2023.

Outfall 001 also discharges storm water during wet weather. As of October 2008, the storm water conveyance system was separated from the seawater return system all the way to the Outfall 001 concrete spillway. The seawater return pipe and storm water conveyance pipe both outlet at the concrete spillway. The monitoring vault for the seawater effluent system is located just upstream from the concrete spillway and captures all seawater inputs to Outfall 001 but excludes storm water.

Outfall 002: Outfall 002 is located approximately 240 feet south of SIO Pier, immediately downstream of two urban runoff filter treatment systems. This outfall discharges storm water only, with no facility seawater connections. Flow from this outfall is based on storm conditions.

Outfall 003: Outfall 003 is located underneath the SIO Pier and discharges approximately 50,000-220,000 gpd of seawater that has circulated through the Experimental Aquarium and the Outdoor Marine Biology Research aquaria. In addition, Outfall 003 receives intermittent discharges from three 60,000-gallon seawater storage tanks when a tank is drained for maintenance (approximately once or twice a year per tank).

Outfall 004A: Outfall 004A is comprised of two separate pipe outlets located approximately 40 and 75 feet south of the SIO Pier, underneath a patio area. Outfall 004A intermittently discharges between 3,000 and 30,000 gallons of intake seawater several times a year when the settling tanks (20,000 gallons each) are switched, or a settling tank is drained for maintenance.

Outfall 004B: Outfall 004B is located approximately 25 feet south of the SIO Pier and north of Outfall 004A. The system filters seawater pumped from the end of the SIO Pier and is back-flushed when pressure in the system exceeds the set safety threshold. Therefore, the discharges from Outfall 004B are intermittent and range from 100 to 20,000 gpd depending on the conditions of the receiving water. The filters are back-flushed more frequently, for example, if the turbidity of the ocean is high (e.g., storm conditions) and when there are algae blooms.

There are flow meters on the seawater intake system and on Outfalls 001, 003, and 004B. There is no flow meter for Outfall 004A. Flows from Outfall 004A occur when one of the two, 20,000-gallon settling tanks is drained. The volume is based on the amount of seawater in the tank at that time.

2.3. Summary of Existing Requirements and SMR Data

Effluent limitations contained in the existing Order for discharges from Outfalls 001, 003, 004A, and 004B and representative monitoring data from the term of the Order No. R9-2015-0070 are summarized in Tables F-3 to F-7.

Table F-3. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 001 (Monitoring Data from January 2017 – June 2022)

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Maximum	Highest Average Monthly Discharge ¹	Highest Average Weekly Discharge ¹	Highest Instantaneous Maximum ¹
Oil and Grease	milligrams per liter (mg/L)	25	40	75	1.8 (DNQ)	1.8(DNQ)	1.8(DNQ)
Total Suspended Solids (TSS)	mg/L	60	--	120	31	--	31
Settleable Solids	ml/L	1.0	1.5	3.0	ND	--	ND
Turbidity	nephelometric turbidity units (NTU)	75	100	225	0.3	0.3	0.3
pH	pH units	--	--	6.0-9.0	--	--	7.77-8.08 ²

Note for Table F-3

1. ND stands for not detected and DNQ stands for detected but not quantified.
2. Instantaneous minimum and maximum value.

Table F-4. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 003 (Monitoring data from January 2017 – June 2022)

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Maximum	Highest Average Monthly Discharge ¹	Highest Average Weekly Discharge ¹	Highest Instantaneous Maximum ¹
Oil and Grease	mg/L	25	40	75	3(DNQ)	3(DNQ)	3(DNQ)
TSS	mg/L	60	--	120	11	--	11
Settleable Solids	ml/L	1.0	1.5	3.0	ND	--	ND
Turbidity	NTU	75	100	225	1.8	1.8	1.8
pH	pH units	--	--	6.0-9.0	--	--	7.8-8.17 ²

Note for Table F-4

1. Instantaneous minimum and maximum value.
2. ND stands for not detected and DNQ stands for detected but not quantified.

Table F-5. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 004a (Monitoring Data from January 2017 – June 2022)

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Maximum	Highest Average Monthly Discharge ¹	Highest Average Weekly Discharge ¹	Highest Instantaneous Maximum ¹
Oil and Grease	mg/L	25	40	75	4.1(DNQ)		4.1(DNQ)
TSS	mg/L	60	--	120	12	--	12
Settleable Solids	ml/L	1.0	1.5	3.0	ND	--	ND
Turbidity	NTU	75	100	225	0.35	0.35	0.35
pH	pH units	--	--	6.0-9.0	--	--	7.58-8.22 ²

Note for Table F-5

1. ND stands for not detected and DNQ stands for detected but not quantified.

2. Instantaneous minimum and maximum value.

Table F-6. Historic Technology Based Effluent Limitations and Monitoring Data for Outfall 004b (Monitoring Data from January 2017 – June 2022)

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Maximum	Highest Average Monthly Discharge ¹	Highest Average Weekly Discharge ¹	Highest Instantaneous Maximum ¹
Oil and Grease	mg/L	25	40	75	2.4(DNQ)		2.4(DNQ)
TSS	mg/L	60	--	120	12	--	12
Settleable Solids	ml/L	1.0	1.5	3.0	ND	--	ND
Turbidity	NTU	75	100	225	60	60	60
pH	pH units	--	--	6.0-9.0	--	--	7.54-8.26 ²

Note for Table F-6

1. ND stands for not detected and DNQ stands for detected but not quantified.

2. Instantaneous minimum and maximum value.

Table F-7. Historic Water Quality Based Effluent Limitations and Monitoring Data for Outfalls 001, 003, 004a, 004b (Monitoring Data form January 2017 – June 2022)^{1,2}

Parameter	Units	Six-Month Median	Daily Maximum	Instantaneous Maximum	Average Monthly	Highest Six-Month Median Discharge	Highest Daily Maximum Discharge	Highest Instantaneous Maximum	Highest Average Monthly Discharge
Chromium Hexavalent, Total Recoverable (for Outfall 004b only)	micrograms per liter (µg/L)	16	64	160	--	0.93 (Outfall 004b)	0.93 (Outfall 004b)	0.93 (Outfall 004b)	--
Copper, Total	µg/L	1.0	82	226	--	0.9 (Outfall	1.1 (Outfall	1.1 (Outfall	--

Parameter	Units	Six-Month Median	Daily Maximum	Instantaneous Maximum	Average Monthly	Highest Six-Month Median Discharge	Highest Daily Maximum Discharge	Highest Instantaneous Maximum	Highest Average Monthly Discharge
Recoverable (for Outfalls 001 and 003 only)						001), 0.97 (Outfall 003)	s 001 and 003)	s 001 and 003)	
Lead, Total Recoverable (for Outfall 003 only)	µg/L	16	64	160	--	0.06 (Outfall 003)	0.061 (Outfall 003)	0.079 (Outfall 003)	--
Chronic Toxicity (for Outfalls 003 and 004a only)	Pass/Fail, % effect	--	Pass and less than 50% effect	--	--	--	--	--	--
Bis (2-ethyl hexyl) phthalate (for Outfall 001 only)	µg/L	--	--	--	28	--	--	--	ND (Outfall 001)
DDT (for Outfalls 003, 004a, and 004b only)	µg/L	--	--	--	1.36E-03	--	--	--	ND (Outfalls 003, 004a, and 004b)
PAHs (for Outfalls 003, 004a, and 004b only)	µg/L	--	--	--	7.04E-02	--	--	--	ND (Outfalls 003, 004a, and 004b)
TCDD Equivalents (for Outfalls 001, 003, 004a, and 004b only)	µg/L	--	--	--	3.12E-08	--	--	--	3.79E-06 (DNQ, Outfall 001), 1.32E-08 (DNQ, Outfall 003), 3.07E-09 (DNQ, Outfall

Parameter	Units	Six-Month Median	Daily Maximum	Instantaneous Maximum	Average Monthly	Highest Six-Month Median Discharge	Highest Daily Maximum Discharge	Highest Instantaneous Maximum	Highest Average Monthly Discharge
									004a), 3.74E-06 (DNQ, Outfall 004b),

Note for Table F-7

1. Scientific “E” notation is used to express certain values. In scientific “E” notation, the number following the “E” indicates that position of the decimal point in the value. Negative numbers after the “E” indicate that the value is less than 1, and positive numbers after the “E” indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^2 or 610, and 6.1E+00 represents 6.1×100 or 6.1.
2. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2.4. Compliance Summary

The following violations of Order No. R9-2015-0070 were identified in the Facility’s SMRs between January 1, 2017, and September 1, 2022:

- 2.4.1. Between April 28, 2019, and May 2, 2019, effluent flows at Outfall 001 were inaccurately measured due to malfunctioning of the data logger for the effluent flow meter for Outfall 001. The malfunctioning equipment was replaced on May 3, 2019, and effluent flows at Outfall 001 have been accurately measured and reported since May 3, 2019.
- 2.4.2. On September 18, 2019, about 150 to 300 gallons of water was discharged onto the beach from an irrigation line damaged during construction activities.
- 2.4.3. On November 11, 2019, and December 13, 15,16, 17, and 18, 2019, intermittent non-storm water discharges were observed from Outfall 002. The source of the discharge was identified as an underground leak in one of the seawater supply lines. Approximately 1,000 gallons of seawater was discharged to Outfall 002 on those five days. Prohibition III.J of Order No. R9-2015-0070 prohibits any discharge to a storm drain that is that is not comprised entirely of storm water.
- 2.4.4. On January 31, 2021, approximately five gallons of seawater was discharged to Outfall 002 due to an overflow from an upstream seawater storage tank. Prohibition III.J of Order No. R9-2015-0070 prohibits any discharge to a storm drain that is that is not comprised entirely of storm water.

- 2.4.5. On February 19, 2021, approximately one gallon of irrigation runoff was discharged to Outfall 002. Prohibition III.J of Order No. R9-2015-0070 prohibits any discharge to a storm drain that is not comprised entirely of stormwater.
- 2.4.6. Between January 11, 2022, and January 14, 2022, about 1,000 gallons of potable water was estimated to have been discharged to Outfall 002 due to an underground leak in a potable water main under the street in front of the SIO Administration Building. Prohibition III.J of Order No. R9-2015-0070 prohibits any discharge to a storm drain that is not comprised entirely of stormwater.
- 2.4.7. On April 9, 2022, a non-stormwater discharge was observed from Outfall 002 which resulted in a discharge of approximately 2,400 gallons of seawater to Outfall 002 due to an overflow from seawater storage tank #3 located upstream of Outfall 002. Prohibition III.J of Order No. R9-2015-0070 prohibits any discharge to a storm drain that is not comprised entirely of stormwater.

2.5. Planned Changes

The Discharger does not anticipate any changes to the Facility during the term of this Order.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

3.1. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the 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 authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order.

3.2. California Environmental Quality Act (CEQA)

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

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

- 3.3.1. **Water Quality Control Plan.** The San Diego Water Board adopted *Water Quality Control Plan for the San Diego Basin* (Basin Plan) on September 8, 1994, (with amendments on or before December 8, 2020) 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. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Board. 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 the Pacific Ocean specified in the Basin Plan are summarized in Table F-8.

Table F-8. Basin Plan Beneficial Uses

Discharge Point/Outfall Number	Receiving Water Name	Beneficial Use(s)
001, 002, 003, 004a, and 004b	Pacific Ocean	<ul style="list-style-type: none"> • Industrial service supply (IND); • Navigation (NAV); • Contact water recreation (REC-1); • Non-contact water recreation (REC-2); • Commercial and sport fishing (COMM); • Preservation of biological habitats of special significance (BIOL); • Wildlife habitat (WILD); • Rare, threatened, or endangered species (RARE); • Marine habitat; (MAR) • Aquaculture (AQUA); • Migration of aquatic organisms (MIGR); • Spawning, reproduction, and/or early development (SPWN); and • Shellfish harvesting (SHELL).

3.3.2. **California Ocean Plan.** The State Water Board adopted the Ocean Plan in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, 2015, and 2018. The State Water Board adopted the latest amendment on August 7, 2018, the USEPA approved the amendment on March 22, 2019, and it became effective on March 22, 2019. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized in Table F-9.

Table F- 9. Ocean Plan Beneficial Uses

Discharge Point/Outfall Number	Receiving Water	Beneficial Uses
001, 002, 003, 004a, and 004b	Pacific Ocean	<ul style="list-style-type: none"> • IND; • NAV; • REC-1; • REC-2, including aesthetic enjoyment; • COMM; • Mariculture; • Preservation and enhancement of designated Areas of Special Biological Significance (ASBS); • Rare and endangered species; • Fish migration; • Fish spawning and • SHELL.

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

The Implementation Provisions of the Ocean Plan specify that waste shall not be discharged to areas designated as being of special biological significance. In addition, the Ocean Plan specifies that discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas. The Facility’s discharge is within the San Diego-Scripps ASBS. On July 22, 2004, the State Water Board issued Resolution No. 2004-0052, approving a limited five-year exception from the Ocean Plan’s prohibition of waste discharges into an ASBS to allow discharges of waste from the Facility into the San Diego-Scripps ASBS. On April 21, 2015, the State Water Board adopted Resolution No. 2015-0025⁸ and an addendum to the initial study/mitigated negative declaration granting the Discharger an exception to the Ocean Plan prohibition of discharges without an expiration date. Order No. R9-2015-0070 incorporated provisions from State Water Board Resolutions No. 2004-0052 and No. 2015-0025 to ensure that the discharges from the Facility do not adversely impact the biological communities in the ASBS or compromise protection of ocean waters for beneficial uses.

Requirements of this Order implement the Ocean Plan and incorporate requirements/provisions in the State Water Board Resolution No. 2015-0025.

⁸ State Water Board Resolution No. 2015-0025, *Approving an Exception to the California Ocean Plan for the University of California San Diego Scripps Institution of Oceanography and Adopting an Addendum to the Initial Study/Mitigated Negative Declaration*

- 3.3.3. **Antidegradation Policy.** Federal regulation 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, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. 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.
- 3.3.4. **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. Anti-backsliding regulations found at 40 CFR 122.44(l) prohibit reissuing or modifying an NPDES permit to include effluent limitations less stringent than in the previous permit. Effluent limitations may be relaxed where one of the exceptions described in 40 CFR 122.44(l) are met including exceptions involving technical mistakes or mistaken interpretations of law.
- 3.3.5. **Endangered Species Act Requirements.** This Order does not authorize any act that results in take of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

3.4. Impaired Water Bodies on the CWA section 303(d) List

In April 2018, USEPA-approved the list of impaired water bodies, prepared by the State Water Board pursuant to federal CWA section 303(d), which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations (TBELs) for point sources. The Pacific Ocean shoreline at SIO Pier La Jolla Shores Beach currently does not have any parameters listed on the 303(d) list

For an updated list of impaired waterbodies, please visit the San Diego Water Board's CWA Section 303(d) Website.

https://www.waterboards.ca.gov/sandiego/water_issues/programs/303d_list/index.shtml

3.5. Other Plans, Policies and Regulations – Not Applicable

4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

4.1. Discharge Prohibitions

This Order retains discharge prohibitions III.A through III.J from Order No. R9-2015-0070, as described below. Discharges from the Facility to surface waters in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facility to land in violation of prohibitions contained in this Order are violations of the Water Code and are not subject to third party lawsuits under the CWA because the Water Code does not contain provisions allowing third party lawsuits.

- 4.1.1. Order No. R9-2015-0070 contained Discharge Prohibition III.A which prohibits the discharges of waste in a manner or to a location for which waste discharge requirements have not been prescribed. This prohibition is retained in this Order as Discharge Prohibitions 3.1 and is based on section 301 and 402 of the CWA and section 13263 of the Water Code.
- 4.1.2. Order No. R9-2015-0070 contained Discharge Prohibition III.B which required the Discharger to comply with Discharge Prohibitions contained in the Basin Plan. This prohibition has been retained in this Order as Discharge Prohibition 3.2.
- 4.1.3. Order No. R9-2015-0070 contained Discharge Prohibition III.C which required the Discharger to comply with Discharge Prohibitions contained in the Ocean Plan. This prohibition has been retained in this Order as Discharge Prohibition 3.3.
- 4.1.4. Order No. R9-2015-0070 contained Discharge Prohibition III.D which prohibited discharge of industrial waste from the Facility other than seawater pumped in from the Pacific Ocean and circulated through the Facility's aquaria/tanks. This prohibition is retained in this Order as Discharge Prohibition 3.4 and based on sections 301 and 402 of the CWA and section 13263 of the Water Code.
- 4.1.5. Order No. R9-2015-0070 contained Discharge Prohibition III.E which prohibits dumping or deposition of oil, trash, or other industrial waste into the ocean or adjacent to the ocean in any manner that may permit it to be washed into the ocean. This prohibition is retained in this Order as Discharge Prohibition 3.5 and based on sections 301 and 402 of the CWA and section 13263 of the Water Code.

- 4.1.6. Order No. R9-2015-0070 contained Discharge Prohibition III.F which prohibits the discharge of seawater in excess of 1.25 MGD from Outfall 001, 003, 004a, and 004b unless the Discharger obtains revised WDRs for the proposed increase in flow. This prohibition is retained in this Order as Discharge Prohibition 3.6 and based on the seawater intake capacity of the Facility.
- 4.1.7. Order No. R9-2015-0070 contained Discharge Prohibition III.G which states that, *“Natural water quality conditions in the receiving water must not be altered as a result of the discharge from the Facility.”* This prohibition is duplicative and has been deleted because the receiving water limitations in section 5.1.6 of the Order already specify that natural water quality conditions in the receiving water must not be altered as a result of the discharge from the Facility. Section 5.1.6 of the Order is based on directive 2.b of the Ocean Plan Exception contained in State Water Board Resolution No. 2015-0025.
- 4.1.8. Order No. R9-2015-0070 contained Discharge Prohibition III.H which states that, *“Discharges of wastes to Areas of Special Biological Significance (ASBS) not covered by an Ocean Plan exception are prohibited.”* This prohibition is retained in this Order and based on directive 2.d of the Ocean Plan Exception contained in State Water Board Resolution No. 2015-0025.
- 4.1.9. Order No. R9-2015-0070 contained Discharge Prohibition III.I which prohibits the discharges of copper additives from the Facility. This prohibition is retained in this Order as Discharge Prohibition 3.9 and is based on condition 2 of Appendix A of the Ocean Plan Exception adopted by State Water Board Resolution 2015-0025.
- 4.1.10. Order No. R9-2015-0070 contained Discharge Prohibition III.J which prohibits any discharges of non-storm water urban runoff (i.e., any discharge of urban runoff to a storm drain that is not composed entirely of storm water), except those associated with emergency firefighting. This prohibition is retained in this Order as Discharge Prohibition 3.10 and is based on condition 4 of Appendix A of the Ocean Plan Exception adopted by State Water Board Resolution 2015-0025.

4.2. Technology Based Effluent Limitations

4.2.1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA regulations (40 CFR 122.44) require that permits include conditions meeting the applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The CWA requires USEPA to develop effluent limitations, guidelines, and standards (ELGs). USEPA has not developed ELGs for this type of industry nor discharge. Section 402(a)(1) of the CWA and section 125.3 of 40 CFR authorize the use of best professional judgment to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern.

4.2.2. Applicable Technology Based Effluent Limitations

4.2.2.1. **Ocean Plan.** The Ocean Plan is applicable in its entirety to point source discharges to the ocean. Therefore, the discharge of waste seawater and/or stormwater from the Facility at Discharge Points 001, 002, 003, 004a, and 004b is subject to the Ocean Plan. The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table 4 of the Ocean Plan establishes TBELs for Publicly Owned Treatment Works and industrial discharges for which ELGs have not been established pursuant to sections 301, 302, or 306 of the CWA. ELGs have not been established for aquaria facilities thus Order No. R9- 2005-0008 established TBELs based on Table 4 of the Ocean Plan, which are carried over to this Order and summarized in Table F-10.

In compliance with 40 CFR sections 122.45(f)(1) and 423.15, mass-based limitations have also been established in this Order for conventional, nonconventional, and toxic pollutants, with some exceptions. Section 122.45(f)(2) of 40 CFR allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass-based limitations provided in 40 CFR section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH, turbidity, and settleable solids. Mass-based effluent limitations were calculated using the following equation: lbs/day = flow (MGD) x pollutant concentration (mg/L) x 8.34.

TBELs prescribed in this Order are summarized in Table F-10.

Table F-10. Summary of Technology Based Effluent Limitations (TBELs)¹

Parameter	Units	Average Monthly ¹	Average Weekly ¹	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--
Oil and Grease	pounds per day (lbs/day)	261	417	--	--
Total Suspended Solids (TSS)	mg/L	60	--	--	120
TSS	lbs/day	626	--	--	1251
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	pH units	--	--	6.0	9.0

Notes for Table F-10

1. The mass-based effluent limitations were calculated using the following equation: $8.34 \times Q \times C$, where 8.34 is a conversion factor, Q is 1.25 MGD which is based on Discharge Prohibition 3.6 of this Order, and C is the concentration (mg/L).

4.3. Water Quality Based Effluent Limitations (WQBELs)

4.3.1. Scope and Authority

CWA section 301(b) 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 the federal CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 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 Ocean Plan and achieve applicable water quality objectives and criteria that are contained in other State plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

4.3.2. Applicable Beneficial Uses and Water Quality Criteria

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

- 4.3.2.1. **Basin Plan.** The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section 3.3.1 of this Fact Sheet.

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: "The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials." (Basin Plan (2021), p. 3-11.)

The Basin Plan water quality objective for hydrogen ion concentration (pH) applicable to ocean water is: "The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally." (Basin Plan (2021), p. 3-11.)

4.3.2.2. **Ocean Plan.** The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section 3.3.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. Table 3 of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity (WET):

- Six-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total chlorine residual and chronic toxicity, for the protection of marine aquatic life.
- 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health. These have been applied as AMELs.
- 30-day average objectives for 42 carcinogenic chemicals for the protection of human health. These have been applied as AMELs.
- Daily maximum objectives for acute and chronic toxicity.

4.3.3. **Determining the Need for WQBELs**

The San Diego Water Board developed WQBELs for non-conventional and toxic pollutants based on Table 3 of the Ocean Plan. The evaluation was performed 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 outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005 through State Water Board Resolution No. 2005-0035 (Ocean Plan Amendment). The Ocean Plan Amendment is incorporated into the Ocean Plan as Appendix VI. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution) can then be compared to the appropriate objective to determine potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan, the RPA can yield three endpoints: (1) Endpoint 1, an effluent limitation is required and monitoring is required; (2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; and (3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels (MDLs) for an analytical procedure).

The implementation provisions for Table 3 of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents, of sufficient strength to influence the initial dilution process, flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge.

The implementation provisions for Table 3 of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge.

Order No. R9-2005-0008, a previous iteration of the permit, allowed an initial dilution factor of 2:1. On February 9, 2007, the Discharger submitted the results of a dilution study to the San Diego Water Board. The dilution and dispersion of effluent from the five permitted outfalls (Outfalls 001, 002, 003, 004a, and 004b) at the Facility into the San Diego-Scripps ASBS were studied using the SEDXPORT hydrodynamic modeling system. The model is designed to numerically simulate dry weather and wet weather case scenarios. The dilution study incorporated historical data on water mass properties (salinity, temperature), tides, and waves (water elevation, wave height and direction) that have been collected from SIO pier since 1980.

The dilution and dispersion study results indicate dilution factors greater than 17:1 occur 95% of the time. The minimum dilution ratio observed was 7:1. Based on the Discharger's dilution study, Resolution R9-2008-0139⁹ established effluent limitations for discharges of (1) seawater system discharges and (2) seawater system discharges mixed with storm water using the 7:1 initial dilution factor.

Conventional pollutants were not considered as part of the RPA. TBELs for conventional pollutants are included in this Order as described in section 4.2 of this Fact Sheet.

The RPA was conducted using the RP calc 2.0 software developed by the State Water Board. Effluent data provided in the Discharger's self-monitoring reports from January 2017 to June 2022 was used in the RPA. A minimum probable initial dilution of 7:1 was considered in this evaluation. A summary of the RPA results is provided in Tables F-11 to F-14:

⁹ Resolution No. R9-2008-0139, *Amending Order No. R9-2005-0008, NPDES No. CA0107239, Waste Discharge Requirements, University of California Scripps Institution of Oceanography, San Diego County*, adopted on November 12, 2008.

Table F-11. RPA Results Summary – Outfall 001

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Arsenic	µg/L	11	1.4	8 ⁴	3 ⁵	2
Cadmium	µg/L	11	0.026	1 ⁴	0	2
Hexavalent Chromium	µg/L	11	<0.5	2 ⁴	0	3
Copper	µg/L	11	1.1	3 ⁴	2 ⁵	2
Lead	µg/L	11	0.18	2 ⁴	0	2
Mercury	µg/L	11	0.0028	0.04 ⁴	0.0005 ⁵	2
Nickel	µg/L	11	0.53	5 ⁴	0	2
Selenium	µg/L	11	0.12	15 ⁴	0	3
Silver	µg/L	11	0.1	0.7 ⁴	0.16 ⁵	3
Zinc	µg/L	11	2	20 ⁴	8 ⁵	2
Cyanide	µg/L	11	<0.33	1 ⁴	0	3
Total Chlorine Residual	µg/L	11	10	2 ⁴	0	3
Ammonia-N	µg/L	11	<12	600 ⁴	0	3
Acute Toxicity	T _{ua}	See note 6	See note 6	0.3	0	See note 6
Chronic Toxicity	T _{uc}	11	Not Applicable (N/A)	1 ⁷	0	2 ⁷
Phenolic compounds (non-chlorinated)	µg/L	11	<1.7	30 ⁴	0	3
Chlorinated phenolics	µg/L	11	<0.28	1 ⁴	0	3
Endosulfan	µg/L	11	<0.005	0.009 ⁴	0	3
Endrin	µg/L	11	<0.0017	0.002 ⁴	0	3
HCH	µg/L	11	<0.0031	0.004 ⁴	0	3
Radioactivity	µg/L	-	-	See note 8	-	-
Acrolein	µg/L	11	<1.2	220 ⁹	0	3
Antimony	µg/L	11	<0.5	1,200 ⁹	0	3
Bis(2-chloroethoxy)methane	µg/L	11	<0.25	4.4 ⁹	0	3
Bis(2-chloroisopropyl)ether	µg/L	11	<0.38	1,200 ⁹	0	3
Chlorobenzene	µg/L	11	<0.21	570 ⁹	0	3
Chromium III	µg/L	11	<0.5	190,000 ⁹	0	3
di-n-butyl phthalate	µg/L	11	<0.1	3,500 ⁹	0	3
Dichlorobenzenes	µg/L	11	<0.35	5,100 ⁹	0	3
Diethyl phthalate	µg/L	11	<0.15	33,000 ⁹	0	3
Dimethyl phthalate	µg/L	11	<0.18	820,000 ⁹	0	3

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
4,6-Dinitro-2-methylphenol	µg/L	11	<0.5	220 ⁹	0	3
2,4-Dinitrophenol	µg/L	11	<1.6	4.0 ⁹	0	3
Ethylbenzene	µg/L	11	<0.17	4,100 ⁹	0	3
Fluoranthene	µg/L	11	<0.08	15 ⁹	0	3
Hexachlorocyclopentadiene	µg/L	11	<0.31	58 ⁹	0	3
Nitrobenzene	µg/L	11	<0.36	4.9 ⁹	0	3
Thallium	µg/L	11	<0.05	2 ⁹	0	3
Toluene	µg/L	11	<0.22	85,000 ⁹	0	3
Tributyltin	µg/L	11	<0.0012	0.0014 ⁹	0	3
1,1,1-Trichloroethane	µg/L	11	<0.31	540,000 ⁹	0	3
Acrylonitrile	µg/L	11	<0.63	0.10 ⁹	0	3
Aldrin	µg/L	11	<0.001	0.000022 ⁹	0	3
Benzene	µg/L	11	<0.23	5.9 ⁹	0	3
Benzidine	µg/L	11	<1.4	0.000069 ⁹	0	3
Beryllium	µg/L	11	<0.007	0.033 ⁹	0	3
Bis(2-chloroethyl)ether	µg/L	11	<0.27	0.045 ⁹	0	3
Bis(2-ethylhexyl)phthalate	µg/L	11	<2.3	3.5 ⁹	0	3
Carbon tetrachloride	µg/L	11	<0.28	0.90 ⁹	0	3
Chlordane	µg/L	11	<0.005	0.000023 ⁹	0	3
Chlorodibromomethane	µg/L	8	<0.35	8.6 ⁹	0	3
Chloroform	µg/L	11	<0.25	130 ⁹	0	3
DDT	µg/L	11	<0.005	0.00017 ⁹	0	3
1,4-Dichlorobenzene	µg/L	11	<0.37	18 ⁹	0	3
3-3'-Dichlorobenzidine	µg/L	11	<0.99	0.0081 ⁹	0	3
1,2-Dichloroethane	µg/L	11	<0.24	28 ⁹	0	3
1,1-Dichloroethylene	µg/L	11	<0.32	0.9 ⁹	0	3
Dichlorobromomethane	µg/L	11	<0.28	6.2 ⁹	0	3
Dichloromethane	µg/L	11	<0.25	450 ⁹	0	3
1,3-Dichloropropene	µg/L	11	<0.32	8.9 ⁹	0	3
Dieldrin	µg/L	11	<0.0008	0.00004 ⁹	0	3
2,4-Dinitrotoluene	µg/L	11	<0.18	2.6 ⁹	0	3
1,2-Diphenylhydrazine	µg/L	11	<0.25	0.16 ⁹	0	3
Halomethanes	µg/L	11	3.4	130 ⁹	0	2
Heptachlor	µg/L	11	<0.0006	0.00005 ⁹	0	3
Heptachlor epoxide	µg/L	11	<0.0004	0.00002 ⁹	0	3
Hexachlorobenzene	µg/L	11	<0.49	0.00021 ⁹	0	3

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Hexachlorobutadine	µg/L	11	<0.47	14 ⁹	0	3
Hexachloroethane	µg/L	11	<0.5	2.5 ⁹	0	3
Isophorone	µg/L	11	<0.21	730 ⁹	0	3
N-Nitrosodimethylamine	µg/L	11	<0.14	7.3 ⁹	0	3
N-Nitrosodi-n-propylamine	µg/L	11	<0.26	0.38 ⁹	0	3
N-Nitrosodiphenylamine	µg/L	11	<0.19	2.5 ⁹	0	3
PAH	µg/L	11	<0.1	0.0088 ⁹	0	3
PCB	µg/L	11	<0.1	0.000019 ⁹	0	3
TCDD Equivalents	µg/L	11	3.79E-06(DNQ) ¹⁰	3.9E-9 ⁹	0	3
1,1,2,2-Tetrachloroethane	µg/L	11	<0.18	2.3 ⁹	0	3
Tetrachloroethylene	µg/L	11	<0.27	2.0 ⁹	0	3
Toxaphene	µg/L	11	<0.0085	0.00021 ⁹	0	3
Trichloroethylene	µg/L	11	<0.34	27 ⁹	0	3
1,1,2-Trichloroethane	µg/L	11	<0.25	9.4 ⁹	0	3
2,4,6-Trichlorophenol	µg/L	11	<0.22	0.29 ⁹	0	3
Vinyl Chloride	µg/L	11	<0.31	36 ⁹	0	3

Notes for Table F-11

1. Number of data points available for the RPA.
2. In the RPA conducted using the RPA software, non-detect (ND) values were replaced with <MDL, while detected but not quantified (DNQ) values were replaced with <ML. If there was a detected value, the highest reported value was reported in the table as the Maximum Effluent Concentration (MEC). If there were no detected values, the lowest MDL was reported in the table as the MEC.
3. End Point 1 – RP determined, limit required, monitoring required.
End Point 2 – Discharger determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.
4. Based on the 6-Month Median in the Table 3 of the Ocean Plan.
5. Background concentrations contained in Table 5 of the Ocean Plan.
6. Acute toxicity monitoring was not required under the previous permit. As a result, the Discharger did not conduct acute toxicity tests during the previous permit term.
7. Based on the Daily Maximum in Table 3 of the Ocean Plan. See section 4.3.6.2 of this Fact Sheet for details on the RPA conducted for chronic toxicity.

8. Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations and 10 CFR section 20.1001 through 20.2402. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
9. Based on 30-Day Average in Table 3 of the Ocean Plan.
10. The highest DNQ value was listed as the MEC for TCDD equivalents.

Table F-12. RPA Results Summary – Outfall 003

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Arsenic	µg/L	11	1.5	8 ⁴	3 ⁵	2
Cadmium	µg/L	11	0.026	1 ⁴	0	2
Hexavalent Chromium	µg/L	11	<0.034	2 ⁴	0	3
Copper	µg/L	11	1.1	3 ⁴	2 ⁵	2
Lead	µg/L	11	0.079	2 ⁴	0	2
Mercury	µg/L	11	0.005	0.04 ⁴	0.0005 ⁵	2
Nickel	µg/L	11	0.44	5 ⁴	0	2
Selenium	µg/L	11	<0.034	15 ⁴	0	2
Silver	µg/L	11	0.053	0.7 ⁴	0.16 ⁵	3
Zinc	µg/L	11	1.4	20 ⁴	8 ⁵	2
Cyanide	µg/L	11	<0.33	1 ⁴	0	3
Total Chlorine Residual	µg/L	11	29	2 ⁴	0	1
Ammonia-N	µg/L	11	110	600 ⁴	0	3
Acute Toxicity	Tua	See note 6	See note 6	0.3	0	See note 6
Chronic Toxicity	µg/L	11	N/A	1 ⁷	0	2 ⁷
Phenolic compounds (non-chlorinated)	µg/L	11	<1.7	30 ⁴	0	3
Chlorinated phenolics	µg/L	11	<0.28	1 ⁴	0	3
Endosulfan	µg/L	11	<0.005	0.009 ⁴	0	3
Endrin	µg/L	11	<0.0028	0.002 ⁴	0	3
HCH	µg/L	11	<0.0015	0.004 ⁴	0	3
Radioactivity	µg/L	-	-	See note 8	0	-
Acrolein	µg/L	11	<1.2	220 ⁹	0	3
Antimony	µg/L	11	<0.092	1,200 ⁹	0	3
Bis(2-chloroethoxy)methane	µg/L	11	<0.25	4.4 ⁹	0	3
Bis(2-chloroisopropyl)ether	µg/L	11	<0.27	1,200 ⁹	0	3

Chlorobenzene	µg/L	11	<0.21	570 ⁹	0	3
Chromium III	µg/L	11	<0.034	190,000 ⁹	0	3
di-n-butyl phthalate	µg/L	11	<0.1	3,500 ⁹	0	3
Dichlorobenzenes	µg/L	11	<0.35	5,100 ⁹	0	3
Diethyl phthalate	µg/L	11	<0.15	33,000 ⁹	0	3
Dimethyl phthalate	µg/L	11	<0.18	820,000 ⁹	0	3
4,6-Dinitro-2-methylphenol	µg/L	11	<0.5	220 ⁹	0	3
2,4-Dinitrophenol	µg/L	11	<1.6	4.0 ⁹	0	3
Ethylbenzene	µg/L	11	<0.17	4,100 ⁹	0	3
Fluoranthene	µg/L	11	<0.08	15 ⁹	0	3
Hexachlorocyclopentadiene	µg/L	11	<0.31	58 ⁹	0	3
Nitrobenzene	µg/L	11	<0.36	4.9 ⁹	0	3
Thallium	µg/L	11	<0.00072	2 ⁹	0	3
Toluene	µg/L	11	<0.22	85,000 ⁹	0	3
Tributyltin	µg/L	11	<0.0012	0.0014 ⁹	0	3
1,1,1-Trichloroethane	µg/L	11	<0.31	540,000 ⁹	0	3
Acrylonitrile	µg/L	11	<0.63	0.10 ⁹	0	3
Aldrin	µg/L	11	<0.001	0.000022 ⁹	0	3
Benzene	µg/L	11	<0.23	5.9 ⁹	0	3
Benzidine	µg/L	11	<1.4	0.000069 ⁹	0	3
Beryllium	µg/L	11	<0.007	0.033 ⁹	0	3
Bis(2-chloroethyl)ether	µg/L	11	<0.25	0.045 ⁹	0	3
Bis(2-ethylhexyl)phthalate	µg/L	11	5.5	3.5 ⁹	0	3
Carbon tetrachloride	µg/L	11	<0.28	0.90 ⁹	0	3
Chlordane	µg/L	11	<0.005	0.000023 ⁹	0	3
Chlorodibromomethane	µg/L	6	<0.35	8.6 ⁹	0	3
Chloroform	µg/L	11	<0.25	130 ⁹	0	3
DDT	µg/L	11	<0.005	0.00017 ⁹	0	3
1,4-Dichlorobenzene	µg/L	11	<0.37	18 ⁹	0	3
3,3-Dichlorobenzidine	µg/L	11	<0.99	0.0081 ⁹	0	3
1,2-Dichloroethane	µg/L	11	<0.24	28 ⁹	0	3
1,1-Dichloroethylene	µg/L	11	<0.32	0.9 ⁹	0	3
Dichlorobromomethane	µg/L	11	<0.28	6.2 ⁹	0	3
Dichloromethane	µg/L	11	<0.25	450 ⁹	0	3
1,3-Dichloropropene	µg/L	11	<0.32	8.9 ⁹	0	3
Dieldrin	µg/L	11	<0.0008	0.00004 ⁹	0	3
2,4-Dinitrotoluene	µg/L	11	<0.18	2.6 ⁹	0	3
1,2-Diphenylhydrazine	µg/L	11	<0.25	0.16 ⁹	0	3

Halomethanes	µg/L	11	<0.47	130 ⁹	0	3
Heptachlor	µg/L	11	<0.0006	0.00005 ⁹	0	3
Heptachlor epoxide	µg/L	11	<0.0004	0.00002 ⁹	0	3
Hexachlorobenzene	µg/L	11	<0.49	0.00021 ⁹	0	3
Hexachlorobutadine	µg/L	11	<0.47	14 ⁹	0	3
Hexachloroethane	µg/L	11	<0.5	2.5 ⁹	0	3
Isophorone	µg/L	11	<0.21	730 ⁹	0	3
N-Nitrosodimethylamine	µg/L	11	<0.14	7.3 ⁹	0	3
N-Nitrosodi-n-propylamine	µg/L	11	<0.26	0.38 ⁹	0	3
N-Nitrosodiphenylamine	µg/L	11	<0.19	2.5 ⁹	0	3
PAH	µg/L	11	<0.1	0.0088 ⁹	0	3
PCB	µg/L	11	<0.1	0.000019 ⁹	0	3
TCDD Equivalentents	µg/L	11	1.32E-08(DNQ) ¹⁰	3.9E-9 ⁹	0	3
1,1,2,2-Tetrachloroethane	µg/L	11	<0.18	2.3 ⁹	0	3
Tetrachloroethylene	µg/L	16	<0.27	2.0 ⁹	0	3
Toxaphene	µg/L	11	<0.085	0.00021 ⁹	0	3
Trichloroethylene	µg/L	11	<0.34	27 ⁹	0	3
1,1,2-Trichloroethane	µg/L	11	<0.25	9.4 ⁹	0	3
2,4,6-Trichlorophenol	µg/L	11	<0.22	0.29 ⁹	0	3
Vinyl Chloride	µg/L	11	<0.31	36 ⁹	0	3

Notes for Table F-12

1. Number of data points available for the RPA.
2. In the RPA conducted using the RPA software, non-detect (ND) values were replaced with <MDL, while detected but not quantified (DNQ) values were replaced with <ML. If there was a detected value, the highest reported value was reported in the table as the MEC. If there were no detected values, the lowest MDL was reported in the table as the MEC.
3. End Point 1 – RP determined, limit required, monitoring required.
End Point 2 – Discharger determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.
4. Based on the 6-Month Median in the Table 3 of the Ocean Plan.
5. Background concentrations contained in Table 5 of the Ocean Plan.
6. Acute toxicity monitoring was not required under the previous permit. As a result, the Discharger did not conduct acute toxicity tests during the previous permit term.

7. Based on the Daily Maximum in Table 3 of the Ocean Plan. See section 4.3.6.2 of this Fact Sheet for details on the RPA conducted for chronic toxicity.
8. Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations and 10 CFR section 20.1001 through 20.2402. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
9. Based on 30-Day Average in Table 3 of the Ocean Plan.
10. The highest DNQ value was listed as the MEC for TCDD equivalents.

Table F-13. RPA Results Summary – Outfall 004a

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Arsenic	µg/L	11	1.8	8 ⁴	3 ⁵	2
Cadmium	µg/L	11	0.036	1 ⁴	0	2
Hexavalent Chromium	µg/L	11	0.36	2 ⁴	0	3
Copper	µg/L	11	1	3 ⁴	2 ⁵	2
Lead	µg/L	11	0.24	2 ⁴	0	2
Mercury	µg/L	11	0.00067	0.04 ⁴	0.0005 ⁵	3
Nickel	µg/L	11	1.1	5 ⁴	0	2
Selenium	µg/L	11	<0.034	15 ⁴	0	3
Silver	µg/L	11	<0.0068	0.7 ⁴	0.16 ⁵	3
Zinc	µg/L	11	9.7	20 ⁴	8 ⁵	2
Cyanide	µg/L	11	<0.33	1 ⁴	0	3
Total Chlorine Residual	µg/L	11	23	2 ⁴	0	1
Ammonia-N	µg/L	11	450	600 ⁴	0	3
Acute Toxicity	µg/L	See note 6	See note 6	0.3	0	See note 6
Chronic Toxicity	µg/L	11	N/A	1 ⁷	0	2 ⁷
Phenolic compounds (non-chlorinated)	µg/L	11	<0.1	30 ⁴	0	3
Chlorinated phenolics	µg/L	11	<0.28	1 ⁴	0	3
Endosulfan	µg/L	11	<0.005	0.009 ⁴	0	3
Endrin	µg/L	11	<0.0017	0.002 ⁴	0	3
HCH	µg/L	11	<0.0031	0.004 ⁴	0	3
Radioactivity	µg/L	-	-	See note 8	0	-
Acrolein	µg/L	11	<1.2	220 ⁹	0	3
Antimony	µg/L	11	<0.092	1,200 ⁹	0	3

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Bis(2-chloroethoxy)methane	µg/L	11	<0.25	4.4 ⁹	0	3
Bis(2-chloroisopropyl)ether	µg/L	11	<0.38	1,200 ⁹	0	3
Chlorobenzene	µg/L	11	<0.21	570 ⁹	0	3
Chromium III	µg/L	11	0.36	190,000 ⁹	0	3
di-n-butyl phthalate	µg/L	11	<0.1	3,500 ⁹	0	3
Dichlorobenzenes	µg/L	11	<0.35	5,100 ⁹	0	3
Diethyl phthalate	µg/L	11	<0.35	33,000 ⁹	0	3
Dimethyl phthalate	µg/L	11	<0.18	820,000 ⁹	0	3
4,6-Dinitro-2-methylphenol	µg/L	11	<0.5	220 ⁹	0	3
2,4-Dinitrophenol	µg/L	16	<1.6	4.0 ⁹	0	3
Ethylbenzene	µg/L	11	<0.17	4,100 ⁹	0	3
Fluoranthene	µg/L	11	<0.08	15 ⁹	0	3
Hexachlorocyclopentadiene	µg/L	11	<0.31	58 ⁹	0	3
Nitrobenzene	µg/L	11	<0.36	4.9 ⁹	0	3
Thallium	µg/L	11	<0.0072	2 ⁹	0	3
Toluene	µg/L	11	<0.22	85,000 ⁹	0	3
Tributyltin	µg/L	11	<0.0012	0.0014 ⁹	0	3
1,1,1-Trichloroethane	µg/L	11	<0.31	540,000 ⁹	0	3
Acrylonitrile	µg/L	11	<0.63	0.10 ⁹	0	3
Aldrin	µg/L	11	<0.001	0.000022 ⁹	0	3
Benzene	µg/L	11	<0.23	5.9 ⁹	0	3
Benzidine	µg/L	11	<1.4	0.000069 ⁹	0	3
Beryllium	µg/L	11	<0.007	0.033 ⁹	0	3
Bis (2-chloroethy) methane	µg/L	11	<0.25	0.045 ⁹	0	3
Bis(2-chloroisopropyl) ether	µg/L	11	<0.38	3.5 ⁹	0	3
Bis(2-ethylhexyl)phthalate	µg/L	11	5.2	0.90 ⁹	0	3
Carbon tetrachloride	µg/L	11	<0.28	0.000023 ⁹	0	3
Chlordane	µg/L	11	<0.005	8.6 ⁹	0	3
Chlorodibromomethane	µg/L	8	<0.35	130 ⁹	0	3
Chloroform	µg/L	11	<0.25	0.00017 ⁹	0	3
DDT	µg/L	11	<0.005	18 ⁹	0	3

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
1,4-Dichlorobenzene	µg/L	11	<0.37	0.0081 ⁹	0	3
3,3'-Dichlorobenzidine	µg/L	11	<0.99	28 ⁹	0	3
1,2-Dichloroethane	µg/L	11	<0.24	0.9 ⁹	0	3
1,1-Dichloroethylene	µg/L	11	<0.32	6.2 ⁹	0	3
Dichlorobromomethane	µg/L	11	<0.28	450 ⁹	0	3
Dichloromethane	µg/L	11	<0.25	8.9 ⁹	0	3
1,3-Dichloropropene	µg/L	11	<0.32	0.00004 ⁹	0	3
Dieldrin	µg/L	11	<0.0008	2.6 ⁹	0	3
2,4-Dinitrotoluene	µg/L	11	<0.18	0.16 ⁹	0	3
1,2-Diphenylhydrazine	µg/L	11	<0.25	130 ⁹	0	3
Halomethanes	µg/L	11	<0.47	0.00005 ⁹	0	3
Heptachlor	µg/L	11	<0.0006	0.00002 ⁹	0	3
Heptachlor epoxide	µg/L	11	<0.0004	0.00021 ⁹	0	3
Hexachlorobenzene	µg/L	11	<0.49	14 ⁹	0	3
Hexachlorobutadine	µg/L	11	<0.47	2.5 ⁹	0	3
Hexachloroethane	µg/L	11	<0.5	730 ⁹	0	3
Isophorone	µg/L	11	<0.21	7.3 ⁹	0	3
N-Nitrosodimethylamine	µg/L	11	<0.14	0.38 ⁹	0	3
N-Nitrosodi-n-propylamine	µg/L	11	<0.26	2.5 ⁹	0	2
N-Nitrosodiphenylamine	µg/L	11	<0.19	0.0088 ⁹	0	3
PAH	µg/L	11	<0.1	0.000019 ⁹	0	3
PCB	µg/L	11	<0.1	3.9E-9 ⁹	0	3
TCDD Equivalents	µg/L	16	2.5E-06(DNQ) ¹⁰	2.3 ⁹	0	3
1,1,2,2-Tetrachloroethane	µg/L	11	<0.18	2.0 ⁹	0	3
Tetrachloroethylene	µg/L	11	<0.27	0.00021 ⁹	0	3
Toxaphene	µg/L	11	<0.085	27 ⁹	0	3
Trichloroethylene	µg/L	11	<0.34	9.4 ⁹	0	3
1,1,2-Trichloroethane	µg/L	11	<0.25	0.29 ⁹	0	3
2,4,6-Trichlorophenol	µg/L	11	<0.22	36 ⁹	0	3
Vinyl Chloride	µg/L	11	<0.31	220 ⁹	0	3

Notes for Table F-13

1. Number of data points available for the RPA.
2. In the RPA conducted using the RPCalc software, non-detect (ND) values were replaced with <MDL, while detected but not quantified (DNQ) values were replaced with <ML. If there was a detected value, the highest reported value was reported in

the table as the MEC. If there were no detected values, the lowest MDL was reported in the table as the MEC.

3. End Point 1 – RP determined, limit required, monitoring required.
End Point 2 – Discharger determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.
4. Based on the 6-Month Median in the Table 3 of the Ocean Plan.
5. Background concentrations contained in Table 5 of the Ocean Plan.
6. Acute toxicity monitoring was not required under the previous permit. As a result, the Discharger did not conduct acute toxicity tests during the previous permit term.
7. Based on the Daily Maximum in Table 3 of the Ocean Plan. See section 4.3.6.2 of this Fact Sheet for details on the RPA conducted for chronic toxicity.
8. Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations and 10 CFR section 20.1001 through 20.2402. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
9. Based on 30-Day Average in Table 3 of the Ocean Plan.
10. The highest DNQ value was listed as the MEC for TCDD equivalents.

Table F-14. RPA Results Summary – Outfall 004b

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Arsenic	µg/L	11	16	8 ⁴	3 ⁵	2
Cadmium	µg/L	11	0.022	1 ⁴	0	2
Hexavalent Chromium	µg/L	11	0.93	2 ⁴	0	3
Copper	µg/L	11	0.5	3 ⁴	2 ⁵	2
Lead	µg/L	11	0.056	2 ⁴	0	2
Mercury	µg/L	11	0.003	0.04 ⁴	0.0005 ⁵	2
Nickel	µg/L	11	1.5	5 ⁴	0	2
Selenium	µg/L	11	0.034	15 ⁴	0	3
Silver	µg/L	11	<0.018	0.7 ⁴	0.16 ⁵	3
Zinc	µg/L	11	3.1	20 ⁴	8 ⁵	2
Cyanide	µg/L	11	390	1 ⁴	0	1
Total Chlorine Residual	µg/L	11	230	2 ⁴	0	1
Ammonia-N	µg/L	11	15000	600 ⁴	0	1

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Acute Toxicity	µg/L	See note 6	See note 6	0.3	0	See note 6
Chronic Toxicity	µg/L	11	N/A	1 ⁷	0	1 ⁷
Phenolic compounds (non-chlorinated)	µg/L	11	<1.7	30 ⁴	0	3
Chlorinated phenolics	µg/L	11	<0.28	1 ⁴	0	3
Endosulfan	µg/L	11	<0.005	0.009 ⁴	0	3
Endrin	µg/L	11	<0.017	0.002 ⁴	0	3
HCH	µg/L	11	<0.0031	0.004 ⁴	0	3
Radioactivity	µg/L	-	-	See note 8	0	-
Acrolein	µg/L	11	<1.2	220 ⁹	0	3
Antimony	µg/L	11	<0.05	1,200 ⁹	0	3
Bis(2-chloroethoxy)methane	µg/L	11	<0.25	4.4 ⁹	0	3
Bis(2-chloroisopropyl)ether	µg/L	11	<0.38	1,200 ⁹	0	3
Chlorobenzene	µg/L	11	<0.21	570 ⁹	0	3
Chromium III	µg/L	11	0.93	190,000 ⁹	0	3
di-n-butyl phthalate	µg/L	11	<0.1	3,500 ⁹	0	3
Dichlorobenzenes	µg/L	11	<0.35	5,100 ⁹	0	3
Diethyl phthalate	µg/L	11	<0.15	33,000 ⁹	0	3
Dimethyl phthalate	µg/L	11	<0.18	820,000 ⁹	0	3
4,6-Dinitro-2-methylphenol	µg/L	11	<0.5	220 ⁹	0	3
2,4-Dinitrophenol	µg/L	11	<1.6	4.0 ⁹	0	3
Ethylbenzene	µg/L	11	<0.17	4,100 ⁹	0	3
Fluoranthene	µg/L	11	<0.08	15 ⁹	0	3
Hexachlorocyclopentadiene	µg/L	11	<0.31	58 ⁹	0	3
Nitrobenzene	µg/L	11	<0.36	4.9 ⁹	0	3
Thallium	µg/L	11	0.011 (DNQ)	2 ⁹	0	3
Toluene	µg/L	11	<0.22	85,000 ⁹	0	3
Tributyltin	µg/L	11	0.0012	0.0014 ⁹	0	3
1,1,1-Trichloroethane	µg/L	11	<0.31	540,000 ⁹	0	3
Acrylonitrile	µg/L	11	<0.63	0.10 ⁹	0	3
Aldrin	µg/L	11	<0.001	0.000022 ⁹	0	3
Benzene	µg/L	11	<0.23	5.9 ⁹	0	3
Benzidine	µg/L	11	<1.4	0.000069 ⁹	0	3

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
Beryllium	µg/L	11	<0.007	0.033 ⁹	0	3
Bis (2-chloroethy) ether	µg/L	11	<0.27	0.045 ⁹	0	3
Bis(2-ethylhexyl)phthalate	µg/L	11	<2.3	3.5 ⁹	0	3
Carbon tetrachloride	µg/L	11	<0.28	0.90 ⁹	0	3
Chlordane	µg/L	11	<0.005	0.000023 ⁹	0	3
Chlorodibromomethane	µg/L	6	<0.35	8.6 ⁹	0	3
Chloroform	µg/L	11	<0.25	130 ⁹	0	3
DDT	µg/L	11	<0.005	0.00017 ⁹	0	3
1,4-Dichlorobenzene	µg/L	11	<0.37	18 ⁹	0	3
3-3'-Dichlorobenzidine	µg/L	11	<0.99	0.0081 ⁹	0	3
1,2-Dichloroethane	µg/L	11	<0.24	28 ⁹	0	3
1,1-Dichloroethylene	µg/L	11	<0.32	0.9 ⁹	0	3
Dichlorobromomethane	µg/L	11	<0.28	6.2 ⁹	0	3
Dichloromethane	µg/L	16	<0.39	450 ⁹	0	2
1,3-Dichloropropene	µg/L	11	<0.32	8.9 ⁹	0	3
Dieldrin	µg/L	11	<0.0008	0.00004 ⁹	0	3
2,4-Dinitrotoluene	µg/L	11	<0.18	2.6 ⁹	0	3
1,2-Diphenylhydrazine	µg/L	11	<0.25	0.16 ⁹	0	3
Halomethanes	µg/L	11	<0.47	130 ⁹	0	3
Heptachlor	µg/L	11	<0.0006	0.00005 ⁹	0	3
Heptachlor epoxide	µg/L	16	<0.0004	0.00002 ⁹	0	3
Hexachlorobenzene	µg/L	11	<0.49	0.00021 ⁹	0	3
Hexachlorobutadiene	µg/L	11	<0.47	14 ⁹	0	3
Hexachloroethane	µg/L	11	<0.5	2.5 ⁹	0	3
Isophorone	µg/L	11	<0.21	730 ⁹	0	3
N-Nitrosodimethylamine	µg/L	11	<0.14	7.3 ⁹	0	3
N-Nitrosodi-n-propylamine	µg/L	11	<0.26	0.38 ⁹	0	3
N-Nitrosodiphenylamine	µg/L	11	<0.19	2.5 ⁹	0	3
PAH	µg/L	11	<0.1	0.0088 ⁹	0	3
PCB	µg/L	11	<0.1	0.000019 ⁹	0	3
TCDD Equivalents	µg/L	11	3.74E-6(DNQ) ¹⁰	3.9E-9 ⁹	0	3
1,1,2,2-Tetrachloroethane	µg/L	11	<0.18	2.3 ⁹	0	3
Tetrachloroethylene	µg/L	11	<0.27	2.0 ⁹	0	3
Toxaphene	µg/L	11	<0.085	0.00021 ⁹	0	3
Trichloroethylene	µg/L	11	<0.34	27 ⁹	0	3

Parameter	Units	N ¹	MEC ²	Most Stringent Criteria	Background	RPA Endpoint ³
1,1,2-Trichloroethane	µg/L	11	<0.25	9.4 ⁹	0	3
2,4,6-Trichlorophenol	µg/L	11	<0.22	0.29 ⁹	0	3
Vinyl Chloride	µg/L	11	<0.31	36 ⁹	0	3

Notes for Table F-14

1. Number of data points available for the RPA.
2. In the RPA conducted using the RPCalc software, non-detect (ND) values were replaced with <MDL, while detected but not quantified (DNQ) values were replaced with <ML. If there is a detected value, the highest reported value is reported in the table as the MEC. If there are no detected values, the lowest MDL is reported in the table as the MEC.
3. End Point 1 – RP determined, limit required, monitoring required.
End Point 2 – Discharger determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.
4. Based on the 6-Month Median in the Table 3 of the Ocean Plan.
5. Background concentrations contained in Table 5 of the Ocean Plan.
6. Acute toxicity monitoring was not required under the previous permit. As a result, the Discharger did not conduct acute toxicity tests during the previous permit term.
7. Based on the Daily Maximum in Table 3 of the Ocean Plan. See section 4.3.6.2 of this Fact Sheet for details on the RPA conducted for chronic toxicity.
8. Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations and 10 CFR section 20.1001 through 20.2402. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
9. Based on 30-Day Average in Table 3 of the Ocean Plan.
10. The highest DNQ value was listed as the MEC for TCDD equivalents.

Endpoint 1

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (endpoint 1) was determined for the following parameters as follows:

- Monitoring Location 001 – No parameters
- Monitoring Location 003 – Total Chlorine Residual
- Monitoring Location 004a – Total Chlorine Residual

- Monitoring Location 004b – Ammonia, Cyanide, and Total Chlorine Residual

Effluent limitations have been established for the parameters listed above for which the RPA yielded a result of Endpoint 1, with the exception of total chlorine residual. The Natural Water Quality Committee (Committee) provided information to the San Diego Water Board on total chlorine residual monitoring in a technical report titled “*Summation of Findings, Natural Water Quality Committee, 2006-2009*” (Report). The Committee notes that it is difficult to accurately quantify the amounts of total chlorine residual or free chlorine in marine systems due to matrix interference introduced by naturally occurring salts of iodide and bromide. According to the Committee, the methods used to measure the concentration of total chlorine residual are not specific to that element. Rather, they measure the total concentration of oxidizing agents in the solution. Consequently, the oxidized bromine, iodine, and bromamine compounds would register as total chlorine residual, even though they are something completely different. The Facility does not use chlorine in its seawater discharge to the ocean; however, several of the effluent samples exceeded the Ocean Plan water quality objectives. The Report concludes that it is reasonable to assume that the exceedances are a result of false positives. Based on the finding of the Report, the San Diego Water Board determined that the monitoring data for total chlorine residual is not representative information to characterize the discharge. As a result, effluent limitations were not included in this Order for total chlorine residual.

The RPA yielded a result of endpoint 1 for cyanide at monitoring location 004b due to a cyanide result of 390 µg/L for the sample collected on March 9, 2022. The Discharger reported the high cyanide value was due to a phytoplankton (“red-tide”) bloom event that occurred in the ocean during the time the sample was taken and that by-products from microbial breakdown of algae may have accumulated in filter backwash discharge to outfall 004b and caused interference with the cyanide lab test.

Endpoint 2

Consistent with CWA 402(o)(2)(B)(i) and 40 CFR section 122.44(l)(2)(i)(B)(1), effluent limitations from the previous Order, Order No. R9 2015-0070, were not retained for constituents that were not deemed to have reasonable potential to cause an exceedance of a water quality objective. Instead, performance goals have been assigned for these constituents. Parameters for which the RPA yielded a result of Endpoint 2 were deemed not to have reasonable potential, thus this Order does not establish effluent limitations for these parameters.

Effluent limitations were established in the previous Order for copper (at monitoring locations 001 and 003) and lead (at monitoring location 003). However, effluent limitations for these parameters were not retained or established in this Order because the RPA yielded a result of Endpoint 2. Pursuant to Step 13 in Appendix VI of the Ocean Plan, an effluent limitation is not required for parameters in which the RPA yields a result of Endpoint 2. The pollutant discharge is not considered to have reasonable potential to cause or contribute to

an exceedance of water quality objectives when the RPA yields a result of Endpoint 2.

Endpoint 3

Reasonable potential was deemed inconclusive for parameters for which the RPA yielded a result of Endpoint 3. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established in the previous Order, performance goals were retained.

Effluent limitations established in the previous Order for bis (2-ethylhexyl) phthalate (at monitoring location 001), DDT(at monitoring locations 001, 003, 004a, and 004b), hexavalent chromium (at monitoring location 004b only), polynuclear aromatic hydrocarbons (PAHs) (at monitoring locations 003, 004a, and 004b), and for TCDD equivalents (at monitoring locations 001, 003, 004a, and 004b) were retained in this Order because the RPA yielded a result of Endpoint 3. Pursuant to Step 13 in Appendix VI of the Ocean Plan, an existing effluent limitation is to remain in the permit for parameters in which the RPA yields a result of Endpoint 3.

4.3.4. WQBEL Calculations

4.3.4.1. From the Table 3 water quality objectives of the Ocean Plan, effluent limitations and performance goals are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

$$C_e = C_o + D_m (C_o - C_s) \text{ where,}$$

C_e = The effluent limitation ($\mu\text{g/L}$)

C_o = The water quality objective to be met at the completion of initial dilution ($\mu\text{g/L}$)

C_s = Background seawater concentration

D_m = Minimum probable initial dilution expressed as parts seawater per part wastewater

4.3.4.2. As discussed in section 4.3.3 above, the minimum initial dilution of 7:1 from Order No. R9-2015-0070 was used for the initial dilution (D_m) for Outfalls 001, 002, 003, 004a, and 004b.

4.3.4.3. Table 5 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as " C_s "). In accordance with Implementation procedures for Table 3 of the Ocean Plan, C_s equals zero for all pollutants for which background concentrations are not established in Table 5 of the Ocean Plan. The background concentrations provided in Table 5 of the Ocean Plan are summarized in Table F-15:

Table F-15. Pollutants Having Background Concentrations

Pollutant	Background Seawater Concentration (µg/L)
Arsenic, Total Recoverable	3
Copper, Total Recoverable	2
Mercury, Total Recoverable	0.0005
Silver, Total Recoverable	0.16
Zinc, Total Recoverable	8

4.3.4.4. As an example, of how effluent limitations and performance goals have been calculated, the effluent limitations for cyanide and ammonia were calculated as follows:

Table F-16. Water Quality Objectives for Ammonia and Cyanide

Parameter	Units	Six-Month Median	Daily Maximum	Instantaneous Maximum
Ammonia	µg/L	600	2,400	6,000
Cyanide	µg/L	1	4	10

Using the equation, $C_e = C_o + D_m (C_o - C_s)$ where, effluent limitations and performance goals were calculated as follows:

Effluent Limitations for Ammonia:

$$C_e = 600 + 7 (600 - 0) = 4,800 \text{ µg/L (6-Month Median)}$$

$$C_e = 2,400 + 7 (2,400 - 0) = 19,200 \text{ µg/L (Daily Maximum)}$$

$$C_e = 6,000 + 7 (6,000 - 0) = 48,000 \text{ µg/L (Instantaneous Maximum)}$$

Effluent Limitations for Cyanide:

$$C_e = 1 + 7 (1 - 0) = 8 \text{ µg/L (6-Month Median)}$$

$$C_e = 4 + 7 (4 - 0) = 32 \text{ µg/L (Daily Maximum)}$$

$$C_e = 10 + 7 (10 - 0) = 80 \text{ µg/L (Instantaneous Maximum)}$$

Based on the implementing procedures described above, effluent limitations and performance goals have been calculated for parameters in Table 3 of the Ocean Plan and incorporated into this Order.

4.3.4.5. 40 CFR section 122.45(f)(1) requires effluent limitations to be expressed in terms of mass, with some exceptions, and 40 CFR section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. Thus, this Order adds effluent limitations expressed in terms of mass, in addition to concentration. Pursuant to the exceptions for mass limitations provided in 40 CFR section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and Maximum Contaminant Levels or MCLs) and mass limitations are not necessary to protect the beneficial uses of the

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

$$\text{lbs/day} = 8.34 \times \text{permitted flow (MGD)} \times \text{pollutant concentration (mg/L)}$$

4.3.4.6. Based on the results of the RPA, a summary of WQBELs established in this Order is provided in Table F-17 below:

Table F-17. Summary of WQBELs at Monitoring Locations EFF-001, 003, 004a, and 004b^{1,2,3}

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
Ammonia (effluent limitations apply at monitoring location EFF-004b only)	microgram per liter (µg/L)	4.8E+03	--	--	1.92E+04	4.8E+04	--
Ammonia (effluent limitations apply at monitoring location EFF-004b only)	lbs/day	5.0E+01	--	--	2.0E+02	5.0E+2	--
Bis(2-ethylhexyl) phthalate (effluent limitations apply at monitoring location EFF-001 only)	µg/L	--	2.8E+01	--	--	--	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
Bis(2-ethylhexyl) phthalate (effluent limitations apply at monitoring location EFF-001 only)	lbs/day	--	2.9E-01	--	--	--	--
Chromium (Hexavalent), Total Recoverable (effluent limitations apply at monitoring location EFF-004b only)	µg/L	16	--	--	64	160	--
Chromium (Hexavalent), Total Recoverable (effluent limitations apply at monitoring location EFF-004b only)	lbs/day	1.7E-01	--	--	6.7E-01	1.7E+00	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
Chronic Toxicity ^{4,5} (effluent limitations apply at monitoring location EFF-004b only)	Toxic Units Chronic (TUc)	--	--	--	8	--	
Cyanide (effluent limitations apply at monitoring location EFF-004b only)	µg/L	8.0E+00	--	--	3.2E+01	8.0E+01	--
Cyanide (effluent limitations apply at monitoring location EFF-004b only)	lbs/day	8.34E-02	--	--	3.33E-01	8.34E-01	--
DDT (effluent limitations apply at monitoring locations EFF-001, 003, 004a, and 004b only)	µg/L	--	1.36E-03	--	--	--	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
DDT (effluent limitations apply at monitoring locations EFF-001, 003, 004a, and 004b only)	lbs/day	--	1.4E-02	--	--	--	--
PAHs (effluent limitations apply at monitoring locations EFF-003, 004a, and 004b only)	µg/L	--	7.04E-02	--	--	--	--
PAHs (effluent limitations apply at monitoring locations EFF-003, 004a, and 004b only)	lbs/day	--	7.3E-04	--	--	--	--
TCDD Equivalents (effluent limitations apply at monitoring locations EFF-001, 003, 004a, and 004b only)	µg/L	--	3.12E-08	--	--	--	--

Parameter	Units	Six-Month Median	Average Monthly	Average Weekly	Daily Maximum	Instantaneous Maximum	Monthly Median
TCDD Equivalents (effluent limitations apply at monitoring locations EFF-001, 003, 004a, and 004b only)	lbs/day	-	3.3E-10	-	-	-	-

Notes for Table F-17

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The mass-based effluent limitations were calculated using the following equation: $8.34 \times Q \times C$, where 8.34 is a conversion factor, Q is 1.25 MGD which is based on Discharge Prohibition 3.6 of this Order, and C is the concentration, mg/L.

The mass-based effluent limitations apply to the total mass emission rate (MER) from Outfalls 001, 003, 004a, and 004b which shall be calculated using the following equation:
 $8.34 \times [(\text{measured concentration-Outfall 001, mg/L} \times \text{measured flow-Outfall 001, MGD}) + (\text{measured concentration-Outfall 003, mg/L} \times \text{estimated/measured flow-Outfall 003, MGD}) + (\text{measured concentration-Outfall 004a, mg/L} \times \text{estimated/measured flow-Outfall 004a, MGD}) + (\text{measured concentration-Outfall 004b, mg/L} \times \text{estimated/measured flow-Outfall 004b, MGD})]$.
3. Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1 E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^2 or 610, and 6.1E+00 represents 6.1×10^0 or 6.1.
4. As specified in section 7.10 of this Order and section 3.3 of the MRP (Attachment E).

5. The chronic toxicity effluent limitation is protective of both numeric and acute chronic toxicity water quality objectives established in the 2019 Ocean Plan. The effluent limitation shall be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Chronic toxicity expressed as $TU_c = 100/NOEC$, where NOEC (No Observed Effect Concentration; also referred to as the No Observed Effect Level or NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

4.3.5. Performance Goals

Constituents that do not have reasonable potential to cause or contribute to an exceedance of WQOs have been assigned performance goals. Performance goals serve to maintain existing treatment levels and effluent quality; and performance goals 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 WQOs established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as 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. Order No. R9-2015-0070 required the Discharger to report Best Management Practices (BMPs) that are being implemented, BMPs that are planned or that may be included in the Discharger's Stormwater Management Plan in the event performance goals were exceeded. This Order carries over the performance goals for monitoring location EFF-002 from Order No. R9-2015-0070. This Order also incorporates the requirements from the Ocean Plan Exception, Appendix A, condition 13, if performance goals are exceeded at monitoring location EFF-002. A summary of the performance goals is provided in Table F-18.

This Order requires the Discharger to investigate the cause of two consecutive performance goal exceedances at monitoring locations EFF-001, EFF-003, EFF-004a, or EFF-004b. If the exceedance persists in three successive monitoring events, the Discharger is required to submit a Performance Goal Exceedance Investigation Work Plan to the San Diego Water Board within 30 days of the Discharger becoming aware of the third successive exceedance. The Performance Goal Exceedance Investigation Work Plan is required to outline the investigative steps being taken, whether outside technical expertise is being retained to assist in the investigation, and the proposed schedule for completing a Performance Goal Exceedance Report. The Performance Goal Exceedance Report is required to include a description of the nature of the exceedance(s), the results of the investigation including the cause of the exceedance(s), the

corrective actions taken, any proposed corrective measures, and a schedule for implementation, if necessary. Exceedances of the performance goals for total residual chlorine are exempt from the Performance Goal Exceedance Investigation Work Plan requirement because certain analysis methods for total residual chlorine are subject to false positives in seawater and stormwater samples due to matrix interference.

Table F-18. Performance Goals at Monitoring Locations EFF-001, 002, 003, 004a, and 004b^{1,2,3}

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Arsenic, Total Recoverable	µg/L	4.3 E+01	--	2.4 E+02	6.2E+02
Cadmium, Total Recoverable	µg/L	8.0 E+00	--	3.2 E+01	8.0 E+01
Chromium VI, Total Recoverable	µg/L	1.6 E+01	--	6.4 E+01	1.6 E+02
Copper, Total Recoverable	µg/L	1.0 E+01	--	8.2 E+01	2.26 E+02
Lead, Total Recoverable	µg/L	1.6 E+01	--	6.4 E+01	1.6 E+02
Mercury, Total Recoverable	µg/L	3.2E-01		1.2E+00	3.2E+00
Nickel, Total Recoverable	µg/L	4.0 E+01	--	1.6 E+02	4.0E+02
Selenium, Total Recoverable	µg/L	1.2 E+02	--	4.8 E+02	1.2 E+03
Silver, Total Recoverable	µg/L	4.48E+00	--	2.1E+01	5.5E+01
Zinc, Total Recoverable	µg/L	1.04E+02	--	5.84E+02	1.54E+03
Cyanide, Total Recoverable (except for monitoring location 004b which has effluent limitations)	µg/L	8E+00	--	3.2E+01	8.0E+01
Total Chlorine Residual	µg/L	1.6E+01	--	6.4E+01	4.80E+02
Ammonia (expressed as nitrogen) (except for monitoring location 004b which has effluent limitations)	µg/L	4.8E+03	--	1.92E+04	4.8E+04
Chronic Toxicity ^{4, 5} (except for monitoring locations 004b, which has effluent limitations)	TUc	--	--	8	--
Phenolic Compounds (non-chlorinated)	µg/L	2.40E+02	--	9.60E+02	2.40E+03
Chlorinated Phenolics	µg/L	8.0E+00	--	3.2E+01	8.0E+01
Endosulfan	µg/L	7.2E-02	--	1.44E-01	2.16E-01

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
Endrin	µg/L	1.6 E-02	--	3.2 E-02	4.8 E-02
HCH	µg/L	3.2 E-02		6.4 E-02	9.6 E-02
Radioactivity	Picocuries per liter	See note 6	See note 6	See note 6	See note 6
Acrolein	µg/L	--	1.76E+03	--	--
Antimony, Total Recoverable	µg/L	--	9.60E+03	--	--
Bis(2-chloroethoxy) Methane	µg/L	--	3.52E+01	--	--
Bis(2-chloroisopropyl) Ether	µg/L	--	9.60E+03	--	--
Chlorobenzene	µg/L	--	4.56E+03	--	--
Chromium (III) , Total Recoverable	µg/L	--	1.52E+06	--	--
Di-n-butyl Phthalate	µg/L	--	2.80E+04	--	--
Dichlorobenzenes	µg/L	--	4.08E+04	--	--
Diethyl Phthalate	µg/L	--	2.64E+05	--	--
Dimethyl Phthalate	µg/L	--	6.56E+06	--	--
4,6-dinitro-2-methylphenol	µg/L	--	1.76E+03	--	--
2,4-dinitrophenol	µg/L	--	3.20E+01	--	--
Ethylbenzene	µg/L	--	3.28E+04	--	--
Fluoranthene	µg/L	--	1.20E+02	--	--
Hexachlorocyclopentadiene	µg/L	--	4.64E+02	--	--
Nitrobenzene	µg/L	--	3.92E+01	--	--
Thallium	µg/L	--	1.60E+01	--	--
Toluene	µg/L	--	6.80E+05	--	--
Tributyltin	µg/L	--	1.12E-02	--	--
1,1,1-trichloroethane	µg/L	--	4.32E+06	--	--
Acrylonitrile	µg/L	--	8.00E-01	--	--
Aldrin	µg/L	--	1.76E-04	--	--
Benzene	µg/L	--	4.72E+01	--	--
Benzidine	µg/L	--	5.52E-04	--	--
Beryllium, Total Recoverable	µg/L	--	2.64E-01	--	--
Bis(2-chloroethyl) Ether	µg/L	--	3.60E-01	--	--
Bis(2-ethylhexyl) Phthalate (except for monitoring location	µg/L	--	2.80E+01	--	--

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
001 which has effluent limitations)					
Carbon Tetrachloride	µg/L	--	7.20E+00	--	--
Chlordane	µg/L	--	1.84E-04	--	--
Chlorodibromomethane	µg/L	--	6.88E+01	--	--
Chloroform	µg/L	--	1.04E+03	--	--
DDT (except for monitoring locations EFF-001, 003, 004a, and 004b, which have effluent limitations)	µg/L	--	1.36E-03	--	--
1,4-dichlorobenzene	µg/L	--	1.44E+02	--	--
3,3'-dichlorobenzidine	µg/L	--	6.48E-02	--	--
1,2-dichloroethane	µg/L	--	2.24E+02	--	--
1,1-dichloroethylene	µg/L	--	7.20E+00	--	--
Dichlorobromomethane	µg/L	--	4.96E+01	--	--
Dichloromethane (Methylene Chloride)	µg/L	--	3.60E+03	--	--
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	--	7.12E+01	--	--
Dieldrin	µg/L	--	3.20E-04	--	--
2,4-dinitrotoluene	µg/L	--	2.08E+01	--	--
1,2-diphenylhydrazine	µg/L	--	1.28E+00	--	--
Halomethanes	µg/L	--	1.04E+03	--	--
heptachlor	µg/L	--	4.00E-04	--	--
heptachlor epoxide	µg/L	--	1.60E-04	--	--
hexachlorobenzene	µg/L	--	1.68E-03	--	--
Hexachlorobutadiene	µg/L	--	1.12E+02	--	--
Hexachloroethane	µg/L	--	2.00E+01	--	--
Isophorone	µg/L	--	5.84E+03	--	--
N-nitrosodimethylamine	µg/L	--	5.84E+01	--	--
N-nitrosodi-N-propylamine	µg/L	--	3.04E+00	--	--
N-nitrosodiphenylamine	µg/L	--	2.00E+01	--	--
PAHs ¹ (except for monitoring locations 003, 004a, and 004b)	µg/L	--	7.04E-02	--	--

Parameter	Units ^[3]	Six-Month Median	Monthly Average	Maximum Daily	Instantaneous Maximum
which have effluent limitations)					
PCBs	µg/L	--	1.52E-04	--	--
TCDD equivalents (except for monitoring locations 001, 003, 004a, and 004b which have effluent limitations)	µg/L	--	3.12E-08	--	--
1,1,2,2-tetrachloroethane	µg/L	--	1.84E+01	--	--
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	1.60E+01	--	--
Toxaphene	µg/L	--	1.68E-03	--	--
Trichloroethylene (Trichloroethene)	µg/L	--	2.16E+02	--	--
1,1,2-trichloroethane	µg/L	--	7.52E+01	--	--
2,4,6-trichlorophenol	µg/L	--	2.32E+00	--	--
Vinyl Chloride	µg/L	--	2.88E+02	--	--

Notes for Table F-18

- 1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
- 2 Scientific “E” notation is used to express certain values. In scientific “E” notation, the number following the “E” indicates the position of the decimal point in the value. Negative numbers after the “E” indicate that the value is less than 1, and positive numbers after the “E” indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1 x 10⁻² or 0.061, 6.1E+02 represents 6.1 x 10² or 610, and 6.1E+00 represents 6.1 x 10⁰ or 6.1.
- 3 The concentration-based performance goals stated in Table F-18 are also applicable as mass-based performance goals expressed as lbs/day which are calculated as follows using the maximum flow rate at each outfall:

$$\text{Parameter Concentration } (\mu\text{g/L}) \times \text{Maximum Flow Rate (MGD)} \times 0.00834 \text{ (conversion factor)} = \text{Mass-based Performance Goal expressed as lbs/day.}$$
The Flow Limit (MGD) values used in this equation are as follows: Outfall 001 – 0.7 MGD; Outfall 002 – storm water only/not applicable/no maximum flow rate for Outfall 002; Outfall 003 – 0.35 MGD; Outfall 004a – 0.019 MGD; and Outfall 004b – 0.060 MGD.
- 4 As specified in section 7.10 of this Order and section 3.3 of the Monitoring and Reporting Program, Attachment E.

- 5 The chronic toxicity performance goal is protective of both numeric and acute chronic toxicity water quality objectives established in the 2019 Ocean Plan. The performance goal shall be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Chronic toxicity expressed as $TU_c = 100/NOEC$, where NOEC is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.
- 6 Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations (CCR) and 10 CFR section 20.1001 through 20.2402. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.

4.3.6. Whole Effluent Toxicity (WET)

- 4.3.6.1. The WET testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent.

The Basin Plan defines toxicity as the adverse response of organisms to chemical or physical agents. The Basin Plan establishes a narrative WQO for toxicity which 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.

- 4.3.6.2. This Order establishes an effluent limitation and performance goals for chronic toxicity based on the chronic toxicity water quality objective in the 2019 Ocean Plan. The effluent limitation and performance goal shall be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Chronic toxicity expressed as $TU_c = 100/NOEC$, where NOEC (No Observed Effect Concentration; also referred to as the No Observed Effect Level or NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

The previous Order established a MDEL for chronic toxicity of “Pass” and >50 percent effect and a Median Monthly Effluent Limitation (MMEL) that was exceeded when three independent chronic toxicity tests conducted within the same calendar month analyzed using the Test of Significant Toxicity (TST) statistical approach resulted in a “Fail”. Both the MDEL and MMEL for chronic toxicity established in the previous Order were based on the *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions). Since chronic toxicity test results conducted during the previous term were reported using the TST statistical approach specified in the Toxicity Provisions, the RPA was conducted using the methodology specified in the Toxicity Provisions. However, the MDEL and performance goal for chronic toxicity specified in this Order are based on the Ocean Plan water quality objective for chronic toxicity.

For the RPA conducted for chronic toxicity, the discharge was deemed to have reasonable potential to cause or contribute to an excursion above the chronic

toxicity water quality objectives, if any of the chronic toxicity tests resulted in a “Fail” at the In-Stream Waste Concentration (IWC), or if any of the chronic toxicity tests reported a percent effect at the IWC greater than 10 percent. Chronic toxicity tests conducted between January 2017 and February 2022 for effluent from monitoring locations 001, 003, 004a, and 004b were reviewed, and only one chronic toxicity test result reported a percent effect at the IWC greater than 10 percent (sample collected at monitoring location EFF-004b on February 23, 2020), with none of the chronic toxicity tests conducted within the review period resulting in a “Fail”. As a result, the discharge from monitoring location 004b was deemed to have reasonable potential to cause or contribute to an exceedance of the chronic toxicity water quality objective, and an effluent limitation for chronic toxicity established at monitoring location 004b. The discharges from monitoring locations EFF-001, EFF-003, and EFF-004a were not deemed to have reasonable potential cause or contribute to an exceedance of the chronic toxicity water quality objective. Consequently, chronic toxicity effluent limitations have been discontinued at monitoring locations EFF-003 and EFF-004a. Performance goals for chronic toxicity are included in this Order at monitoring locations EFF-001, EFF-003, and EFF-004a.

- 4.3.6.3. This Order contains a reopener which allows the San Diego Water Board to modify the effluent limitations for toxicity, if necessary, to make it consistent with any new policy, law, or regulation. Like the previous Order, this Order does not require monitoring or establish effluent limitations for acute toxicity. 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 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. Thus, chronic toxicity is a more stringent requirement than acute toxicity. As a result, effluent limitations for acute toxicity have not been included in this Order.

4.4. Final Effluent Limitations

4.4.1. Satisfaction of Anti-Backsliding Requirements

NPDES permits must conform with anti-backsliding requirements discussed in section 3.3.4 of this Fact Sheet. 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 effluent limitations may be less stringent.

Section 402(o)(2)(B)(i) of the CWA provides an exception to anti-backsliding requirements when new information is obtained that would have justified the application of a less stringent standard at the time of permit issuance. New data was obtained by the San Diego Water Board since adoption of Order No. R9-2015-0070 that qualifies for this exception.

Effluent limitations for copper (at monitoring locations EFF-001 and EFF-003), lead (at monitoring location EFF-003), and for chronic toxicity (at monitoring locations EFF-003 and 004a) have been discontinued and are not carried forward in this Order. This is because the RPA conducted using new monitoring data collected during the previous permit term determined that the discharge does not have reasonable potential to cause or contribute to exceedance of water quality objectives. As specified in section 4.3.3 of this Fact Sheet, the RPA for copper, lead, and chronic toxicity (at the specified outfalls) resulted in endpoint 2 as defined in the Ocean Plan. Endpoint 2 indicates that the parameters do not have reasonable potential to cause or contribute to an exceedance of water quality objectives. In such cases, the Ocean Plan does not require effluent limitations. As such, removal of the effluent limitations for these parameters is consistent with the anti-backsliding requirements of the CWA and federal regulations. This Order complies with all applicable federal and State anti-backsliding regulations.

4.4.2. Satisfaction of Antidegradation Policies

The WDRs for the Discharger must conform with antidegradation requirements discussed in section 3.3.3 of this Fact Sheet. 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. Based on this Order's requirements no degradation of the receiving water should occur. As such, this Order complies with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16.

This Order does not include WQBELs for copper (at monitoring locations EFF-001 and EFF-003), lead (at monitoring location EFF-003), and for chronic toxicity (at monitoring locations EFF-003 and EFF-004a), as the discharge does not have reasonable potential to cause an exceedance of water quality objectives for those parameters at the specified outfalls based on new monitoring data. The removal of effluent limitations by itself should not result in a change to the physical nature of the effluent discharged and should not impact beneficial uses nor cause a reduction of the water quality of the receiving water. The discharge of copper is prohibited by State Water Board Resolution No. 2015-0025 and this Order.

The existing water quality should be maintained because this Order sets a maximum permitted flow, does not change facility operations, and there are no changes to the treatment systems. The Discharger will also continue to implement measures to prevent degradation to the ASBS and beneficial uses of the ocean which are based on requirements from the State Water Board Resolution No. 2015-0025. Such measures include diversion of waste containing

chemical additives or antibiotics to the sanitary sewer, maintaining treatment systems to treat waste seawater from aquaria containing non-indigenous and/or genetically modified species, utilizing stormwater treatment controls, elimination of non-stormwater runoff, implementation of a stormwater management plan, etc.

State Water Board Resolution No. 2015-0025 established an ongoing exception for this Discharger to discharge to the San Diego-Scripps ASBS. In that order, the State Water Board found that “the public interest will be served by granting this exception [because] the UCSD/SIO occupies a leading role in marine research, with important applications in the fields of medicine and the environment. Its Birch Aquarium is an extremely valuable education resource, serving 400,000 visitors a year. UCSD/SIO research activities and the Birch Aquarium both depend on the use of the open sweater system.” (State Water Board Resolution 2015-0025, at p. 3).

The State Water Board also found that compliance with Resolution No. 2015-0025 and the subsequent orders that follow its guidance, such as this Order, would “not violate the State Water Board Resolution No. 68-16 (Antidegradation Policy).” (*Id.*) The reasoning provided for this determination was that “the discharge will not result in water quality lower than that prescribed in the Ocean Plan; and, the people of California will benefit from the research and education provided by UCSD/SIO while beneficial uses will still be protected. Compliance with [previous orders] has improved the water quality of UCSD/SIO’s discharges into ASBS and this improvement should continue in the future.” (*Id.*) As has been shown by monitoring data provided to the San Diego Water Board, the water quality discharged into the ASBS has improved.

In addition, monitoring is required for Ocean Plan parameters without effluent limitations and performance goals are included in this Order to prevent degradation. As outlined in section 4.1.2 of this Order, in the event of performance goal exceedances, the Discharger is required to submit a Performance Goal Exceedance Report to investigate the cause of the exceedance. The Performance Goal Exceedance Report must include a description of the nature of the exceedance(s), the results of the investigation including the cause of the exceedance(s), the corrective actions taken, any proposed corrective measures, and a schedule for implementation, if necessary. The San Diego Water Board may use Performance Goal Exceedance Reports to determine whether to reopen this Order to include effluent limitations for parameters that exceed performance goals. The San Diego Water Board’s performance goals included in this Order are designed to prevent degradation.

4.4.3. Stringency of Requirements for Individual Pollutants

This Order contains both TBELs and WQBELs for individual pollutants. The Order contains TBELs for TSS, oil and grease, settleable solids, turbidity, and pH (discussed in section 4.2 of this Fact Sheet). This Order’s TBELs implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs 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. The procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006, and has since been further amended. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the federal CWA” pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the federal CWA.

4.5. Interim Effluent Limitations – Not Applicable

4.6. Land Discharge Specifications – Not Applicable

4.7. Recycling Specifications – Not Applicable

5. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of this Order are derived from the water quality objectives for ocean waters established by the Basin Plan and the Ocean Plan, and incorporate the Ocean Plan Exception, condition 1.

Prior to 2009, the San Diego Water Board interpreted the Bacterial Characteristics Water-contact Standards of the Ocean Plan to apply only in the zone bounded by the shoreline and a distance 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and within kelp beds. The Ocean Plan provides that these Bacteriological Standards also apply in designated areas outside this zone used for water contact sports, as determined by the Regional Water Boards (i.e., all waters designated with the contact water recreation (REC-1) beneficial use). These designated areas must be specifically defined in the Basin Plan. Because the San Diego Water Board has designated the ocean waters with the REC-1 beneficial use in the Basin Plan, the Ocean Plan Bacterial Standards apply throughout State territorial marine waters in the San Diego Region, which extend from surface to bottom, out to three nautical miles from the shoreline. This interpretation has been confirmed by USEPA. The Ocean Plan Bacteria Standards were amended in February 2019 and include new standards for fecal coliform and enterococci. As a result, this Order includes receiving water limitations for fecal coliform and enterococci based on the 2019 Ocean Plan Bacteria Standards.

6. RATIONALE FOR PROVISIONS

6.1. 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 40 CFR section 122.42.

Section 122.41 of 40 CFR establishes 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 California Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference California Water Code section 13387(e).

6.2. Special Provisions

6.2.1. Reopener Provisions

This Order may be re-opened and modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations or adoption of new regulations by the State Water Board or San Diego Water Board, including revisions to the Basin Plan.

6.2.2. Special Studies and Additional Monitoring Requirements

6.2.2.1. Receiving Water Violation Assessment

In the event of a violation of any receiving water limitation established within this Order, the San Diego Water Board may require the Discharger to perform a special assessment. The purpose of the special assessment shall be to investigate the nature and cause of the receiving water violation and identify measures needed to ensure future compliance with receiving water limitations. The Discharger is required to submit the required assessment to the San Diego Water Board within 90 days of receipt of the San Diego Water Board notification of the need to perform a Receiving Water Limitation Violation Assessment. The results of the assessment will assist the Discharger and the San Diego Water Board in determining permit compliance and appropriate corrective actions for the protection of water quality and designated beneficial uses.

6.2.2. Best Management Practices (BMPs) and Pollution Prevention

The requirements for BMPs are authorized by CWA sections 304(e) and 402(p), for toxic pollutants and hazardous substances, and for the control of storm water discharges.

6.2.2.1. Stormwater Management Plan

This requirement to submit a revised SWMP incorporates the requirements of the Ocean Plan Exception, Appendix A, conditions 5, 6, 7, and 8 and the

requirements of the Phase II Small Municipal Separate Storm Sewer Systems (MS4) General Permit, Order No. 2013-0001 DWQ.

6.2.2.2. Controls for Waste Seawater Containing Non-Indigenous Species and Genetically Modified Organisms

This Order incorporates the requirements in the Ocean Plan Exception, Appendix A, condition 14 to prevent the discharge of waste seawater containing non-indigenous species or genetically modified organisms.

6.2.3. Special Studies and Additional Monitoring Requirements – Not Applicable

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

6.2.5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable

6.2.6. Other Special Provisions – Not Applicable

6.2.7. Compliance Schedules – Not Applicable

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 CFR sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the San Diego Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP.

7.1. Influent Monitoring – Not Applicable

7.2. Effluent Monitoring

Effluent monitoring is required to determine compliance with the conditions of this Order, to identify operational problems, to improve treatment system performance, and to conduct reasonable potential analyses for subsequent orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data. Effluent monitoring requirements have been carried over from Order No. R9-2015-0070 with the following exceptions:

- The discharger is no longer required to monitor for copper twice per year at monitoring locations EFF-001 and EFF-003 throughout the permit term. The Discharger has the option to reduce effluent monitoring for copper at monitoring locations EFF-001 and EFF-003 from twice per year to once per year after the first year of the permit cycle. The option for reducing the monitoring frequency for copper was included because the RPA conducted concluded that there was no reasonable potential for copper to cause or contribute to an exceedance of water quality objectives at any of the monitoring locations.

- The discharger is no longer required to monitor for lead twice per year at monitoring location EFF-003 throughout the permit term. The Discharger has the option to reduce effluent monitoring for lead at monitoring location EFF-003 from twice per year to once per year after the first year of the permit cycle. The option for reducing the monitoring frequency for lead was included because the RPA conducted concluded that there was no reasonable potential for lead to cause or contribute to an exceedance of water quality objectives at any of the monitoring locations.
- The discharger is required to monitor for ammonia and cyanide twice per year at monitoring location EFF-004b. Monitoring is being required for ammonia and cyanide at monitoring location EFF-004b twice per year because the RPA conducted concluded that there was reasonable potential for ammonia and cyanide to cause or contribute to an exceedance of water quality objectives at monitoring location EFF-004b.

Refer to section 3.2 of the MRP (Attachment E).

7.3. Whole Effluent Toxicity Testing Requirements

This Order contains chronic toxicity effluent limitations as described in section 4.3.6 of this Fact Sheet.

Consistent with the requirements of the Ocean Plan, section 3.3.7 of the MRP (Attachment E) requires the Discharger to develop an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan and submit the Initial Investigation TRE Work Plan within 90 days of the effective date of this Order. The Initial Investigation TRE Work Plan must describe steps the Discharger intends to follow if the effluent limitation for chronic toxicity is exceeded.

Section III.C.10 of the Ocean Plan requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 3 of the Ocean Plan. To determine if the discharge consistently exceeds the toxicity effluent limitation, this Order requires the Discharger to notify the San Diego Water Board and to accelerate toxicity testing if the effluent limitation for chronic toxicity is exceeded in any one test. If any of the additional tests demonstrate toxicity, in accordance with section III.C.10 of the Ocean Plan, the Discharger is required to submit a Detailed TRE Work Plan in accordance with its submitted Initial Investigation TRE Work Plan and USEPA guidance¹⁰ which shall include further steps taken by the Discharger to investigate, identify, and correct the causes of toxicity; actions the Discharger will take to mitigate the effects of the discharge and

¹⁰ See (a) *TRE Guidance for Municipal Wastewater Treatment Plants* (EPA 833-B-99-002, 1999); (b) *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070); *Toxicity Identification Evaluation, Phase I* (EPA/600/6-91/005F); (c) *Methods for Aquatic Toxicity Identification Evaluations, Phase II* (EPA/600/R-92/080); (d) *Methods for Aquatic Toxicity Identification Evaluations, Phase III* (EPA/600/R-92/081); and (e) *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996).

prevent the recurrence of toxicity; and a schedule for these actions. The Discharger may also implement a Toxicity Identification Evaluation (TIE), as necessary, based upon the magnitude and persistence of toxicity effluent limitation exceedances. Once the source of toxicity is identified, the Discharger must take all reasonable steps to reduce the toxicity to meet the chronic toxicity effluent limitation identified in section 4.1 of this Order.

The above accelerated monitoring (a minimum of four successive tests performed at 14-day intervals) is based on the probability of encountering at least one toxicity exceedance assuming a true, but unknown level of occurrence.

Within 30 days of completion of the TRE, the Discharger must submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions taken or planned to achieve consistent compliance with the toxicity effluent limitation of this Order and prevent recurrence of exceedances of the effluent limitation, and a time schedule for implementation of any planned corrective actions. The Discharger must implement any planned corrective actions in the TRE Final Report in accordance with the specified time schedule, unless otherwise directed in writing by the San Diego Water Board. The corrective actions and time schedule must be modified at the direction of the San Diego Water Board.

Refer to section 3.3 of the MRP (Attachment E).

7.4. Receiving Water Monitoring

The receiving water and benthic monitoring requirements set forth below are designed to measure the effects of the discharge on the receiving ocean waters and incorporate the requirements of the Ocean Plan Exception, Appendix A, conditions 9, 11, and 12.

Refer to section 4 of the MRP (Attachment E).

7.5. Regional Monitoring Requirements

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 accordance with the Ocean Plan, the San Diego Water Board may, at its discretion, allow relief from aspects of core monitoring in order to encourage participation by the Discharger in regional monitoring efforts. In accordance with the Ocean Plan Exception, Appendix A, conditions 9 and 12, the Deputy Director of the State Water Board Division of Water Quality may, at its discretion, allow relief from aspects of receiving water monitoring in order to meet the requirements in the Ocean Plan Exception, condition 9 and 11.

Refer to section 5 of the MRP (Attachment E).

7.6. Special Studies and Additional Monitoring Requirements

7.6.1. Climate Change Action Plan (CCAP)

This Order requires the Discharger to prepare and submit a CCAP within three years of the effective date of this Order. Changing climate conditions may

fundamentally alter the way facilities are designed and operated. Climate change research indicates the overarching driver of change is increased atmospheric carbon dioxide (CO₂) from human activity. The increased CO₂ emissions trigger changes to climatic patterns, which increase the intensity of sea level rise and coastal storm surges (Δ Sea Level), lead to more erratic rainfall and local weather patterns (Δ Weather Patterns), trigger a gradual warming of freshwater and ocean temperatures (Δ Water Temperature), and trigger changes to ocean water chemistry (Δ Water pH). The changes to the sea level and weather patterns may affect the Facility (e.g., flooding, changes to intake seawater pH and temperature, and changes to intake depth). The changes to the water temperature and pH may affect how the receiving waters reacts to the discharges. The California Public Resources Code (Public Resources Code) recognizes that anthropogenic greenhouse gas emissions responsible for climate change are also driving major shifts in the chemical properties of the world's oceans (Public Resources Code section 35630(c)). Furthermore, Governor Newsom signed Executive Order N-10-19, which directs state agencies to prepare a water resiliency portfolio that meets the needs of California's communities, economy, and environment. The State Water Board's Resolution No. 2017-0012, *Comprehensive Response to Climate Change*, and the San Diego Water Board's Resolution No. R9-2018-0051, *Addressing Threats to Beneficial Uses from Climate Change*, also require a proactive approach to climate change in all State and regional actions.

Refer to section 6.1 of the MRP (Attachment E).

7.6.2. **Chemical Log**

To incorporate the requirements of the Ocean Plan Exception, Appendix A, condition 3, this Order requires the Discharger to log all chemical additives discharged via the seawater system to the ocean and submit the log on a quarterly basis.

Refer to section 6.2 of the MRP (Attachment E).

8. PUBLIC PARTICIPATION

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

8.1. 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 by posting a Notice of Public Hearing and Comment and the tentative WDRs on the San Diego Water Board's website for the duration of the public comment period. The Tentative Order was posted on the San Diego Water Board

website and emailed to the Discharger and all known interested parties on January 17, 2023.

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

8.2. 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, San Diego, Suite 100, CA 92108 or by email to sandiego@waterboards.ca.gov.

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 **February 21, 2023**.

8.3. 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: **March 8, 2023**
Time: **9:00 AM**
Location: **San Diego Water 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.

8.4. Reconsideration 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 CCR, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

By mail:

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

In Person:

State Water Resources Control Board
Office of Chief Counsel
1001 I Street
Sacramento, California 95814

By email: waterqualitypetitions@waterboards.ca.gov

By fax: (916) 341-5199

For instructions on how to file a water quality petition for review, see the State Water Board's [Water Quality Petitions website](https://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml) (https://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

8.5. Information and Copying

The Report of Waste Discharge (ROWD), other supporting documents, and comments received are on file and may be inspected at the address by making an appointment with the San Diego Water Board's custodian of records. Copying of documents may be arranged through the San Diego Water Board by calling (619) 516-1990.

8.6. 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.

8.7. Additional Information

Requests for additional information or questions regarding this order should be directed to Fisayo Osibodu at Fisayo.Osibodu@waterboards.ca.gov or at (619) 521-8036.

ATTACHMENT G – DISCHARGE PROHIBITIONS

1. *Water Quality Control Plan for the San Diego Basin (Basin Plan) Discharge Prohibitions*

- 1.1.** 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.
- 1.2.** The discharge of waste to land, except as authorized by Waste Discharge Requirements (WDRs) of the terms described in Water Code section 13264 is prohibited.
- 1.3.** The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit or a dredged or fill material permit (subject to the exemption described in Water Code section 13376) is prohibited.
- 1.4.** Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless the San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Water Board Division of Drinking Water (DDW); and the operating agency of the impacted reservoir; and the Discharger has an approved fail-safe long-term disposal alternative.
- 1.5.** 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.
- 1.6.** 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.
- 1.7.** 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.
- 1.8.** Any discharge to a stormwater conveyance system that is not composed entirely of stormwater is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define stormwater as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a stormwater conveyance system that is not composed entirely of stormwater 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].

- 1.9. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.
- 1.10. 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.
- 1.11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.
- 1.12. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.
- 1.13. 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.
- 1.14. 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.

2. *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) Discharge Prohibitions*

- 2.1. The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.
- 2.2. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in chapter III.E. of the Ocean Plan.
- 2.3. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.
- 2.4. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table 3 or Table 4 [of the Ocean Plan] to the ocean is prohibited, except as allowed by Federal Standard Provisions I.G and I.H (Attachment D).
- 2.5. The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited.