CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

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ORDER NO. R9-2022-0006
AS AMENDED BY ORDER NO. R9-2024-0141
NPDES NO. CA0107611

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

The following entities are Dischargers subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger[1]	Name of Facility	Facility Address
South Orange County Wastewater Authority (SOCWA)	Aliso Creek Ocean Outfall (ACOO)	ACOO starts at 33°30' 34" N, 117°45' 9" W
Moulton Niguel Water District (MNWD)	Regional Treatment Plant	29201 La Paz Road Laguna Niguel, CA 92677 Orange County
SOCWA	Coastal Treatment Plant	28303 Alicia Parkway Laguna Niguel, CA 92677 Orange County
Irvine Ranch Water District	Los Alisos Water Reclamation Plant	22312 Muirlands Boulevard Lake Forest, CA 92630 Orange County
El Toro Water District	El Toro Water District Water Reclamation Plant	23542 Moulton Parkway Laguna Woods, CA 92637 Orange County
Irvine Ranch Water District	Irvine Desalter Project Portable Water Treatment System	26 Waterworks Way Irvine, CA 92618 Orange County
Irvine Ranch Water District	Irvine Desalter Project Shallow Groundwater Unit	7000 Marine Way Irvine, CA 92620 Orange County

[1] For purposes of this Order including Attachments A through F, the term "Discharger(s)" shall mean SOCWA, Irvine Ranch Water District, El Toro Water District, MNWD and/or South Coast Water District.

South Coast Water District	Aliso Creek Water Reclamation Facility	28303 Alicia Parkway Laguna Niguel, CA 92677 Orange County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary-treated wastewater, treated groundwater, and waste brine	33º 29' 53" N	117º 46' 16" W	Pacific Ocean

This Order was adopted on: **March 9, 2022**
This Order shall become effective on: **May 1, 2022**
This Order shall expire on: **April 30, 2027**

The Dischargers shall jointly file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23 of the California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than 180 days prior to the Order expiration date. The 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 follows: **Major**

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 San Diego Water Board on the date indicated above.

Kelly Dorsey
Digitally signed by Kelly Dorsey
Date: 2024.12.16 16:17:49 -08'00'
Water Boards

Kelly Dorsey, Assistance Executive Officer,
for Dave Gibson, Executive Officer

CONTENTS

TABLES

ATTACHMENTS

1. Facility Information

Table 1 describes the facilities discussed in this Order (collectively, the Facilities). Information describing the Facilities 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 Dischargers' joint 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). It shall serve as an NPDES permit authorizing the Dischargers to discharge into waters of the United States at the discharge location described in Table 2 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 4.3, 4.4, 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 Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under Water Code section 13223 or this Order explicitly states otherwise.

2.5 **Notification of Interested Parties**. The San Diego Water Board has notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

2.5. **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. R9-2012-0013, as amended by Order No. R9-2014-0098, 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 federal CWA and regulations and guidelines adopted thereunder, the Dischargers shall comply with the requirements in this Order. The Dischargers are hereby authorized to discharge subject to WDRs in this Order at the discharge location described in Table 2 to the Pacific Ocean offshore of the coast of Orange County. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of Order No. R9-2012-0013, as amended.

3. Discharge Prohibitions

3.1. The discharge of waste from the MNWD Regional Treatment Plant (MNWD RTP), SOCWA Coastal Treatment Plant (SOCWA CTP), Los Alisos Water Reclamation Plant (WRP), and/or El Toro Water District WRP not treated by a secondary treatment process and not in compliance with the effluent limitations specified in section 4.1 of this Order, or to a location other than Discharge Point No. 001, unless specifically regulated by this Order or separate WDRs, is prohibited.

3.2. The discharge of waste from the Irvine Desalter Project Portable Water Treatment System (PWTS), Irvine Desalter Project Shallow Groundwater Unit (SGU), and/or South Coast Water District Aliso Creek Water Reclamation Facility (WRF) not in compliance with the effluent limitations specified in section 4.1 of this Order, or to a location other than Discharge Point No. 001, unless specifically regulated by this Order or separate WDRs, is prohibited.

3.3. The Dischargers must comply with Discharge Prohibitions contained in the *Water Quality Control Plan for Ocean Waters of California* (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 Dischargers must comply with 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.

4. Effluent Limitations and Discharge Prohibitions

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

4.1.1. Effluent Limitations – Discharge Point No. 001

4.1.1.1. **MNWD RTP.** The Discharger shall maintain compliance with the following effluent limitations for the MNWD RTP, with compliance measured at Monitoring Location M-001A, as described in the Monitoring and Reporting Program (MRP, Attachment E).

Table 3. MNWD RTP Effluent Limitations at Monitoring Location M-001A

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	million gallons per day (MGD)	12.0	--	--	--
Carbonaceous Biochemical Oxygen Demand 5-day @ 20 degrees Celsius (°C) ($CBOD_5$)	milligram per liter (mg/L)	25	40	--	--
$CBOD_5$	pounds per day (lbs/day)[1]	2,502	4,003	--	--
$CBOD_5$	% Removal	≥85	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--
TSS	lbs/day[1]	3,002	4,504	--	--
TSS	% Removal	≥85	--	--	--
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day[1]	2,502	4,003	--	7,506
Settleable Solids	milliliter per liter (ml/L)	1.0	1.5	--	3.0
Turbidity	nephelometric turbidity unit (NTU)	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 3

1. The Mass Emission Rate (MER) limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the MNWD RTP (12.0 MGD) and C is the concentration (mg/L).

4.1.1.2. **SOCWA CTP.** The Discharger shall maintain compliance with the following effluent limitations for the SOCWA CTP, with compliance measured at Monitoring Location M-001B, as described in the MRP (Attachment E).

Table 4. SOCWA CTP Effluent Limitations at Monitoring Location M-001B

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	6.7	--	--	--
$CBOD_5$	mg/L	25	40	--	--
$CBOD_5$	lbs/day[1]	1,397	2,235	--	--
$CBOD_5$	% Removal	≥85	--	--	--
TSS	mg/L	30	45	--	--
TSS	lbs/day[1]	1,676	2,515	--	--
TSS	% Removal	≥85	--	--	--
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day[1]	1,397	2,235	--	4,191
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 4

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the SOCWA CTP (6.7 MGD) and C is the concentration (mg/L).

4.1.1.3. **Los Alisos WRP.** The Discharger shall maintain compliance with the following effluent limitations for the Los Alisos WRP, with compliance measured at Monitoring Location M-001C, as described in the MRP (Attachment E).

Table 5. Los Alisos WRP Effluent Limitations at Monitoring Location M-001C

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	7.5	--	--	--
$CBOD_5$	mg/L	25	40	--	--
$CBOD_5$	lbs/day[1]	1,564	2,502	--	--
$CBOD_5$	% Removal	≥85	--	--	--
TSS	mg/L	30	45	--	--
TSS	lbs/day[1]	1,877	2,815	--	--
TSS	% Removal	≥85	--	--	--
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day[1]	1,564	2,502	--	4,691
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 5

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the Los Alisos WRP (7.5 MGD) and C is the concentration (mg/L).

4.1.1.4. **El Toro Water District WRP.** The Discharger shall maintain compliance with the following effluent limitations for the El Toro Water District WRP, with compliance measured at Monitoring Location M-001D, as described in the MRP (Attachment E).

Table 6. El Toro Water District WRP Effluent Limitations at Monitoring Location M-001D

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	6.0	--	--	--
$CBOD_5$	mg/L	25	40	--	--
$CBOD_5$	lbs/day[1]	1,251	2,002	--	--
$CBOD_5$	% Removal	≥85	--	--	--
TSS	mg/L	30	45	--	--
TSS	lbs/day[1]	1,501	2,252	--	--
TSS	% Removal	≥85	--	--	--
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day[1]	1,251	2,002	--	3,753
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 6

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the El Toro Water District WRP (6.0 MGD) and C is the concentration (mg/L).

4.1.1.5. **Irvine Desalter Project PWTS.** The Discharger shall maintain compliance with the following effluent limitations for the Irvine Desalter Project PWTS, with compliance measured at Monitoring Location M-001E, as described in the MRP (Attachment E).

Table 7. Irvine Desalter Project PWTS Effluent Limitations at Monitoring Location M-001E

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	1.0	--	--	--
TSS	mg/L	60	--	--	--
TSS	lbs/day[1]	500	--	--	--

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day[1]	209	334	--	626
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 7

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the Irvine Desalter Project PWTS (1.0 MGD) and C is the concentration (mg/L).

4.1.1.6. **Irvine Desalter Project SGU.** The Discharger shall maintain compliance with the following effluent limitations for the Irvine Desalter Project SGU, with compliance measured at Monitoring Location M-001F, as described in the MRP (Attachment E).

Table 8. Irvine Desalter Project SGU Effluent Limitations at Monitoring Location M-001F

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	0.85	--	--	--
TSS	mg/L	60	--	--	--
TSS	lbs/day[1]	425	--	--	--
Oil and Grease	mg/L	25	40	--	75
Oil and Grease	lbs/day[1]	177	284	--	532
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 8

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the Irvine Desalter Project SGU (0.85 MGD) and C is the concentration (mg/L).

4.1.1.7. **South Coast Water District Aliso Creek WRF.** The Discharger shall maintain compliance with the following effluent limitations for the South Coast Water District Aliso Creek WRF, with compliance measured at Monitoring Location M-001G, as described in the MRP (Attachment E).

Table 9. South Coast Water District Aliso Creek WRF Effluent Limitations at Monitoring Location M-001G

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	0.32	--	--	--
TSS	mg/L	60	--	--	--
	lbs/day[1]	160	--	--	--
Oil and Grease	mg/L	25	40	--	75
	lbs/day[1]	67	107	--	200
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table 9

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the South Coast Water District Aliso Creek WRF (0.32 MGD) and C is the concentration (mg/L).

4.1.1.8. **ACOO Effluent Transmission Main (ETM) Reach A.** The Discharger shall maintain compliance with the following effluent limitations for the combined flow from the Irvine Desalter Project PWTS, the Irvine Desalter Project SGU, and the Los Alisos WRP, with compliance measured at Monitoring Location M-001H, as described in the MRP (Attachment E).

Table 10. ACOO ETM Reach A Effluent Limitation at Monitoring Location M-001H

Parameter	Unit	Instantaneous Maximum
Flow	MGD	7.5

4.1.1.9. The Dischargers shall maintain compliance with the following effluent limitations for the combined flow from the Facilities at Discharge Point No. 001, with compliance measured at Monitoring Location M-001, as described in the MRP (Attachment E).

Table 11. Effluent Limitations at Monitoring Location M-001

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Flow	MGD	--	34.37	--	--
Total Chlorine Residual	microgram per liter (µg/L)	4.7E+02	--	1.9E+03	1.4E+04
Total Chlorine Residual	lbs/day[2]	1.3E+02	--	5.4E+02	4.0E+03

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Chronic Toxicity[3,4]	Toxic Units Chronic (TUc)	--	--	235	--
Heptachlor	µg/L	--	1.2E-02	--	--
Heptachlor	lbs/day[2]	--	3.4E-03	--	--
Tetrachlorodibenzodioxin (TCDD) Equivalents[5]	µg/L	--	9.2E-07	--	--
TCDD Equivalents[5]	lbs/day[2]	--	2.6E-07	--	--

Note for Table 11

1. The scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation, a value of 6.1E-02 represents 6.1 x 10^{-2} or 0.061, 6.1E+02 represents 6.1 x 10^{2} or 610, and 6.1E+00 represents 6.1 x 10^{0} or 6.1.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the ACOO (34.37 MGD) and C is the concentration (mg/L).
3. As specified in section 7.15 of this Order and section 3.3 of the MRP (Attachment E).
4. The chronic toxicity effluent limitation is protective of both the numeric acute and chronic toxicity 2019 Ocean Plan water quality objectives. 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 TUc = 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.
5. Please see Attachment A for the definitions.

4.1.2. **Performance Goal**

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 12. Performance goal parameters shall be monitored at Monitoring Location M-001, as described in the MRP (Attachment E). The performance goals in Table 12 are not water quality-based effluent limitations (WQBELs) and are not enforceable, as such. However, the Dischargers shall maintain, if not improve, the effluent quality to levels at or below the performance goals. The Dischargers shall report all exceedances of performance goals in the cover letter of the applicable self-monitoring report (SMR). Any two consecutive exceedances of the performance goals shall trigger an investigation into the cause of the exceedance. If the exceedance persists in three successive monitoring events, the Dischargers shall submit a written Performance Goal Exceedance Investigation Work Plan to the San

Diego Water Board within 30 days of the Dischargers becoming aware of the third successive exceedance. 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.

Table 12. Performance Goals at Monitoring Location M-001

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Arsenic, Total Recoverable	µg/L	1.2E+03	--	6.8E+03	1.8E+04
Arsenic, Total Recoverable	lbs/day[2]	3.4E+02	--	1.9E+03	5.2E+03
Cadmium, Total Recoverable	µg/L	2.4E+02	--	9.4E+02	2.4E+03
Cadmium, Total Recoverable	lbs/day[2]	6.7E+01	--	2.7E+02	6.7E+02
Chromium VI, Total Recoverable[3]	µg/L	4.7E+02	--	1.88E+03	4.7E+03
Chromium VI, Total Recoverable[3]	lbs/day[2]	1.3E+02	--	5.4E+02	1.3E+03
Copper, Total Recoverable	µg/L	2.4E+02	--	2.4E+03	6.6E+03
Copper, Total Recoverable	lbs/day[2]	6.8E+01	--	6.7E+02	1.9E+03
Lead, Total Recoverable	µg/L	4.7E+02	--	1.9E+03	4.7E+03
Lead, Total Recoverable	lbs/day[2]	1.3E+02	--	5.4E+02	1.3E+03
Mercury, Total Recoverable	µg/L	9.3E+00	--	3.7E+01	9.4E+01
Mercury, Total Recoverable	lbs/day[2]	2.7E+00	--	1.1E+01	2.7E+01
Nickel, Total Recoverable	µg/L	1.2E+03	--	4.7E+03	1.2E+04
Nickel, Total Recoverable	lbs/day[2]	3.4E+02	--	1.3E+03	3.4E+03
Selenium, Total Recoverable	µg/L	3.5E+03	--	1.4E+04	3.5E+04
Selenium, Total Recoverable	lbs/day[2]	1.0E+03	--	4.0E+03	1.0E+04
Silver, Total Recoverable	µg/L	1.3E+02	--	6.2E+02	1.6E+03
Silver, Total Recoverable	lbs/day[2]	3.6E+01	--	1.8E+02	4.6E+02
Zinc, Total Recoverable	µg/L	2.8E+03	--	1.7E+04	4.5E+04
Zinc, Total Recoverable	lbs/day[2]	8.1E+02	--	4.9E+03	1.3E+04
Cyanide, Total	µg/L	2.4E+02	--	9.4E+02	2.4E+03
Cyanide, Total	lbs/day[2]	6.7E+01	--	2.7E+02	6.7E+02
Ammonia, Total (as N)	µg/L	1.4E+05	--	5.6E+05	1.4E+06
Ammonia, Total (as N)	lbs/day[2]	4.0E+04	--	1.6E+05	4.0E+05

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Phenolic Compounds (non-chlorinated)[4]	µg/L	7.1E+03	--	2.8E+04	7.1E+04
Phenolic Compounds (non-chlorinated)[4]	lbs/day[2]	2.0E+03	--	8.1E+03	2.0E+04
Chlorinated Phenolics[4]	µg/L	2.4E+02	--	9.4E+02	2.4E+03
Chlorinated Phenolics[4]	lbs/day[2]	6.7E+01	--	2.7E+02	6.7E+02
Endosulfan[4]	µg/L	2.1E+00	--	4.2E+00	6.3E+00
Endosulfan[4]	lbs/day[2]	6.1E-01	--	1.2E+00	1.8E+00
Endrin	µg/L	4.7E-01	--	9.4E-01	1.4E+00
Endrin	lbs/day[2]	1.3E-01	--	2.7E-01	4.0E-01
HCH (BHC)[4]	µg/L	9.4E-01	--	1.9E+00	2.8E+00
HCH (BHC)[4]	lbs/day[2]	2.7E-01	--	5.4E-01	8.1E-01
Radioactivity	Picocuries per Liter (pCi/L)	[5]	--	--	--
Acrolein	µg/L	--	5.2E+04	--	--
Acrolein	lbs/day[2]	--	1.5E+04	--	--
Antimony	µg/L	--	2.8E+05	--	--
Antimony	lbs/day[2]	--	8.1E+04	--	--
Bis(2-chloroethoxy) Methane	µg/L	--	1.0E+03	--	--
Bis(2-chloroethoxy) Methane	lbs/day[2]	--	3.0E+02	--	--
Bis(2-chloroisopropyl) Ether	µg/L	--	2.8E+05	--	--
Bis(2-chloroisopropyl) Ether	lbs/day[2]	--	8.1E+04	--	--
Chlorobenzene	µg/L	--	1.3E+05	--	--
Chlorobenzene	lbs/day[2]	--	3.8E+04	--	--
Chromium (III), Total Recoverable[3]	µg/L	--	4.5E+07	--	--
Chromium (III), Total Recoverable[3]	lbs/day[2]	--	1.3E+07	--	--
Di-n-butyl Phthalate	µg/L	--	8.2E+05	--	--
Di-n-butyl Phthalate	lbs/day[2]	--	2.4E+05	--	--
Dichlorobenzenes[4]	µg/L	--	1.2E+06	--	--
Dichlorobenzenes[4]	lbs/day[2]	--	3.4E+05	--	--
Diethyl Phthalate	µg/L	--	7.8E+06	--	--
Diethyl Phthalate	lbs/day[2]	--	2.2E+06	--	--
Dimethyl Phthalate	µg/L	--	1.9E+08	--	--
Dimethyl Phthalate	lbs/day[2]	--	5.5E+07	--	--
4,6-dinitro-2-methylphenol	µg/L	--	5.2E+04	--	--
4,6-dinitro-2-methylphenol	lbs/day[2]	--	1.5E+04	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
2,4-dinitrophenol	µg/L	--	9.4E+02	--	--
2,4-dinitrophenol	lbs/day[2]	--	2.7E+02	--	--
Ethylbenzene	µg/L	--	9.6E+05	--	--
Ethylbenzene	lbs/day[2]	--	2.8E+05	--	--
Fluoranthene	µg/L	--	3.5E+03	--	--
Fluoranthene	lbs/day[2]	--	1.0E+03	--	--
Hexachlorocyclopentadiene	µg/L	--	1.4E+04	--	--
Hexachlorocyclopentadiene	lbs/day[2]	--	3.9E+03	--	--
Nitrobenzene	µg/L	--	1.2E+03	--	--
Nitrobenzene	lbs/day[2]	--	3.3E+02	--	--
Thallium, Total Recoverable	µg/L	--	4.7E+02	--	--
Thallium, Total Recoverable	lbs/day[2]	--	1.3E+02	--	--
Toluene	µg/L	--	2.0E+07	--	--
Toluene	lbs/day[2]	--	5.7E+06	--	--
Tributyltin	µg/L	--	3.3E-01	--	--
Tributyltin	lbs/day[2]	--	9.4E-02	--	--
1,1,1-trichloroethane	µg/L	--	1.3E+08	--	--
1,1,1-trichloroethane	lbs/day[2]	--	3.6E+07	--	--
Acrylonitrile	µg/L	--	2.4E+01	--	--
Acrylonitrile	lbs/day[2]	--	6.7E+00	--	--
Aldrin	µg/L	--	5.2E-03	--	--
Aldrin	lbs/day[2]	--	1.5E-03	--	--
Benzene	µg/L	--	1.4E+03	--	--
Benzene	lbs/day[2]	--	4.0E+02	--	--
Benzidine	µg/L	--	1.6E-02	--	--
Benzidine	lbs/day[2]	--	4.6E-03	--	--
Beryllium, Total Recoverable	µg/L	--	7.8E+00	--	--
Beryllium, Total Recoverable	lbs/day[2]	--	2.2E+00	--	--
Bis(2-chloroethyl) Ether	µg/L	--	1.1E+01	--	--
Bis(2-chloroethyl) Ether	lbs/day[2]	--	3.0E+00	--	--
Bis(2-ethlyhexyl) Phthalate	µg/L	--	8.2E+02	--	--
Bis(2-ethlyhexyl) Phthalate	lbs/day[2]	--	2.4E+02	--	--
Carbon Tetrachloride	µg/L	--	2.1E+02	--	--
Carbon Tetrachloride	lbs/day[2]	--	6.1E+01	--	--
Chlordane	µg/L	--	5.4E-03	--	--
Chlordane	lbs/day[2]	--	1.5E-03	--	--
Chlorodibromomethane (Dibromochloromethane)	µg/L	--	2.0E+03	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Chlorodibromomethane (Dibromochloromethane)	lbs/day[2]	--	5.8E+02	--	--
Chloroform	µg/L	--	3.1E+04	--	--
Chloroform	lbs/day[2]	--	8.8E+03	--	--
Dichlorodiphenyl-trichloroethane (DDT)[4]	µg/L	--	4.0E-02	--	--
DDT[4]	lbs/day[2]	--	1.1E-02	--	--
1,4-dichlorobenzene	µg/L	--	4.2E+03	--	--
1,4-dichlorobenzene	lbs/day[2]	--	1.2E+03	--	--
3,3'-dichlorobenzidine	µg/L	--	1.9E+00	--	--
3,3'-dichlorobenzidine	lbs/day[2]	--	5.5E-01	--	--
1,2-dichloroethane	µg/L	--	6.6E+03	--	--
1,2-dichloroethane	lbs/day[2]	--	1.9E+03	--	--
1,1-dichloroethylene	µg/L	--	2.1E+02	--	--
1,1-dichloroethylene	lbs/day[2]	--	6.1E+01	--	--
Dichloro-bromomethane	µg/L	--	1.5E+03	--	--
Dichloro-bromomethane	lbs/day[2]	--	4.2E+02	--	--
Dichloromethane (Methylene Chloride)	µg/L	--	1.1E+05	--	--
Dichloromethane (Methylene Chloride)	lbs/day[2]	--	3.0E+04	--	--
1,3-dichloropropene (1,3-Dichloropropylenes)	µg/L	--	2.1E+03	--	--
1,3-dichloropropene (1,3-Dichloropropylenes)	lbs/day[2]	--	6.0E+02	--	--
Dieldrin	µg/L	--	9.4E-03	--	--
Dieldrin	lbs/day[2]	--	2.7E-03	--	--
2,4-dinitrotoluene	µg/L	--	6.1E+02	--	--
2,4-dinitrotoluene	lbs/day[2]	--	1.8E+02	--	--
1,2-diphenylhydrazine	µg/L	--	3.8E+01	--	--
1,2-diphenylhydrazine	lbs/day[2]	--	1.1E+01	--	--
Halomethanes[4]	µg/L	--	3.1E+04	--	--
Halomethanes[4]	lbs/day[2]	--	8.8E+03	--	--
Heptachlor Epoxide	µg/L	--	4.7E-03	--	--
Heptachlor Epoxide	lbs/day[2]	--	1.3E-03	--	--
Hexachlorobenzene	µg/L	--	4.9E-02	--	--
Hexachlorobenzene	lbs/day[2]	--	1.4E-02	--	--
Hexachloro-butadiene	µg/L	--	3.3E+03	--	--
Hexachloro-butadiene	lbs/day[2]	--	9.4E+02	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Hexachloroethane	µg/L	--	5.9E+02	--	--
Hexachloroethane	lbs/day[2]	--	1.7E+02	--	--
Isophorone	µg/L	--	1.7E+05	--	--
Isophorone	lbs/day[2]	--	4.9E+04	--	--
N-nitrosodi-methylamine	µg/L	--	1.7E+03	--	--
N-nitrosodi-methylamine	lbs/day[2]	--	4.9E+02	--	--
N-nitrosodi-N-propylamine	µg/L	--	8.9E+01	--	--
N-nitrosodi-N-propylamine	lbs/day[2]	--	2.6E+01	--	--
N-nitrosodi-phenylamine	µg/L	--	5.9E+02	--	--
N-nitrosodi-phenylamine	lbs/day[2]	--	1.7E+02	--	--
Polynuclear Aromatic Hydrocarbons (PAHs)[4]	µg/L	--	2.1E+00	--	--
PAHs[4]	lbs/day[2]	--	5.9E-01	--	--
Polychlorinated Biphenyls (PCBs)[4]	µg/L	--	4.5E-03	--	--
PCBs[4]	lbs/day[2]	--	1.3E-03	--	--
1,1,2,2-tetrachloroethane	µg/L	--	5.4E+02	--	--
1,1,2,2-tetrachloroethane	lbs/day[2]	--	1.5E+02	--	--
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	4.7E+02	--	--
Tetrachloroethylene (Tetrachloroethene)	lbs/day[2]	--	1.3E+02	--	--
Toxaphene	µg/L	--	4.9E-02	--	--
Toxaphene	lbs/day[2]	--	1.4E-02	--	--
Trichloroethylene (Trichloroethene)	µg/L	--	6.3E+03	--	--
Trichloroethylene (Trichloroethene)	lbs/day[2]	--	1.8E+03	--	--
1,1,2-trichloroethane	µg/L	--	2.2E+03	--	--
1,1,2-trichloroethane	lbs/day[2]	--	6.3E+02	--	--
2,4,6-trichlorophenol	µg/L	--	6.8E+01	--	--
2,4,6-trichlorophenol	lbs/day[2]	--	2.0E+01	--	--
Vinyl Chloride	µg/L	--	8.5E+03	--	--
Vinyl Chloride	lbs/day[2]	--	2.4E+03	--	--

Note for Table 11

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

2. The MER limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the ACOO (34.37 MGD) and C is the concentration (mg/L).
3. The Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
4. Please see Attachment A for the definitions.
5 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. Discharge Specifications

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

4.2.2. Waste discharged to the ocean must be essentially free of:

4.2.2.1. Material that is floatable or will become floatable upon discharge;

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

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

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

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

4.2.3. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

4.2.4. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

4.2.4.1. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports;

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

4.2.4.3. Maximum protection is provided to the marine environment.

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

4.3. Land Discharge Specifications – Not Applicable

4.4. 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. 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**

.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.

5.1.3. **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 concentration of substances set forth in chapter II, Table 3 of the Ocean Plan shall not be exceeded in ocean waters.

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.

5.1.4. **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.

5.2. Groundwater Limitations – Not Applicable

6. Provisions

6.1. Standard Provisions

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

6.1.2. **San Diego Water Board Standard Provisions.** The Dischargers 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 wastewater facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to title 23, division 3, chapter 26 of the CCR. The wastewater facilities shall be provided with a sufficient number of qualified personnel to operate the wastewater facilities effectively so as to achieve the required level of treatment at all times.

6.1.2.2. The expiration date of this Order is contained on page 2 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 Dischargers shall maintain a copy of this Order for access in hard copy at a prominent on-site location at each facility or access in electronic format. The Order shall be available for access by 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 each facility shall be considered equivalent to on-site access.

6.2. Monitoring and Reporting Program (MRP) Requirements

6.2.1. The Dischargers 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 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 Dischargers 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 Dischargers for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Dischargers 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 federal 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)(2))

6.3.1.8. This Order may be reopened upon submission by the Dischargers 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 also 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. **Spill Prevention and Response Plans**

6.3.2.1.1. For purposes of this section of the Order, a spill is a discharge that occurs at or downstream of the MNWD RTP, SOCWA CTP, Los Aliso WRP, or El Toro Water District WRP headworks; at the Irvine Desalter Project PWTS, Irvine Desalter Project SGU, or South Coast Water District Aliso Creek WRF; or within any of the associated land outfalls, ETM, or ACOO in violation of Discharge Prohibitions 3.1 or 3.2 of this Order. A spill includes a discharge, or any other type of emission or release of treated or untreated wastewater, or other waste due to system overflow, flow stoppage, system leaks and breaks, operational failure and/or infrastructure failure. The term “spill” as used in this section of the Order does not include sanitary sewer overflows from the sewage collection system that are reportable under separate WDRs. (See section 6.3.5.5 of this Order for more information.)

6.3.2.1.2. The Dischargers shall maintain a Spill Prevention Plan (SPP) and a Spill Response Plan (SRP) for the Facilities in an up-to-date condition and shall amend the SPP/SRP whenever there is a change (e.g., in the design, construction, operation, or maintenance of the sewerage system or sewerage facilities) which materially affects the potential for spills and the response required for each potential spill. The Dischargers shall review and amend the SPP/SRP as appropriate after each spill from the Facilities. The

SPP/SRP and any amendments thereto shall be subject to the approval of the San Diego Water Board and shall be modified as directed by the San Diego Water Board. The Dischargers shall submit the SPP/SRP and any amendments thereto to the San Diego Water Board upon request of the San Diego Water Board. The Dischargers shall ensure that the up-to-date SPP/SRP is readily available to the Facilities personnel at all times and that the sewerage system personnel are familiar with it.

6.3.2.2. **Spill Reporting Requirements**

The Dischargers shall report spills, as defined in section 6.3.2.1.1 above, in accordance with the following procedures:

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

6.3.2.2.1.1. Report the spill to the San Diego Water Board by email at SanDiego@waterboards.ca.gov within 24 hours from the time the Dischargers become aware of the spill. If email communication is not possible, report the spill by telephone (619-516-1990) within 24 hours from the time the Dischargers become aware of the spill. The report shall include a description of the spill and its cause; the spill material; the duration of the spill including exact dates and times; the estimated spill volume and its destination; if the spill has not been terminated, the anticipated time it is expected to continue; and steps taken or planned to reduce and/or eliminate the spill.

6.3.2.2.1.2. Submit a written report by email at SanDiego@waterboards.ca.gov, as well as any additional pertinent information, to the San Diego Water Board no later than five days from the time the Dischargers become aware of the spill. The written report must be signed and certified as required by section 5 of the Standards Provisions (Attachment D).

6.3.2.2.1.3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if the email or oral report has been received within 24 hours.

6.3.2.2.2. If a spill results in a discharge of treated or untreated wastewater less than 1,000 gallons and the discharge does not reach a drainage channel or surface waters, or results in a discharge to a storm drain that was fully captured and returned to the facility, the Dischargers are not required to notify the San Diego Water Board within 24 hours, or provide a 5-day written report.

6.3.2.2.3. For spills of waste material other than treated or untreated wastewater, including any such spills that may endanger human health or the environment, the Dischargers shall:

6.3.2.2.3.1. Notify the San Diego Water Board by email at SanDiego@waterboards.ca.gov within 24 hours from the time the Dischargers become aware of the spill. If email communication is not possible, report the spill by telephone (619-516-1990) within 24 hours from the time the Dischargers become aware of the spill. The report shall include a description of the spill and its cause; the spill material; the duration of the spill including exact dates and times; the estimated spill volume and its destination; if the spill has not been terminated, the anticipated time it is expected to continue; and steps taken or planned to reduce and/or eliminate the spill.

6.3.2.2.3.2. Submit a written report by email at SanDiego@waterboards.ca.gov, as well as any additional pertinent information, to the San Diego Water Board no later than five days from the time the Dischargers become aware of the spill. The written report must be signed and certified as required by section 5 of the Standards Provisions (Attachment D).

6.3.2.2.3.3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if the email or oral report has been received within 24 hours.

6.3.2.2.4. For all spills, the Dischargers shall include a detailed summary of spills in the monthly SMR for the month in which the spill occurred. If no spills occurred during the calendar month, the Dischargers shall report no spills in the monthly SMR for that calendar month.

6.3.2.2.5. The spill reporting requirements contained in this Order do not relieve the Dischargers of responsibilities to report spills to other agencies, such as the California Office of Emergency Services and the Orange County Health Care Agency.

6.3.2.3. **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 Dischargers 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 Dischargers 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 and Pollution Prevention**

Pollutant Minimization Program (PMP) - The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost-effectiveness when establishing the

requirements of a PMP. The completion and implementation of a Pollution Prevention Plan (PPP), if required pursuant to Water Code section 13263.3(d), shall be considered as fulfilling the PMP requirements.

6.3.3.1. Reporting protocols in the MRP (Attachment E) describe sample results that are to be reported as Detected, But Not Quantified (DNQ) or Not Detected (ND). Definitions for a reported Minimum Level (ML) and Method Detection Limit (MDL) are provided in the Ocean Plan and in Abbreviations and Definitions (Attachment A). These reporting protocols and definitions are used in determining the need to conduct a PMP, as follows:

6.3.3.1.1. The Dischargers shall develop and conduct a PMP as further described below if all of the following conditions are true:

6.3.3.1.1.1. The calculated effluent limitation is less than the reported ML; and

6.3.3.1.1.2. The concentration of the pollutant is reported as DNQ; and

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

6.3.3.1.2. Alternatively, the Dischargers shall develop and conduct a PMP as further described below if all of the following conditions are true:

6.3.3.1.2.1. The calculated effluent limitation is less than the MDL; and

6.3.3.1.2.2. The concentration of the pollutant is reported as ND; and

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

6.3.3.2. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the San Diego Water Board:

6.3.3.2.1. An annual review and semi-annual monitoring of potential sources of the reportable pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

6.3.3.2.2. Quarterly monitoring for the reportable pollutant(s) in the influent to the wastewater treatment system;

6.3.3.2.3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant(s) in the effluent at or below the effluent limitation;

6.3.3.2.4. Implementation of appropriate cost-effective control measures for the reportable pollutant(s), consistent with the control strategy; and

6.3.3.2.5. An annual status report that shall be sent to the San Diego Water Board including:

6.3.3.2.5.1. All PMP monitoring results for the previous year;

6.3.3.2.5.2. A list of potential sources of the reportable pollutant(s);

6.3.3.2.5.3. A summary of all actions undertaken pursuant to the control strategy; and

6.3.3.2.5.4. A description of actions to be taken in the following year.

6.3.4. **Construction, Operation and Maintenance Specifications**

6.3.4.1. **Publicly-Owned Treatment Works (POTWs)** - All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Dischargers shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and design capacity re-ratings, prepared by the design engineer. For design capacity re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility design capacity. The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction of new treatment facilities or expansions of existing treatment facilities.

6.3.4.1.1. The certification report shall:

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

6.3.4.1.1.2. Certify the adequacy of each component of the treatment facility; and

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

6.3.4.1.2. The Dischargers shall not initiate a discharge from a treatment facility at a daily flow rate in excess of its previously approved design capacity until:

6.3.4.1.2.1. The certification report is received by the San Diego Water Board,

6.3.4.1.2.2. The San Diego Water Board has received written notification of completion of construction (new or expanded treatment facilities only),

6.3.4.1.2.3. An inspection of the facility has been made by the San Diego Water Board or its designated representatives (new or expanded treatment facilities only), and

6.3.4.1.2.4. The San Diego Water Board has provided the Dischargers with written authorization to initiate discharge from a new or expanded treatment facility or at a daily flow rate in excess of its previously approved design capacity.

6.3.4.2. The Facilities shall be protected against a 100-year frequency flood flows as defined by the Orange County Flood Control District (FCD).

6.3.4.3. The Facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event as defined by the National Oceanic and Atmospheric Administration Atlas 14 Point Precipitation Frequency Estimates available at https://www.nws.noaa.gov/oh/hdsc/index.html.

6.3.4.4. The Facilities shall be protected against regional impacts of changing climate conditions (e.g., rising sea levels, flooding, higher storm surges, and changing hydrography, including more intense atmospheric rivers). Compliance with this requirement shall be implemented through development and implementation of applicable measures identified in the Climate Change Action Plan which is required to be submitted within three years of the effective date of this Order pursuant to section 6.1 of the MRP (Attachment E).

6.3.4.5. The Dischargers shall provide and maintain in good working order a sufficient alternate power source(s) to assure that, in the event of the loss, reduction, or failure of electrical power, each facility is in compliance with the terms and conditions of this Order. In addition to a sufficient alternate power source(s), backup systems may also include auxiliary power generators, retention storage capacity, emergency operation procedures, and other contingencies to ensure continuous operation of all critical devices and systems used in the conveyance, storage, treatment, recycling, or discharge of municipal wastewater in the event of the loss, reduction, or failure of electrical power. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, sea level rise, wildfires, and other physical phenomena. The alternate power source(s) shall be designed to permit inspection and maintenance and shall provide for periodic testing.

6.3.5. **Special Provisions for Publicly-Owned Treatment Works (POTWs)**

6.3.5.1. **Aliso Creek Ocean Outfall Capacity Report**

No later than 180 days prior to this Order's expiration date, the Dischargers shall submit a written report to the San Diego Water Board regarding capacity of the Aliso Creek Ocean Outfall (ACOO) that includes the following items:

6.3.5.1.1. The Dischargers' most current report on the ACOO capacity conducted within one year of the expiration date of this Order;

6.3.5.1.2. The Dischargers' best estimate of when the average daily flow will equal or exceed the ACOO capacity;

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

6.3.5.1.4. The Dischargers' most current report on the physical condition of the ACOO; and

6.3.5.1.5. A statement signed by a California Licensed Engineer certifying that the capacity of the ACOO is at least 34.37 MGD (or the total permitted discharge from the Facilities, whichever is higher).

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

6.3.5.2. **Ensuring Adequate Treatment Plant Capacity**

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

If the San Diego Water Board finds that adequate steps are not being taken to address capacity concerns, the San Diego Water Board may adopt a Time Schedule Order or other enforcement order. Such action will be preceded by public notice and a public hearing.

6.3.5.3. **Pretreatment Program**

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

6.3.5.3.2. The Dischargers shall implement and enforce its approved pretreatment program, and all subsequent revisions, which are hereby made enforceable conditions of this Order. The Dischargers shall enforce the requirements promulgated pursuant to sections 307(b), 307(c), 307(d), and 402(b) of the federal CWA with timely, appropriate, and effective enforcement actions. The Dischargers shall cause industrial users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements, or in the case of a new industrial user, upon commencement of the discharge.

6.3.5.3.3. The Dischargers shall perform the pretreatment functions required by 40 CFR part 403, including, but not limited to:

6.3.5.3.3.1. Implement the necessary legal authorities as required by 40 CFR section 403.8(f)(1);

6.3.5.3.3.2. Enforce the pretreatment requirements under 40 CFR sections 403.5 and 403.6;

6.3.5.3.3.3. Implement the programmatic functions as required by 40 CFR section 403.8 (f)(2); and

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

6.3.5.3.4. By March 1 of each year, the Dischargers shall submit an annual pretreatment report to the USEPA by email (R9Pretreatment@epa.gov); to the San Diego Water Board via the State Water Board's California Integrated Water Quality System (CIWQS) program website (https://www.waterboards.ca.gov/water_issues/programs/ciwqs/); and the Orange County Health Care Agency, Hazardous Materials Division, describing its pretreatment activities over the previous calendar year. In the event the Dischargers are not in compliance with any condition or requirement of this Order, or any pretreatment compliance inspection/audit requirements, the Dischargers shall include the reasons for noncompliance and state how and when it will comply with such conditions and requirements. The annual pretreatment report shall contain, but not be limited to, the following information:

6.3.5.3.4.1. A summary of analytical results from representative flow-proportioned 24-hour composite sampling of the influent and effluent for the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP for those pollutants known or suspected to be discharged by industrial users that the USEPA has identified under section 307(d) of the federal CWA. This will include an annual full priority pollutant scan. Wastewater sampling and analysis shall be performed in accordance with the minimum frequency of analysis required by the MRP (Attachment E). The Dischargers shall also provide influent and effluent monitoring data for non-priority pollutants, which the Dischargers believe may be causing or contributing to interference or pass through. The Dischargers are not required to sample and analyze for asbestos. Sludge sampling and analysis is addressed in section 6.3.5.4 of this Order. Wastewater sampling and analysis shall be performed in accordance with 40 CFR part 136.

6.3.5.3.4.2. A discussion of upset, interference, or pass through, if any, at the MNWD RTP, SOCWA CTP, Los Aliso WRP, and/or El Toro Water District WRP, which the Dischargers know or suspect were caused by nondomestic users of the POTW system. The discussion shall include the reasons why the incidents occurred, any corrective actions taken, and, if known, the name and address of the responsible nondomestic user(s). The discussion shall also include a review of the applicable local pollutant limitations to determine whether any additional limitations or changes to existing limitations are necessary to prevent pass through, interference, or noncompliance with sludge disposal requirements.

6.3.5.3.4.3. An updated list of the Dischargers' Significant Industrial Users (SIUs) including their names and addresses, and a list of deletions, additions, and SIU name changes keyed to the previously submitted list. The Dischargers shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limits.

6.3.5.3.4.4. The Dischargers shall characterize the compliance status of each SIU by providing a list or table for the following:

6.3.5.3.4.4.1. Name of SIU and category, if subject to categorical standards;

6.3.5.3.4.4.2. Type of wastewater treatment or control processes in place;

6.3.5.3.4.4.3. Number of samples taken by SIU during the year;

6.3.5.3.4.4.4. Number of samples and inspections by the Dischargers during the year;

6.3.5.3.4.4.5. For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

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

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

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

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

6.3.5.3.4.5. A brief description of any programs the Dischargers implement to reduce pollutants from industrial users not classified as SIUs.

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

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

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

6.3.5.3.4.9. A description of any changes in sludge disposal methods;

6.3.5.3.4.10. A description of the program to quantify, characterize, regulate, and treat flow from low-flow urban runoff diversion systems and "first flush" industrial storm water diversion systems that are routed to the sanitary sewer collection system; and

6.3.5.3.4.11. A discussion of any concerns not described elsewhere in the annual pretreatment report.

6.3.5.3.5. The Dischargers shall provide a written technical evaluation of the need to revise local limits under 40 CFR section 403.5(c)(1) following permit reissuance (40 CFR section 122.44(j)(2)(ii)). The local limits technical evaluation is due to the San Diego Water Board within 180 days of the effective date of this Order.

6.3.5.4. **Sludge (Biosolids) Disposal Requirements**

6.3.5.4.1. **General Requirements**

6.3.5.4.1.1. All biosolids generated by the Dischargers during the treatment of wastewater shall be used or disposed of in compliance with applicable portions of: 40 CFR part 503-for biosolids that are land applied, placed on a surface disposal site (dedicated land disposal site, monofill, or sludge-only parcel at a municipal landfill), or incinerated; 40 CFR part 258-for biosolids disposed of in a municipal solid waste landfill (with other materials); and 40 CFR part 257-for all biosolids use and disposal practices not covered under 40 CFR parts 258 or 503. The preparer of the biosolids is required under 40 CFR section 503.7 to ensure that the applicable requirements in 40 CFR 503 are met when the sewage sludge is applied to the land.

Requirements for biosolids that are applied for the purpose of enhancing plant growth or for land reclamation are set forth in 40 CFR part 503, subpart B (land application). Requirements for biosolids that are placed on land for the purpose of disposal are set forth in 40 CFR part 503, subpart C (surface disposal).

The Dischargers shall take all reasonable steps to ensure that all biosolids produced at the MNWD RTP, SOCWA CTP, and El Toro Water District WRP are used or disposed of in accordance with these rules, whether the Dischargers use or dispose of the biosolids itself, or transfers their biosolids to another party for further treatment, use, or disposal. The Dischargers are responsible for informing subsequent preparers, appliers, and disposers of requirements they must meet under these rules.

6.3.5.4.1.2. The Dischargers shall take all reasonable steps to prevent or minimize any biosolids use or disposal which has a likelihood of adversely affecting human health or the environment.

6.3.5.4.1.3. No biosolids shall be allowed to enter wetlands or other waters of the United States.

6.3.5.4.1.4. Biosolids treatment, storage, use, or disposal shall not contaminate groundwater.

6.3.5.4.1.5. Biosolids treatment, storage, use, or disposal shall not create a nuisance condition such as objectionable odors or flies.

6.3.5.4.1.6. The Dischargers shall take all reasonable steps to ensure that haulers transporting biosolids offsite for treatment, storage, use, or disposal are contractually required to take all necessary measures to keep the biosolids contained. Trucks hauling biosolids that are not classified Class A with respect to pathogens, as defined at 40 CFR section 503.32(a), shall be cleaned as necessary after loading and after unloading, so as to have no biosolids on the exterior of the truck, or wheels. Trucks hauling biosolids that are not Class A shall be tarped. All haulers must have and implement spill clean-up procedures. Trucks hauling biosolids that are not Class A shall not be used for hauling food or feed crops after unloading the biosolids unless the Dischargers submit a hauling description, to be approved by USEPA, describing how trucks will be thoroughly cleaned prior to adding food or feed.

6.3.5.4.1.7. If biosolids are stored for over two years from the time they are generated, the Dischargers must ensure compliance with all requirements for surface disposal under 40 CFR part 503, subpart C, or must submit a written notification to USEPA, State Water Board, and San Diego Water Board with the information specified under 40 CFR section 503.20(b), demonstrating the need for longer temporary storage. During storage of any length for non-Class A biosolids, whether on the MNWD RTP, SOCWA CTP, or El Toro Water District WRP site or offsite, adequate procedures must be taken to restrict access by the public and domestic animals.

6.3.5.4.1.8. Any biosolids treatment, disposal, or storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect the site boundaries from erosion, and to prevent any conditions that would cause drainage from the materials to escape from the site. Adequate protection is defined as protection from at least a 100-year storm event as defined by the Orange County FCD and the highest tidal stage which may occur.

6.3.5.4.1.9. If the biosolids are land applied, there shall be adequate screening at the MNWD RTP, SOCWA CTP, and El Toro Water District WRP headworks and/or at the biosolids treatment units to ensure that all pieces of metal, plastic, glass, and other inert objects are removed.

6.3.5.4.2. **Inspection and Entry**

The USEPA, San Diego Water Board, State Water Board, or an authorized representative thereof, upon the presentation of credentials, shall be allowed by the Dischargers directly, or through contractual arrangements with their biosolids management contractors, to:

6.3.5.4.2.1. Enter upon all premises where biosolids produced by the Dischargers are treated, stored, used, or disposed of, by either the Dischargers or another party to whom the Dischargers transfer biosolids for further treatment, storage, use, or disposal;

6.3.5.4.2.2. Have access to and copy any records that must be kept by either the Dischargers or another party to whom the Dischargers transfer biosolids for further treatment, storage, use, or disposal, under the conditions of this Order or 40 CFR part 503; and

6.3.5.4.2.3. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in biosolids treatment, storage, use, or disposal by either the Dischargers or another party to whom the Dischargers transfer biosolids for further treatment, storage, use, or disposal.

6.3.5.4.3. **Monitoring**

Biosolids shall be monitored for the following constituents, at the frequency stipulated in Table 1 of 40 CFR section 503.16:

- arsenic,
- cadmium,
- chromium,
- copper,
- lead,
- mercury,
- molybdenum,
- nickel,
- selenium,
- zinc, and
- total solids.

If biosolids are removed for use or disposal on a routine basis, sampling should be scheduled at regular intervals throughout the year. If biosolids are stored for an extended period prior to use or disposal, sampling may occur at regular intervals, or samples of the accumulated stockpile may be collected prior to use or disposal, corresponding to the tons accumulated in the stockpile over that period.

Monitoring shall be conducted using the methods in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846), or as otherwise required under 40 CFR section 503.8(b). All results must be reported on a 100% dry weight basis and records of all analyses must state on each page of the analytical results whether the reported results are expressed on an "as-is" or a "100% dry weight" basis.

6.3.5.4.4. **Pathogen and Vector Control**

6.3.5.4.4.1. Prior to land application, the permittee shall demonstrate that biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed under 40 CFR section 503.32.

6.3.5.4.4.2. Prior to disposal on a surface disposal site, the Dischargers shall demonstrate that biosolids meet Class B pathogen reduction levels or ensure that the site is covered at the end of each operating day. If pathogen reduction is demonstrated using a "Process to Further Reduce Pathogens" or one of the "Processes to Significantly Reduce Pathogens," the Dischargers shall maintain daily records of the operating parameters used to achieve this reduction. If pathogen reduction is demonstrated by testing for fecal coliform and/or pathogens, samples must be collected at the frequency specified in Table 1 of 40 CFR section 503.16. If Class B is demonstrated using fecal coliform, at least seven grab samples must be collected during each monitoring period and a geometric mean calculated from these samples. The following holding times between sample collection and analysis shall not be exceeded: fecal coliform-24 hours when cooled to four °C; Salmonella spp. bacteria-24 hours when cooled to four °C; enteric viruses-two weeks when frozen; and helminth ova-one month when cooled to 4°C.

6.3.5.4.4.3. For biosolids that are land applied or placed on a surface disposal site, the Dischargers shall track and keep records of the operational parameters used to achieve the Vector Attraction Reduction requirements under 40 CFR section 503.33(b).

6.3.5.4.5. **Surface Disposal**

If biosolids are placed on a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

6.3.5.4.6. **Landfill Disposal**

Biosolids placed in a municipal landfill shall be tested by the Paint Filter Test (Method 9095) at the frequency specified in Table 1 of 40 CFR section 503.16, or more often if necessary, to demonstrate that there are no free liquids.

6.3.5.4.7. **Notifications**

The Dischargers, either directly or through contractual arrangements with their biosolids management contractors, shall comply with the following notification requirements.

6.3.5.4.7.1. Notification of Noncompliance

The Dischargers shall notify USEPA, the State Water Board, and the San Diego Water Board (for both Dischargers and use or disposal site) of any noncompliance with the biosolids within 24 hours if the noncompliance

may endanger health or the environment. For other instances of noncompliance with the biosolids, the Dischargers shall notify USEPA, the State Water Board, and the San Diego Water Board of the noncompliance in writing within five working days of becoming aware of the noncompliance. The Dischargers shall require their biosolids management contractors to notify USEPA, the State Water Board, and the San Diego Water Board of any noncompliance within these same timeframes.

6.3.5.4.7.2. Interstate Notification

If biosolids are shipped to another state or tribal land, the Dischargers shall send 60 days prior notice of the shipment to the permitting authorities in the receiving state or tribal land, and the USEPA.

6.3.5.4.7.3. Land Application Notification

Prior to using any biosolids from the MNWD RTP, SOCWA CTP, or El Toro Water District WRP (other than composted biosolids) at a new or previously unreported site, the Dischargers shall notify USEPA, the State Water Board, and the San Diego Water Board. This notification shall include a description and topographic map of the proposed site(s), names and addresses of the applier and site owner, and a listing of any State or local permits which must be obtained. It shall also include a description of the crops or vegetation to be grown, proposed loading rates, and a determination of agronomic rates.

Within a given monitoring period, if any biosolids do not meet the applicable metals concentration limits specified under 40 CFR section 503.13, then the Dischargers (or its contractor) must pre-notify USEPA, the State Water Board, and the San Diego Water Board, and determine the cumulative metals loading at that site to date, as required by 40 CFR section 503.12.

The Dischargers shall notify the applier of all subject requirements under 40 CFR part 503, including the requirement for the applier to certify that management practices, site restrictions, and applicable vector attraction reduction requirements have been met. The Dischargers shall require the applier to certify at the end of 38 months, following application of Class B biosolids, that harvesting restrictions in effect for up to 38 months have been met.

6.3.5.4.7.4. Surface Disposal Notification

Prior to disposal at a new or previously unreported site, the Dischargers shall notify USEPA, the State Water Board, and the San Diego Water Board. The notice shall include a description and topographic map of the proposed site, depth to groundwater, whether the site is lined or unlined, site operator and site owner, and any State or local permits. It shall also describe procedures for ensuring grazing and public access restrictions for three years following site closure. The notice shall include a groundwater

monitoring plan or description of why groundwater monitoring is not required.

6.3.5.4.8. **Reporting**

The Dischargers shall submit an annual biosolids report to the State Water Board's CIWQS program website (https://www.waterboards.ca.gov/water_issues/programs/ciwqs/), to the USEPA Biosolids Coordinator (CDX NeT electronic reporting system), and, if applicable, to the Arizona Department of Environmental Quality Biosolids Program Coordinator by February 19 of each year for the period covering the previous calendar year. The report shall include:

6.3.5.4.8.1. The amount of biosolids generated that year, in dry metric tons, and the amount accumulated from previous years.

6.3.5.4.8.2. Results of all pollutant monitoring required under section 6.3.5.4.3 of this Order. Results must be reported on a 100% dry weight basis.

6.3.5.4.8.3. Demonstrations of pathogen and vector attraction reduction methods, as required under 40 CFR sections 503.17 and 503.27, and certifications.

6.3.5.4.8.4. Names, mailing addresses, and street addresses of persons who received biosolids for storage, further treatment, disposal in a municipal landfill, or other use or disposal method not covered above, and volumes delivered to each.

6.3.5.4.8.5. The following information must be submitted by the Dischargers as an attachment to the CDX NeT electronic reporting system, unless the Dischargers require its biosolids management contractors to report this information directly to the USEPA Biosolids Coordinator:

6.3.5.4.8.5.1. For land application sites:

- Locations of land application sites (with field names and numbers) used that calendar year, size of each field applied to, applier, and site owner;
- Volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, and calculated plant available nitrogen;
- Crops planted, dates of planting and harvesting;
- For biosolids exceeding 40 CFR section 503.13 Table 3 metals concentrations, the locations of sites where the biosolids were applied and cumulative metals loading at the sites to date;
- Certifications of management practices at 40 CFR section 503.14; and
- Certifications of site restrictions at 40 CFR section 503.32(b)(5).

6.3.5.4.8.5.2 For surface disposal sites:

- Locations of sites, site operator and site owner, size of parcel on which biosolids were disposed;
- Results of any required groundwater monitoring;
- Certifications of management practices at 40 CFR section 503.24; and

- For closed sites, the date of site closure and certifications of management practices for three years following site closure.

6.3.5.4.9. **All reports shall be submitted to:**

State Water Board's CIWQS program website (https://www.waterboards.ca.gov/water_issues/programs/ciwqs/)

Regional Biosolids Coordinator
United States Environmental Protection Agency
EPA's CDX NeT electronic reporting system

If applicable,
Biosolids Program Coordinator
Arizona Department of Environmental Quality
Mail Code: 5415B-1
1110 West Washington Street
Phoenix, AZ 85007

6.3.5.5. **Sewage Collection System**

SOCWA's member agencies are subject to the requirements of, and must comply with State Water Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (Statewide General SSO Order), including monitoring and reporting requirements as amended by State Water Board Order No. WQ 2013-0058-EXEC and any subsequent amendment/reissuance order. SOCWA's member agencies are also subject to the requirements of, and must comply with the San Diego Water Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region* (Regional General SSO Order), and any subsequent amendment/reissuance order.

Regardless of the coverage obtained under Order No. 2006-0003-DWQ or Order No. R9-2007-0005, SOCWA's member agencies' collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, SOCWA's member agencies must report any noncompliance (40 CFR sections 122.44(1)(6) and (7)), properly operate and maintain its collection system (40 CFR section 122.41(e)), and mitigate or prevent any discharge from the collection system in violation of this Order (40 CFR section 122.41(d)).

6.3.5.6. **Resource Recovery from Anaerobically Digestible Material**

If the Dischargers plan to receive hauled-in anaerobically digestible material for injection into an anaerobic digester, the Dischargers shall notify the San Diego Water Board and develop and implement Standard Operating Procedures (SOPs) for this activity. The SOPs shall be developed prior to receiving hauled-in anaerobically digestible material. The SOPs shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the SOPs shall address avoidance of the introduction of materials that could cause interference, pass through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Dischargers shall train its staff on the SOPs and shall maintain records for a minimum of five years for each load received, describing the hauler, waste type, and quantity received. In addition, the Dischargers shall maintain records for a minimum of five years for the disposition, location, and quantity of cumulative pre-digestion-segregated solid waste hauled offsite.

6.3.5.7. **Asset Management Plan**

The Dischargers shall develop and submit to the San Diego Water Board within 180 days of the effective date of this Order an Asset Management Plan (AMP) to ensure proper operation and maintenance of the POTWs. The Dischargers may rely on existing documents to develop the AMP. The AMP shall include the following elements:

6.3.5.7.1. Rehabilitation and Replacement Plan

The AMP shall identify and prioritize upcoming asset rehabilitation and replacement projects costing greater than $5,000 and outline a proposed schedule for completion of each project.

6.3.5.7.2. Maintenance Plan

The AMP shall identify individual or categories of maintenance activities and frequency with which they are performed. The Maintenance Plan shall estimate ongoing and projected cost of maintenance activities.

6.3.5.7.3. System Map

A map of the system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the wastewater treatment plant shall incorporate assets from the asset management inventory. The map shall be color-coded to identify maintenance and rehabilitation priorities.

6.3.5.7.4. Funding

The AMP shall create an accounting of current and projected funding sources, relevant expenses and financial reserves. Expenses may include operational, administrative, interest, or capital expenses. Funding sources

may include federal, State, local or private grants, loans, or bonds, as well as connection and user fees.

6.3.5.7.5. System Projections

The AMP shall evaluate growth projections of population and service area and potential vulnerabilities resulting from climate change over the next 30 years.

6.3.5.7.6. Asset Management Software

The AMP shall incorporate software to inventory all critical assets valued over $5,000 into a single database, automate work order production and tracking, and prioritize system maintenance and rehabilitation projects. Assets may include, but are not limited to, sewer lines, manholes, outfalls, pump stations, force mains, catch basins, and wastewater treatment facility assets. Each entry shall include:

- Name and identification number
- Location (global positioning system (GPS) coordinate or equivalent identifier)
- Current performance/condition
- Purchase and installation date
- Purchase price
- Replacement cost
- Quantitative consequence of failure
- Quantitative likelihood of failure

6.3.5.7.7 The Dischargers shall implement the AMP within 60 days following submission to the San Diego Water Board, unless otherwise directed in writing by the San Diego Water Board Executive Officer.

6.3.5.7.8. The Dischargers shall reevaluate and update the AMP as needed at least 180 days prior to the expiration date of this Order. The Dischargers shall timely provide each updated or revised AMP to the San Diego Water Board.

6.3.6. **Other Special Provisions – Not Applicable**

6.3.7. **Compliance Schedules – Not Applicable**

7. Compliance Determination

Compliance with the effluent limitations contained in section 4 of this Order will be determined as specified below:

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 Dischargers 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 that month only. If only a single sample is

taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 ND or DNQ, the corresponding MER determined from that sample concentration shall also be reported as “ND” or “DNQ.”

7.8. Percent Removal

Compliance with percent removal requirements for average monthly percent removal of $CBOD_5$ and TSS shall be determined separately for each wastewater treatment facility discharging through an outfall. For each wastewater treatment facility, the monthly average percent removal shall be calculated according to the following equation:

Monthly average percent removal = the monthly average influent concentration minus the monthly average effluent concentration, divided by the monthly average influent concentration, multiplied by 100.

7.9. Compliance with Single-constituent Effluent Limitations

The Dischargers shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the ML.

7.10. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

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

7.11. Multiple Sample Data Reduction

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

7.12. Mass Emission Rate (MER)

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

MER (lbs/day) = 8.34 x Q x 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.

7.13. Bacterial Standards and Analysis

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

Geometric Mean = (C1 x C2 x … x Cn)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.

7.13.2. The 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.

7.13.3. 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.

7.14. Single Operational Upset (SOU)

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

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

7.14.2. Dischargers may assert SOU to limit liability only for those violations which the Dischargers submitted notice of the upset as required in section 1.8 of Attachment D.

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

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

7.15. 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 established in section 4.1.1.9 of this Order for Discharge Point No. 001 shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2019) and restated in the MRP (Attachment E). Chronic toxicity shall be expressed as TUc, where:

TUc = 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 235 TUc. The MDEL for chronic toxicity is set at the "In-Stream" Waste Concentration (IWC) for the discharge (0.42% effluent[2]).

[2] IWC = 1/minimum probable initial dilution factor (Dm) = 1/234 = 0.0042 = 0.42%

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
ACOO	Aliso Creek Ocean Outfall
AMEL*	Average Monthly Effluent Limitation
AMP	Asset Management Plan
AQUA	Aquaculture
ASBS*	Areas of Special Biological Significance
ATP	Alternative Test Procedure
AUV	Autonomous Underwater Vehicle
AWEL*	Average Weekly Effluent Limitation
Basin Plan	*Water Quality Control Plan for the San Diego Basin*
BIOL	Preservation of Biological Habitats of Special Significance
BOD_5	Biochemical Oxygen Demand (5-Day @ 20°C)
BRI	Benthic Response Index
°C	Degrees Celsius
$CaCO_3$	Calcium Carbonate
$CBOD_5$	Carbonaceous Biochemical Oxygen Demand (5-Day @ 20°C)
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
CFU	Colony Forming Units
CIWQS	California Integrated Water Quality System
CO_2	Carbon Dioxide
COMM	Commercial and Sport Fishing
CSM	Conceptual Site Model
CTD	Conductivity-Temperature-Depth
CTP	Coastal Treatment Plant
CWA	Clean Water Act
ddPCR	Droplet Digital Polymerase Chain Reaction
DDT*	Dichlorodiphenyltrichloroethane
Discharger(s)	For purposes of this Order including Attachments A through F, the term “Discharger(s)” shall mean SOCWA, Irvine Ranch Water District, El Toro Water District, Moulton Niguel Water District (MNWD), and/or South Coast Water District.
DMR*	Discharge Monitoring Report
DNQ*	Detected, But Not Quantified
EC25	Effects Concentration at 25 Percent

Abbreviation	Definition
ELAP	Environmental Laboratory Accreditation Program
ELGs	Effluent Limitation Guidelines
eSMR	Electronic Self-Monitoring Reports
ETM	Effluent Transmission Main
°F	Degrees Fahrenheit
Facilities	The Moulton Niguel Water District (MNWD) Regional Treatment Plant (MNWD RTP), South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant (SOCWA CTP), Irvine Ranch Water District Los Alisos Water Reclamation Plant (WRP), El Toro Water District WRP, Irvine Desalter Project Portable Water Treatment System (PWTS), Irvine Desalter Project Shallow Groundwater Unit (SGU), South Coast Water District Aliso Creek Water Reclamation Facility (WRF), the associated land outfalls, and Aliso Creek Ocean Outfall (ACOO).
FCD	Flood Control District
GPS	Global Positioning System
HCH*	Hexachlorocyclohexane
IND	Industrial Service Supply
IWC*	“In-Stream” Waste Concentration
lbs/day	Pounds per Day
LC	Lethal Concentration
LC 50	Percent Waste Giving 50 Percent Survival of Test Organisms
MAR	Marine Habitat
MDEL*	Maximum Daily Effluent Limitation
MDL*	Method Detection Limit
MEC	Maximum Effluent Concentration
MER	Mass Emission Rate
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MGD	Million Gallons per Day
MIGR	Migration of Aquatic Organisms
ML*	Minimum Level
ml	Milliliter
ml/L	Milliliter per Liter
MNWD	Moulton Niguel Water District
MRP	Monitoring and Reporting Program
NAV	Navigation
ND*	Not Detected
ng/kg	Nanogram per Kilogram
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit

Abbreviation	Definition
Ocean Plan	*Water Quality Control Plan for Ocean Waters of California, California Ocean Plan*
PAHs*	Polynuclear Aromatic Hydrocarbons
PCBs*	Polychlorinated Biphenyls
pCi/L	Picocuries per Liter
PMP*	Pollutant Minimization Program
POTWs	Publicly-Owned Treatment Works
PPP	Pollution Prevention Plan
ppt	Parts per Thousand
psu	Practical Salinity Unit
PWTS	Portable Water Treatment System
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RARE	Rare, Threatened, or Endangered Species
REC-1	Contact Water Recreation
REC-2	Non-Contact Water Recreation
RCRA	Resource Conservation and Recovery Act
Regional General SSO Order	California Regional Water Quality Control Board Region 9, San Diego Region Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region*
RL	Reporting Level
RO	Reverse Osmosis
ROTV	Remotely Operated Towed Vehicle
ROWD	Report of Waste Discharge
RPA	Reasonable Potential Analysis
RTP	Regional Treatment Plant
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SCCWRP	Southern California Coastal Water Research Project
SCWD	South Coast Water District
SHELL	Shellfish Harvesting
SGU	Shallow Groundwater Unit
SIC	Standard Industrial Classification
SIUs	Significant Industrial Users
SMR	Self-Monitoring Report
SNC	Significant Non-Compliance
SOCWA	South Orange County Wastewater Authority
SOPs	Standard Operating Procedures
SOU	Single Operational Upset
SPP	Spill Prevention Plan
SPWN	Spawning, Reproduction, and/or Early Development
SRP	Spill Response Plan

Abbreviation	Definition
SSMPs	Sanitary Sewer Management Plans
SSO*	Sanitary Sewer Overflow
State Water Board	State Water Resources Control Board
Statewide General SSO Order	State Water Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*
STV	Statistical Threshold Value
TAC	Test Acceptability Criteria
TBELs	Technology-Based Effluent Limitations
TCDD*	Tetrachlorodibenzodioxin
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
TUc*	Toxic Units Chronic
µg	Microgram
µg/kg	Microgram per Kilogram
µg/L	Microgram per Liter
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WILD	Wildlife Habitat
WRF	Water Reclamation Facility
WRP	Water Reclamation Plant
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 = 100 divided by
96-hr LC 50%
b. Lethal Concentration 50% (LC 50)

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

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

TUa = log (100 - S) divided by
1.7
where:
S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Anaerobically Digestible Material

Inedible kitchen grease as defined in section 19216 of the Food and Agricultural Code and food material as defined in title 14, division 7, chapter 3.1, article 1, section 17582(a)(20) of the California Code of Regulations (CCR).

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 wellbeing 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 of California 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.

Biosolids

Nutrient-rich organic materials resulting from the treatment of sewage sludge. When treated and processed, sewage sludge becomes biosolids which can be safely recycled and applied as fertilizer to sustainably improve and maintain productive soils and stimulate plant growth.

Brine

Brine is the byproduct of desalinated water having a salinity concentration greater than a desalination facility’s intake source water.

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 7.15 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:

TUc = 100/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 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. 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.

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.

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 composite sample is defined as a combination of at least eight sample aliquots of at least 100 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. 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.

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.

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.

Desalination Facility

An industrial facility that processes water to remove salts and other components from the source water to produce water that is less saline than the source water.

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 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 United States 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.’’ “Discharge” when used without qualification means the “discharge of a pollutant.” (40 CFR section 122.2)

Discharge Monitoring Reports (DMRs)

The DMRs means the United States 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.

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Dredged Material

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

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 Water Code, Suisun Bay,

Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Facilities

Collectively refers to the Moulton Niguel Water District (MNWD) Regional Treatment Plant (MNWD RTP), South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant (SOCWA CTP), Irvine Ranch Water District Los Alisos Water Reclamation Plant (WRP), El Toro Water District WRP, Irvine Desalter Project Portable Water Treatment System (PWTS), Irvine Desalter Project Shallow Groundwater Unit (SGU), South Coast Water District Aliso Creek Water Reclamation Facility (WRF), the associated land outfalls, and Aliso Creek Ocean Outfall (ACOO).

Halomethanes

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

HCH

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

Initial Dilution

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

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

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

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.

Interference

A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the federal CWA, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Kelp Beds

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

Mariculture

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

Material

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

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)

The minimum concentration of a substance that can be 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

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

Not Detected (ND)

Those sample results less than the laboratory's MDL.

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.

Pass Through

A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Percent Removal

A percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the monthly average values of the raw wastewater influent pollutant concentrations to the facility and the monthly average values of the effluent pollutant concentrations for a given time period. (40 CFR 133.101(j))

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-nitropheneol, 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.

Publicly Owned Treatment Works (POTW)

POTW means a treatment works as defined by section 212 of the federal Clean Water Act (CWA), which is owned by a State or municipality (as defined by section 502(4) of the federal CWA). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the federal CWA, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Recycled Water

Recycled water means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

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 Dischargers 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 II.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.

Salinity

A measure of the dissolved salts in a volume of water. Salinity shall be measured using a standard method approved by the San Diego Water Board (e.g. Standard Method 2520 B, USEPA Method 120.1, USEPA Method 160.1) and reported in parts per thousand. For historical salinity data not recorded in parts per thousand, the San Diego Water Board may accept converted data at their discretion.

Sanitary Sewer Overflow (SSO)

An SSO is any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include: (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States; (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly-owned portion of a sanitary sewer system.

Sanitary Sewer System

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

Severe Property Damage

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))

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.

Sludge

Any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

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.

Tetrachlorodibenzodioxin (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, as shown in the table below.

Isomer Group	Toxicity Equivalency Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

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 stepwise 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.

Trash

Trash means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

Upset

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

Waste

As used in the Ocean Plan, waste includes a Dischargers' total discharge, of whatever origin, i.e., gross, not net, discharge.

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

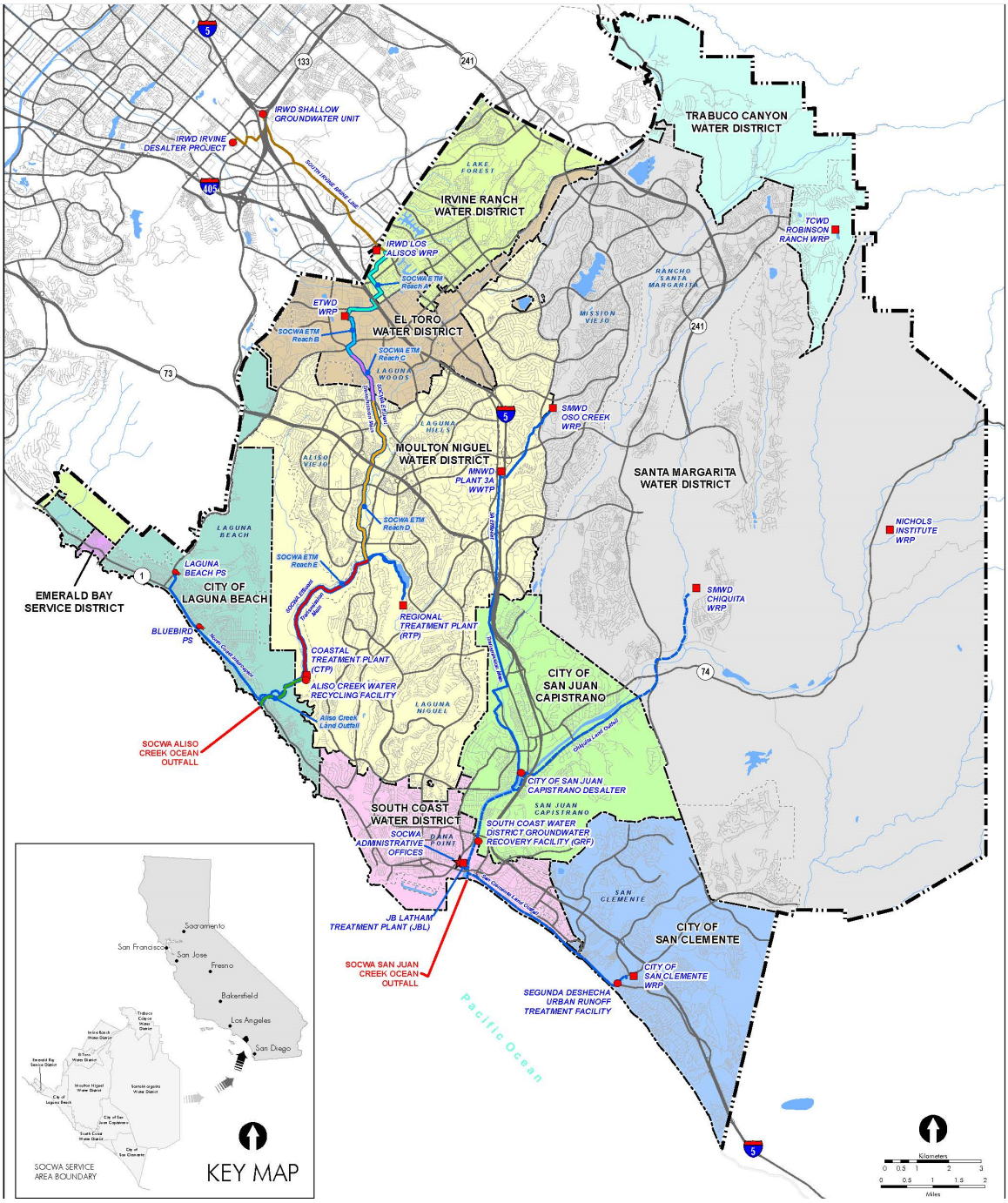
Numerical or narrative limits on constituents or characteristics of water designed to protect designated beneficial uses of the water. (Water Code section 13050(h)). California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

Water Quality Standards

Provisions of State or federal law which consist of a designated use or uses for waters of the United States 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

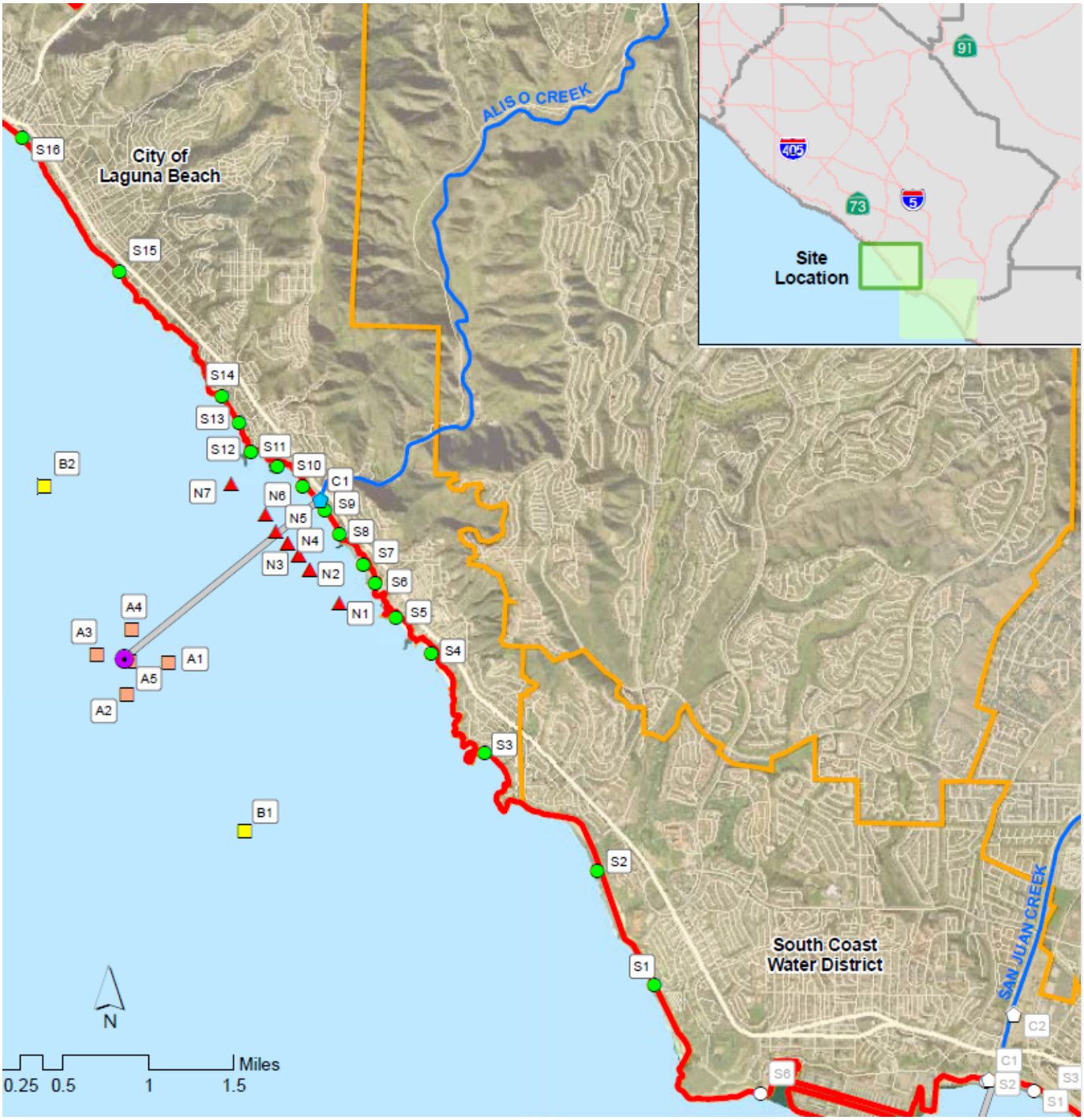
ATTACHMENT B – MAP

Map 1 - SOCWA Facilities[3] and Service Area



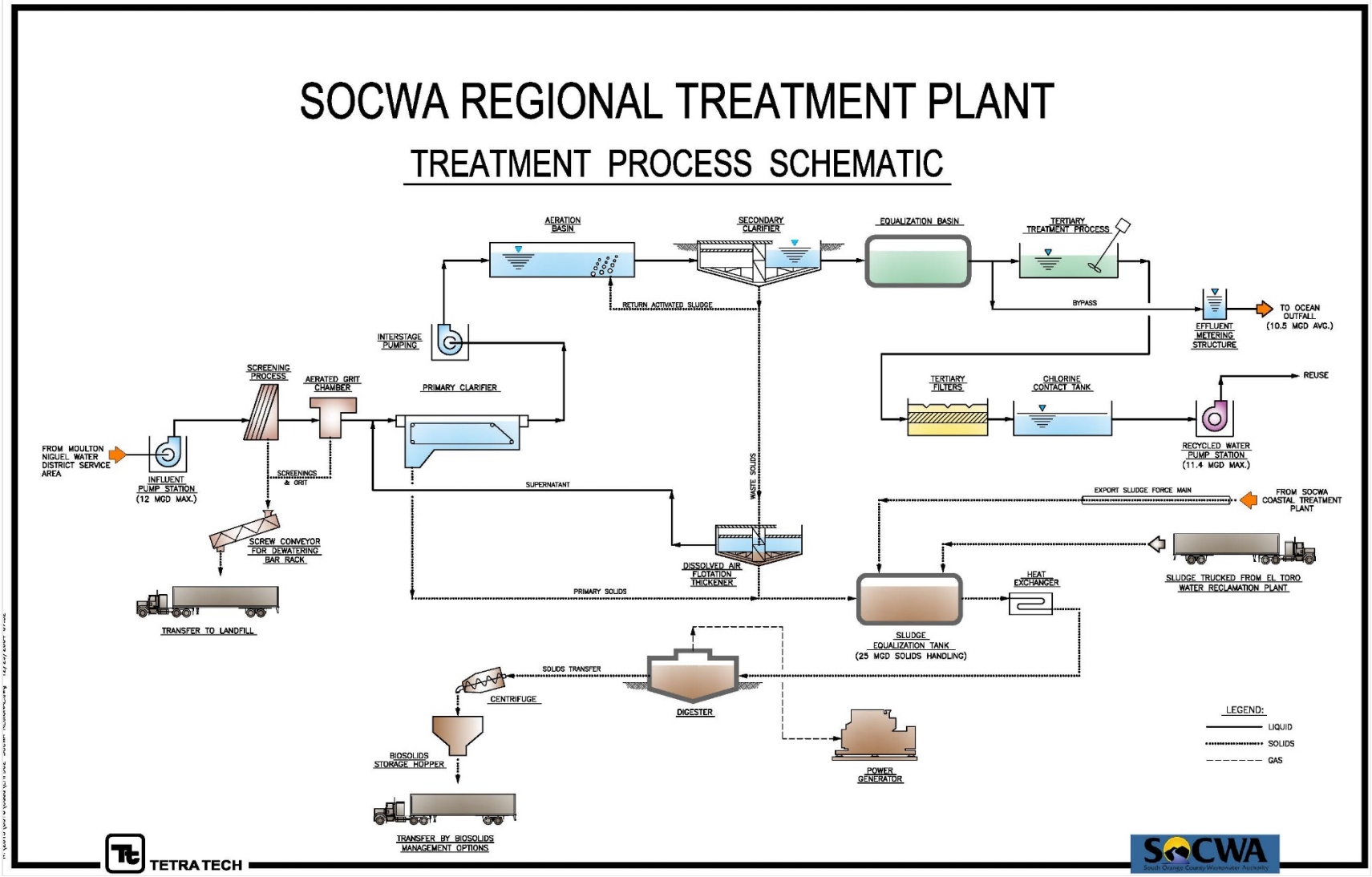
[3] The Moulton Niguel Water District (MNWD) Regional Treatment Plant (MNWD RTP), SOCWA Coastal Treatment Plant (SOCWA CTP), Irvine Ranch Water District Los Alisos Water Reclamation Plant (WRP), El Toro Water District WRP, Irvine Desalter Project Portable Water Treatment System (PWTS), Irvine Desalter Project Shallow Groundwater Unit (SGU), South Coast Water District Aliso Creek Water Reclamation Facility (WRF), the associated land outfalls, and Aliso Creek Ocean Outfall (ACOO).

Map 2 - SOCWA Water Quality Monitoring Stations Aliso Creek Ocean Outfall



ATTACHMENT C – FLOW SCHEMATICS

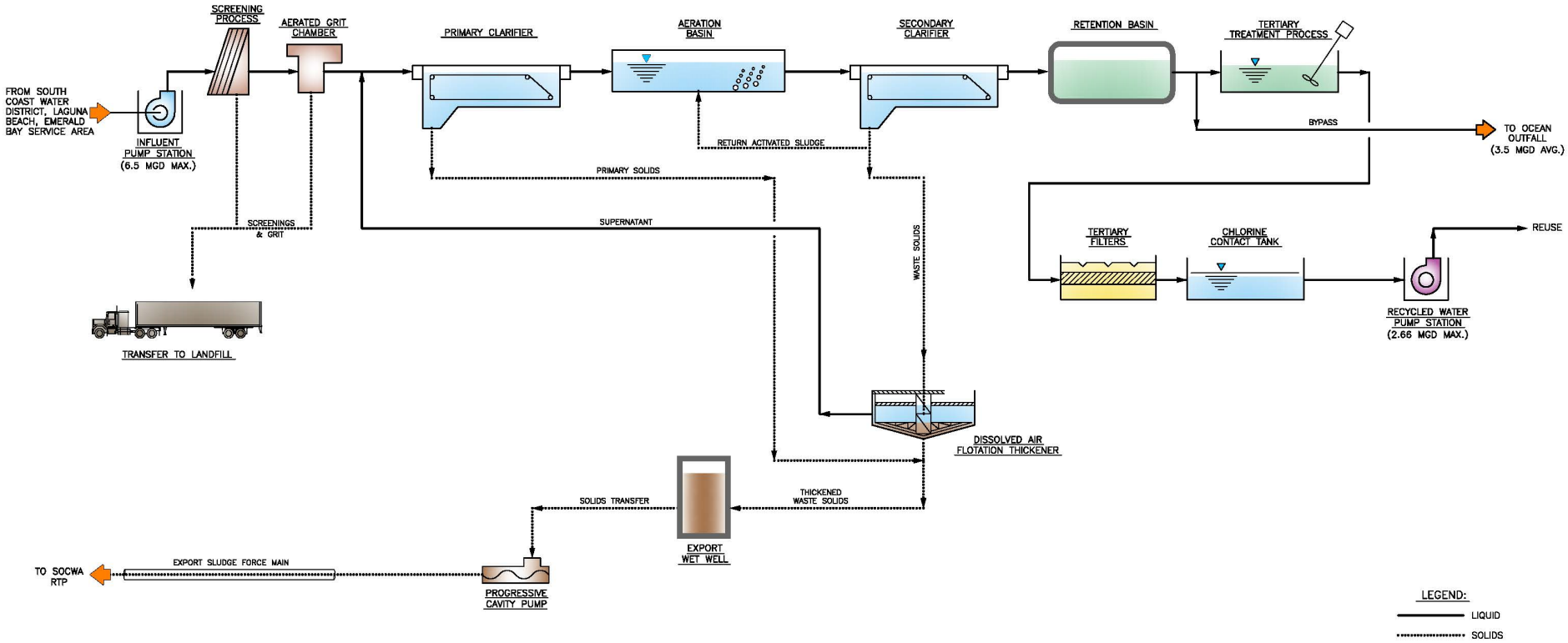
Flow Schematic 1 –MNWD Regional Treatment Plant



Flow Schematic 2 – SOCWA Coastal Treatment Plant

SOCWA COASTAL TREATMENT PLANT

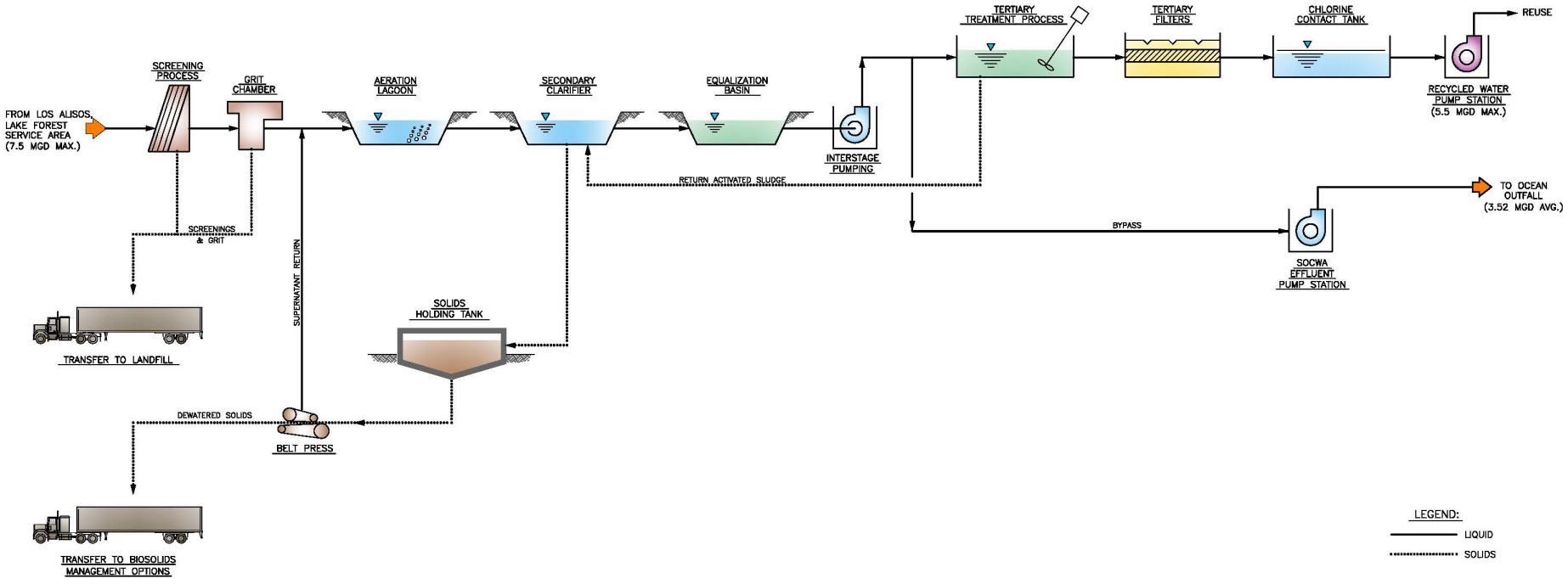
TREATMENT PROCESS SCHEMATIC



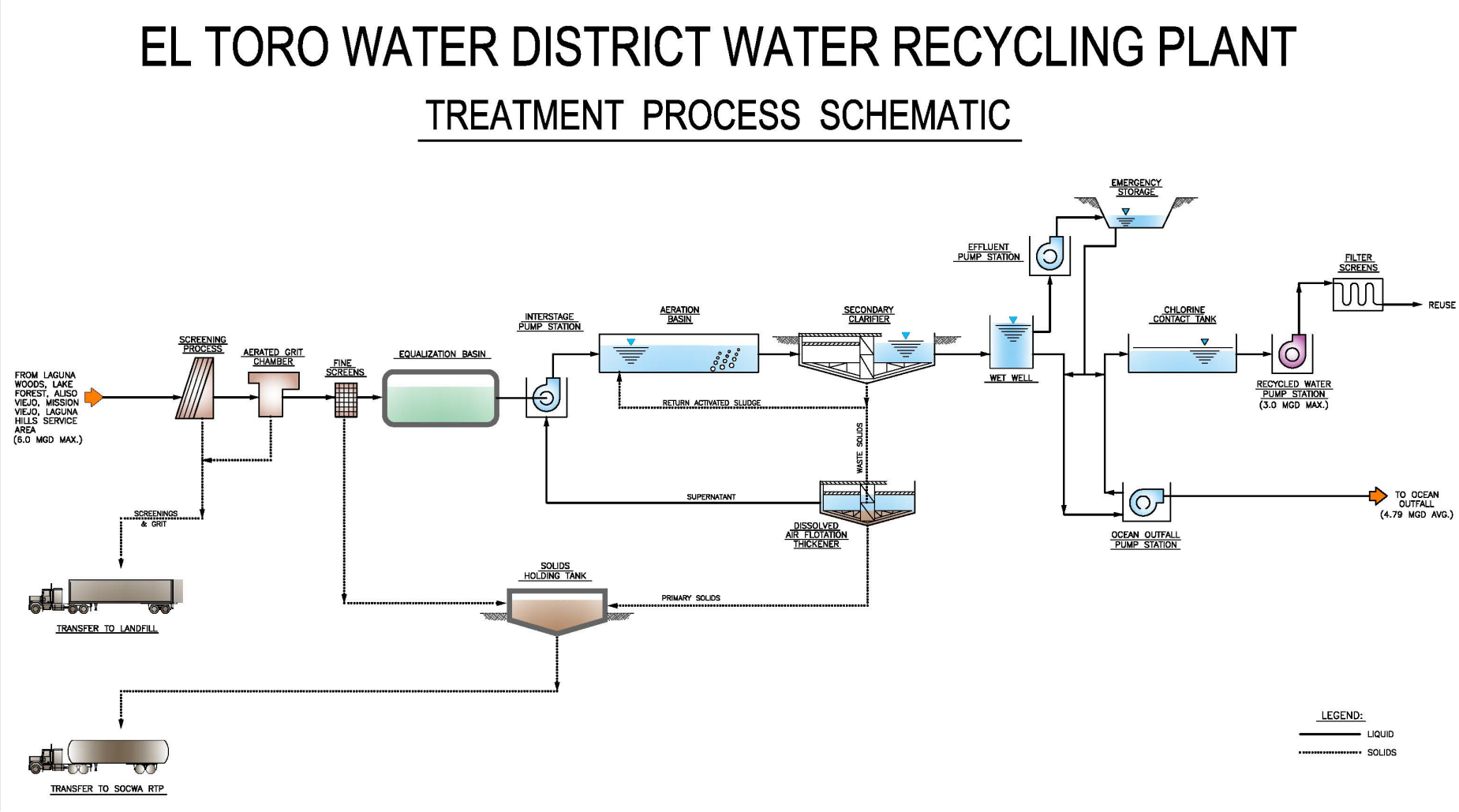
Flow Schematic 3 – Los Alisos Water Reclamation Plant

LOS ALISOS WATER RECLAMATION PLANT

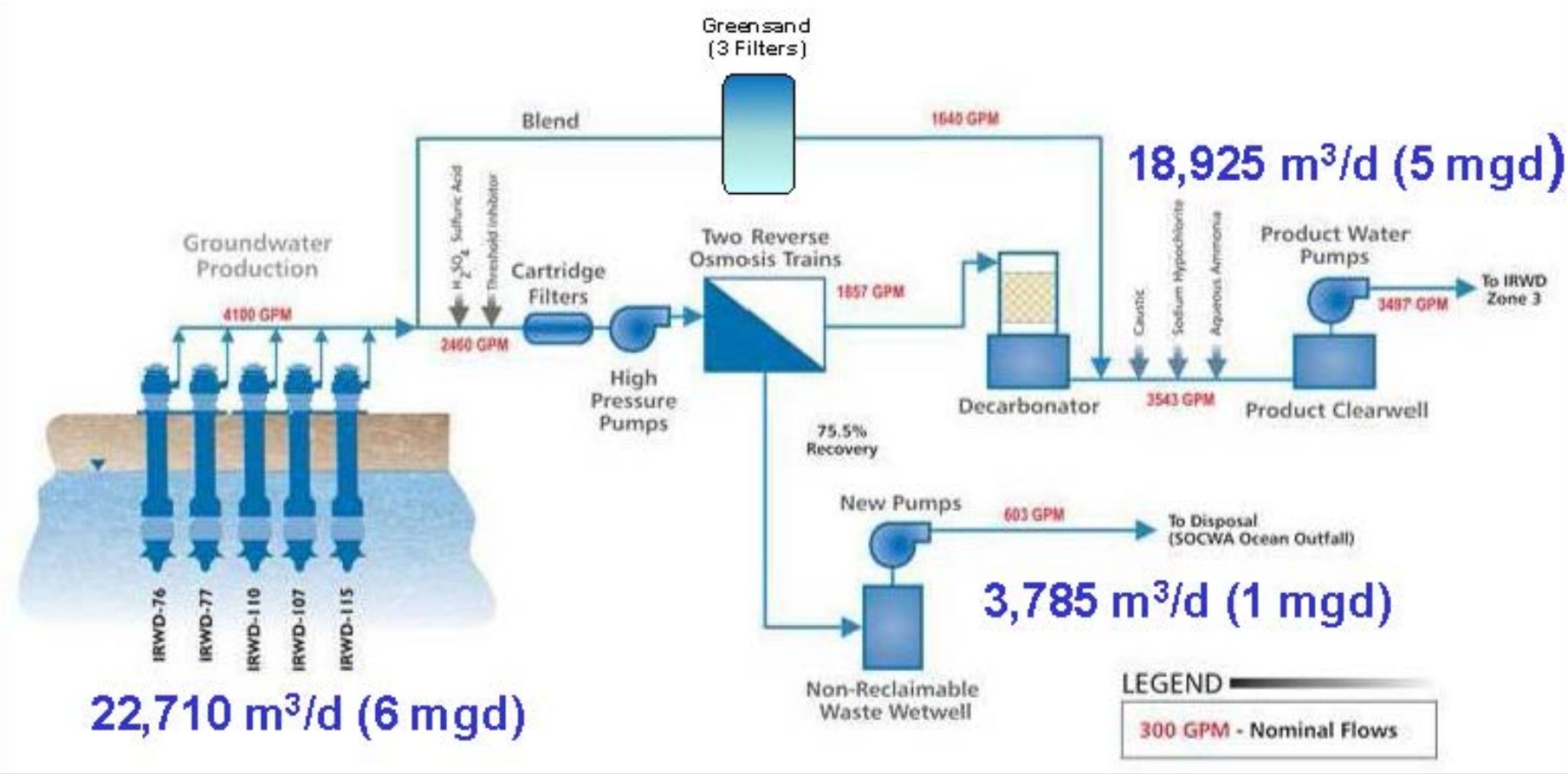
TREATMENT PROCESS SCHEMATIC



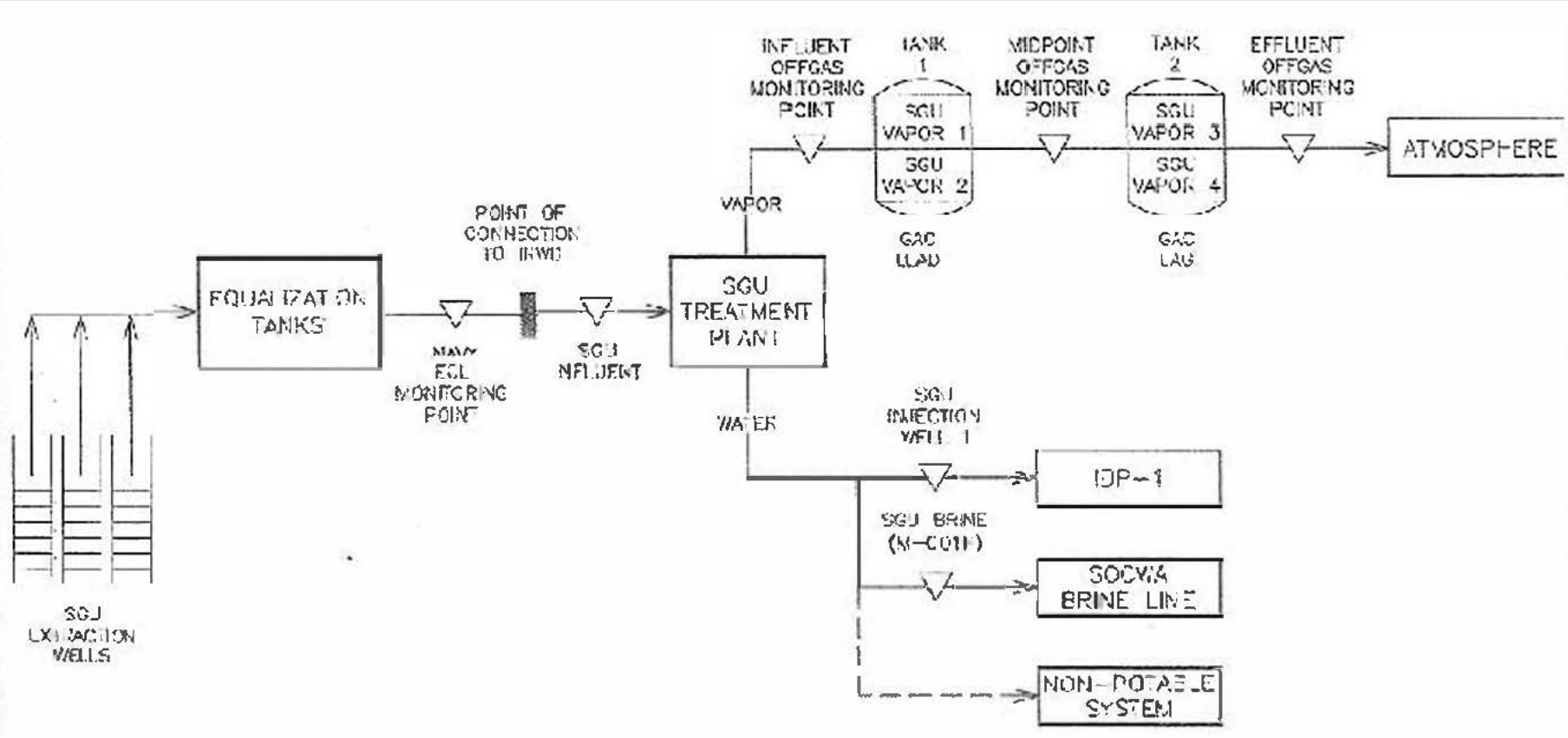
Flow Schematic 4 – El Toro Water District Water Recycling Plant



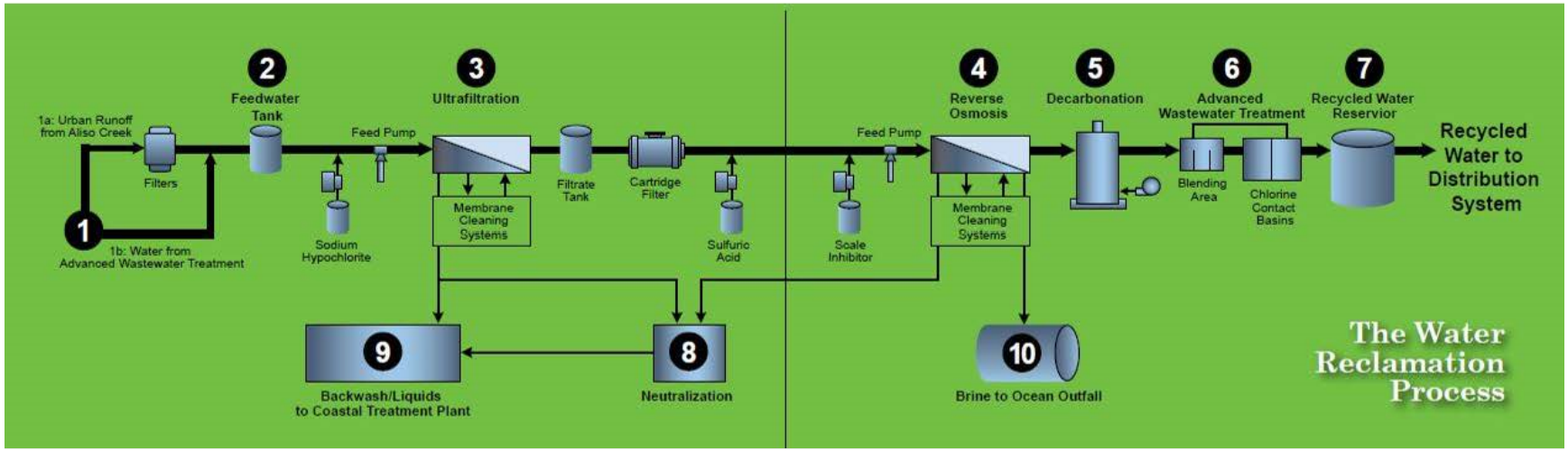
Flow Schematic 5 – Irvine Desalter Project Portable Water Treatment System



Flow Schematic 6 – Irvine Desalter Project Shallow Groundwater Unit



Flow Schematic 7 - South Coast Water District Aliso Creek Water Reclamation Facility



ATTACHMENT D – STANDARD PROVISIONS

1. Standard Provisions – Permit Compliance

1.1. Duty to Comply

1.1.1. The Dischargers must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the federal Clean Water Act (CWA) and the California Water Code (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 of the 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 Dischargers shall comply with effluent standards or prohibitions established under Section 307(a) of the federal 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 the Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 the Dischargers 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 Dischargers shall allow the San Diego Water Board, State Water Resources Control 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 Dischargers' 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 federal 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 Standard Provisions – Permit Compliance 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).)

1.7.5. **Notice**

1.7.5.1. Anticipated bypass. If the Dischargers know in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the date of the bypass. The notice shall be sent to the San Diego Water Board. As of December 2023, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 below. Notices shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(m)(3)(i).)

1.7.5.2. Unanticipated bypass. The Dischargers shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the San Diego Water Board. As of December 2023, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 below. Notices shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(m)(3)(ii).)

1.8. Upset

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

1.8.1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance 1.8.2 below are met. No determination made during administrative review of claims that

noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR section 122.41(n)(2).)

1.8.2. **Conditions necessary for a demonstration of upset.** The Dischargers who wish to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR section 122.41(n)(3)):

1.8.2.1. An upset occurred and that the Dischargers can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));

1.8.2.2. The permitted facility was, at the time, being properly operated (40 CFR section 122.41(n)(3)(ii));

1.8.2.3. The Dischargers submitted notice of the upset as required in Standard Provisions – Reporting 5.5.2.2 below (24-hour notice) (40 CFR section 122.41(n)(3)(iii)); and

1.8.2.4. The Dischargers complied with any remedial measures required under Standard Provisions – Permit Compliance 1.3 above. (40 CFR section 122.41(n)(3)(iv).)

1.8.3. Burden of proof. In any enforcement proceeding, the Dischargers seeking to establish the occurrence of an upset have the burden of proof. (40 CFR section 122.41(n)(4).)

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 Dischargers 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 Dischargers wish to continue an activity regulated by this Order after the expiration date of this Order, the Dischargers 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 Dischargers and incorporate such other requirements as may be necessary under the federal 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 Dischargers 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 section 122.41(j)(3)(ii));

4.2.3. The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));

4.2.4. The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));

4.2.5. The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and

4.2.6. The results of such analyses. (40 CFR section 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 Dischargers (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 Dischargers 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 Dischargers 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 by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR section 122.22(a)(3).).

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 Dischargers monitor 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 14 days following each schedule date. (40 CFR section 122.41(l)(5).)

5.5. Twenty-Four Hour Reporting

5.5.1. The Dischargers shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Dischargers become aware of the circumstances. A report shall also be provided within five (5) days of the time the Dischargers become 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.

As of December 2023, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the San Diego Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The San Diego Water Board may also require the Dischargers to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(6)(i).)

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)(ii)(B).)

5.6. Planned Changes

The Dischargers 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 40 CFR 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 40 CFR section 122.42(a)(1) (see Additional Provisions—Notification Levels 7.1.1). (40 CFR section 122.41(l)(1)(ii).)

5.7. Anticipated Noncompliance

The Dischargers 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 Dischargers 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 Dischargers to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(7).)

5.9. Other Information

When the Dischargers become 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 Dischargers 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 (see 40 CFR section 127.2(c)). USEPA will update and maintain this listing. (40 CFR section 122.41(l)(9).)

6. Standard Provisions – Enforcement

The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

7. Additional Provisions – Notification Levels

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

7.1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the federal CWA if it were directly discharging those pollutants (40 CFR section 122.42(b)(1)); and

7.2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR section 122.42(b)(2).)

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of 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 MRP establishes conditions for the South Orange County Wastewater Authority (SOCWA) 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 Dischargers 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 San Diego Water Board estimates that the burden and cost of compliance with the MRP may range from $350,000 to $400,000 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 monitoring discharge. All samples shall be taken at the monitoring points 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.

1.2. All monitoring instruments and devices used by the Dischargers 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 United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the CWA* as amended, or an alternative test procedure (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.

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. Additional information on ELAP can be accessed at: https://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml.

1.5. Records of monitoring information shall include information required under Standard Provision, Attachment D, section 4 of this Order.

1.6. The Dischargers shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The Dischargers should have a success rate equal or greater than 80 percent.

1.7. The Dischargers shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board (State Water Board) at the following address:

State Water Resources Control Board Quality Assurance Program Officer
Office of Information Management and Analysis
State Water Resources Control Board
1001 I Street, Sacramento, CA 95814

1.8. 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 Dischargers shall ensure that analytical procedures used to evaluate compliance with effluent limitations or performance goals established in this Order use minimum levels (ML) no greater than the applicable effluent limitations or performance goals and are consistent with the requirements of the Ocean Plan and 40 CFR part 136, or otherwise approved by USEPA and authorized by the San Diego Water Board. If no authorized ML value is below the effluent limitation, then the method must achieve an ML no greater than the lowest ML value provided in the Ocean Plan and/or 40 CFR part 136.

2. Monitoring Locations

The Dischargers shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order. The north latitude and west longitude information in Table E-1 are approximate for administrative purposes.

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description[1]
--	M-INFA	At a location where all influent flows to the MNWD Regional Treatment Plant (MNWD RTP) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-INFB	At a location where all influent flows to the SOCWA Coastal Treatment Plant (SOCWA CTP) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-INFC	At a location where all influent flows to the Irvine Ranch Water District Los Alisos Water Reclamation Plant (WRP) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-INFD	At a location where all influent flows to the El Toro Water District WRP are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
001	M-001	For Grab Samples: At a location where representative samples of commingled effluent from all contributors to the Aliso Creek Ocean Outfall (ACOO) can be collected. For 24-hour Composite Samples: Sampling will not physically occur at this monitoring location. This monitoring location represents a combined sample from all contributors to the ACOO. Samples shall be taken from Monitoring Locations M-001A, M-001B, M-001C, M-001D, M-001E, M-001F, and M-001G as described further below.
--	M-001A	Downstream of any in-plant return flows at the MNWD RTP where representative samples of effluent treated solely at the MNWD RTP can be collected, prior to commingling with other discharges contributing to the ACOO.
--	M-001B	Downstream of any in-plant return flows at the SOCWA CTP where representative samples of effluent treated solely at the SOCWA CTP can be collected, prior to commingling with other discharges contributing to the ACOO.
--	M-001C	Downstream of any in-plant return flows at the Los Alisos WRP where representative samples of effluent treated solely at the Los Alisos WRP can be collected, prior to commingling with other discharges contributing to the ACOO.
--	M-001D	Downstream of any in-plant return flows at the El Toro Water District WRP where representative samples of effluent treated solely at the El Toro Water District WRP can be collected, prior to commingling with other discharges contributing to the ACOO.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description[1]
--	M-001E	Brine discharge from the Irvine Desalter Project Potable Water Treatment System (PWTS) prior to mixing with any other flows directed to the ACOO.
--	M-001F	Non-potable treated groundwater from the Irvine Desalter Project Shallow Groundwater Unit (SGU) prior to mixing with any other flows directed to the ACOO.
--	M-001G	Brine discharge from the South Coast Water District Aliso Creek Water Reclamation Facility (WRF) prior to mixing with any other flows directed to the ACOO.
--	M-001H	Brine discharge from the Irvine Desalter Project PWTS, non-potable treated groundwater from the Irvine Desalter Project SGU, and effluent from the Los Alisos WRP prior to mixing with any other flows directed to the ACOO.
--	N1	Nearshore station; 1,000 feet offshore; 2,500 feet south of the outfall (approximately: 33°30'06"N 117°45'03"W)
--	N2	Nearshore station; 1,000 feet offshore; 1,000 feet south of the outfall (approximately: 33°30'16"N 117°45'14"W)
--	N3	Nearshore station; 1,000 feet offshore; 500 feet south of the outfall (approximately: 33°30'21"N 117°45'18"W)
--	N4	Nearshore station; 1,000 feet offshore; at the outfall (approximately: 33°30'24"N 117°45'22"W)
	N5	Nearshore station; 1,000 feet offshore; 500 feet north of the outfall (approximately: 33°30'28"N 117°45'26"W)
	N6	Nearshore station; 1,000 feet offshore; 1,000 feet north of the outfall (approximately: 33°30'33"N 117°45'30"W)
--	N7	Nearshore station; 1,000 feet offshore; 2,500 feet north of the outfall (approximately: 33°30'42"N 117°45'43"W)
--	A1	Offshore station; Northeast corner of a 1,000 ft x 1,000 ft square having one side parallel to shore and the intersection of its diagonals at the center of the outfall (approximately: 33°29'57"N 117°46'18"W).
--	A2	Offshore station; Southeast corner of a 1,000 ft x 1,000 ft square having one side parallel to shore and the intersection of its diagonals at the center of the outfall (approximately: 33°29'47"N 117°46'05"W).
--	A3	Offshore station; Southwest corner of a 1,000 ft x 1,000 ft square having one side parallel to shore and the intersection of its diagonals at the center of the outfall (approximately: 33°29'37"N 117°46'20"W).
--	A4	Offshore station; Northwest corner of a 1,000 ft x 1,000 ft square having one side parallel to shore and the intersection of its diagonals at the center of the outfall (approximately: 33°29'49"N 117°46'31"W).

Discharge Point Name	Monitoring Location Name	Monitoring Location Description[1]
--	A5	Offshore station; at the center of the diagonals of a 1,000 ft x 1,000 ft square having one side parallel to shore and the intersection of its diagonals at the center of the outfall (approximately: 33°29'47"N 117°46'19"W).
--	B1	Offshore station; at one mile down-coast from the outfall, and over the same depth contour as Station A5 (approximately: 33°28'56"N 117°45'36"W).
--	B2	Offshore station; at one mile up-coast from the outfall and over the same depth contour as Station A5 (approximately: 33°30'41"N 117°46'51"W).
--	T1	Biological transect station; at the 20, 40, 60, and 80-foot depth contours along the transect located 500 feet downcoast of and parallel to the outfall.
--	T2	Biological transect station; at the 20, 40, 60, and 80-foot depth contours along the transect located 1 mile downcoast of and parallel to the outfall.
--	T3	Biological transect station; at the 20, 40, 60, and 80-foot depth contours along the transect located 1 mile upcoast of and parallel to the outfall.
--	RF1	Rig fishing station; at the outfall diffuser (approximately: 33°29'47"N 117°46'19"W)
--	RF2	Rig fishing station; 8,000 feet south of the outfall (approximately: 33°28'42"N 117°45'25"W)

3. Core Monitoring Requirements

3.1. Influent Monitoring Requirements

Influent monitoring is the collection and analysis of samples or measurements of wastewater prior to the treatment processes. Influent monitoring of a wastewater stream prior to entering the treatment plant is necessary to address the following question:

(1) Is the pretreatment program effectively controlling pollutant loads from industrial facilities?
(2) What is the frequency of unexpected industrial discharges (or pollutants loads) which can cause or contribute to an upset in the wastewater process?
(3) Is the influent inhibiting or disrupting the plant, its treatment processes or operations, or its sludge processes, use, or disposal?
(4) Are the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP complying with permit conditions including, but not limited to, carbonaceous biochemical oxygen demand (5-day @ 20 degrees Celsius (°C)) ($CBOD_5$) and total suspended solids (TSS) percent removal limitations?

The Dischargers shall monitor the influent at Monitoring Locations M-INFA, M-INFB, M-INFC, and M-INFD as described in Table E-2 below.

Table E-2. Influent Monitoring (M-INFA, M-INFB, M-INFC, and M-INFD)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	million gallons per day (MGD)	Recorder/ Totalizer	Continuous	--
$CBOD_5$	milligram per liter (mg/L)	24-hr Composite	1/Week	As required under 40 CFR part 136.
TSS	mg/L	24-hr Composite	1/Week	As required under 40 CFR part 136.
Acenaphthene	microgram per liter (µg/L)	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Acrolein	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Acrylonitrile	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Benzene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Benzidine	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Carbon tetrachloride	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Chlorobenzene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
1,2,4-trichlorobenzene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Hexachlorobenzene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,2-dichloroethane	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
1,1,1-trichloreothane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Hexachloroethane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,1-dichloroethane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,1,2-trichloroethane	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
1,1,2,2-tetrachloroethane	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Chloroethane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Bis(2-chloroethyl) ether	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2-chloroethyl vinyl ethers	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2-chloronaphthalene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2,4,6-trichlorophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Parachlorometa cresol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Chloroform	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
2-chlorophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,2-dichlorobenzene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
1,3-dichlorobenzene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
1,4-dichlorobenzene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
3,3-dichlorobenzidine	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,1-dichloroethylene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
1,2-trans-dichloroethylene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2,4-dichlorophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,2-dichloropropane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,3-dichloropropylene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
2,4-dimethylphenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2,4-dinitrotoluene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2,6-dinitrotoluene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
1,2-diphenylhydrazine	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Ethylbenzene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fluoranthene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4-chlorophenyl phenyl ether	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4-bromophenyl phenyl ether	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Bis(2-chloroisopropyl) ether	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Bis(2-chloroethoxy) methane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Methylene chloride	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Methyl chloride	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Methyl bromide	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Bromoform	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Dichlorobromomethane	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Chlorodibromomethane	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Hexachlorobutadiene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Hexachlorocyclopentadiene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Isophorone	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Naphthalene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Nitrobenzene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2-nitrophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4-nitrophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
2,4-dinitrophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4,6-dinitro-o-cresol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
N-nitrosodimethylamine	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
N-nitrosodiphenylamine	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
N-nitrosodi-n-propylamine	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Pentachlorophenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Phenol	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Bis(2-ethylhexyl) phthalate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Butyl benzyl phthalate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Di-n-Butyl Phthalate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Di-n-octyl phthalate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Diethyl Phthalate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Dimethyl phthalate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Benzo(a) anthracene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Benzo(a) pyrene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Benzo(b) fluoranthene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Benzo(k) fluoranthene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Chrysene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Acenaphthylene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Anthracene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Benzo(ghi) perylene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Fluorene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Phenanthrene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Dibenzo(a,h) anthracene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Indeno (1,2,3-cd) pyrene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Pyrene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Tetrachloroethylene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Toluene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Trichloroethylene	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Vinyl chloride	µg/L	Grab	1/Year[1]	As required under 40 CFR part 136.
Aldrin	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Dieldrin	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Chlordane	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4,4-DDT	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4,4-DDE	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
4,4-DDD	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Alpha-endosulfan	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Beta-endosulfan	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Endosulfan sulfate	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Endrin	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Endrin aldehyde	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Heptachlor	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Heptachlor epoxide	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Alpha-BHC	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Beta-BHC	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Gamma-BHC	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Delta-BHC	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
PCBs	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Toxaphene	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Antimony, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Arsenic, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Beryllium, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Cadmium, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Chromium, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Copper, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Cyanide, Total	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Lead, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Mercury, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Nickel, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Selenium, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Silver, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Thallium, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
Zinc, Total Recoverable	mg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.
TCDD equivalents	µg/L	24-hr Composite	1/Year[1]	As required under 40 CFR part 136.

Notes for Table E-2

1. Pursuant to section 6.3.5.3.4.1 of the Order, the Dischargers shall conduct a full priority pollutant scan of the influent once per year.

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) Are the Facilities being properly operated and maintained to ensure compliance with the conditions of this Order?
(5) What are the concentrations of nutrients in the effluent that may contribute to algal blooms and ocean acidification in the receiving water?

3.2.1. The Dischargers shall monitor the effluent at Monitoring Locations M-001A, M-001B, M-001C and M-001D as described in Table E-3 below. Effluent monitoring is only required for the monitoring location(s) that have flow during the monitoring period.

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
$CBOD_5$	mg/L	24-hr Composite	1/Day[1,2,3]	As required under 40 CFR part 136.
TSS	mg/L	24-hr Composite	1/Day[1,2,3]	As required under 40 CFR part 136.
Oil and Grease	mg/L	Grab	1/Month[1,4]	As required under 40 CFR part 136.
Settleable Solids	milliliter per liter (ml/L)	Grab	1/Day[2]	As required under 40 CFR part 136.
Turbidity	nephelometric turbidity unit (NTU)	24-hr Composite	1/Week[4]	As required under 40 CFR part 136.
pH	standard units	Grab	1/Day[2]	As required under 40 CFR part 136.

Notes for Table E-3

1. The Dischargers shall calculate and report the mass emission rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section 7.12 of this Order.
2. Applies 5 days per week except 7 days per week for at least 1 week during July or August of each year.
3. The Dischargers shall calculate the monthly average percent removal for $CBOD_5$ and TSS in accordance with section 7.8 of this Order.

4. The minimum frequency of monitoring for this constituent shall increase to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.

3.2.2. The Dischargers shall monitor the effluent at Monitoring Location M-001 (Discharge Point No. 001) as described in Table E-4 below.

Table E-4. Effluent Monitoring (M-001)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/ Totalizer	Continuous	--
Temperature	Degrees Fahrenheit (°F)	Grab	1/Week	As required under 40 CFR part 136.
Dissolved Oxygen	mg/L	Grab	1/Week	As required under 40 CFR part 136.
Total Dissolved Solids (TDS)	mg/L	24-hr Composite	1/Month	As required under 40 CFR part 136.
Fecal Coliform	Number/100 ml	Grab	1/Quarter[1]	As required under 40 CFR part 136.
Enterococci	Colony Forming Units (CFU)/100 ml	Grab	1/Quarter[1]	As required under 40 CFR part 136.
Arsenic, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Cadmium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Chromium (VI), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Copper, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Lead, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Mercury, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Nickel, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Selenium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Silver, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Zinc, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Cyanide, Total	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.[5]
Total Chlorine Residual	µg/L	Grab	1/Day[2,6]	As required under 40 CFR part 136.
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	1/Month[2,3]	As required under 40 CFR part 136.
Chronic Toxicity	Toxic Units Chronic (TUc)	24-hr Composite	1/Quarter	[7]
Phenolic Compounds (nonchlorinated)[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Phenolic Compounds (chlorinated)[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Endosulfan[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Endrin	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
HCH[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Radioactivity	picocuries per liter (pCi/L)	24-hr Composite	2/Year[3]	As required under 40 CFR part 136.
Acrolein	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Chlorobenzene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Chromium (III), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Di-n-butyl Phthalate	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Dichlorobenzenes[8]	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Diethyl Phthalate	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dimethyl Phthalate	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
2,4-dinitrophenol	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Ethylbenzene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Fluoranthene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Hexachlorocyclopentadiene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Nitrobenzene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Toluene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Tributyltin	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
1,1,1-trichloroethane	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Acrylonitrile	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Aldrin	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Benzene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Benzidine	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Beryllium, Total Recoverable	µg/L	24-hr composite	2/Year[2,3]	As required under 40 CFR part 136.
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Bis (2-ethlyhexyl) Phthalate	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Carbon Tetrachloride	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Chlordane	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Chlorodibromomethane	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloroform	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Dichlorodiphenyltrichloroethane (DDT)[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
1,4-dichlorobenzene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
3,3'-dichlorobenzidine	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
1,2-dichloroethane	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
1,1-dichloroethylene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Dichlorobromomethane	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Dichloromethane (Methylene Chloride)	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
1,3-dichloropropene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Dieldrin	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
2,4-dinitrotoluene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
1,2-diphenylhydrazine	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Halomethanes[8]	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Heptachlor	µg/L	24-hr Composite	1/Quarter[2,3]	As required under 40 CFR part 136.
Heptachlor Epoxide	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Hexachlorobenzene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Hexachlorobutadiene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Hexachloroethane	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Isophorone	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
N-nitrosodimethylamine	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
N-nitrosodiphenylamine	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Polynuclear Aromatic Hydrocarbons (PAHs)[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Polychlorinated Biphenyls (PCBs)[8]	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
TCDD equivalents[8]	µg/L	24-hr Composite	1/Month[2,3]	As required under 40 CFR part 136.
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Tetrachloroethylene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Toxaphene	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Trichloroethylene	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
1,1,2-trichloroethane	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
2,4,6-trichlorophenol	µg/L	24-hr Composite	2/Year[2,3]	As required under 40 CFR part 136.
Vinyl Chloride	µg/L	Grab	2/Year[2,3]	As required under 40 CFR part 136.
Ammonium[9]	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Nitrogen, Total[11]	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Nitrogen, Total Organic[12]	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Nitrate	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Nitrite	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Phosphorus, Total (as P)	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Phosphate	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Carbon, Total Organic	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Carbon, Dissolved Inorganic[13]	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.
Iron, Dissolved	mg/L	Grab	1/Month[2,10]	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Alkalinity	mg/L calcium carbonate ($CaCO_3$)	Grab	1/Month[10]	As required under 40 CFR part 136.

Notes for Table E-4

1. Monitoring is only required if the overall compliance rate with the receiving water limitations for bacterial characteristics at section 5.1.1 of this Order is below 90% within a rolling one-year period or a single monitoring location exceeds the bacteria receiving water limitations more than 50% of the time within a rolling one-year period at the offshore stations near the ACOO, excluding offshore station A5 (i.e., offshore stations A1 through A4), and the source of the exceedances are unknown. If required, the Dischargers shall monitor the effluent on the same day as the receiving water monitoring for the same parameter.
2. The Dischargers shall calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 7.12 of this Order.
3. The minimum frequency of monitoring for this constituent shall increase to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.
4. The Dischargers may, at their option, meet this performance goal as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
5. If the Dischargers can demonstrate to the satisfaction of the San Diego Water Board (subject to approval of an ATP by USEPA) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136, as revised May 14, 1999.
6. Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to this Order use chlorine for disinfection. If only one sample is collected for total chlorine residual analysis on a particular day, that sample must be collected at the time when the concentration of total chlorine residual in the discharge would be expected to be greatest. The times of chlorine discharges on the days that samples are collected, and the time at which samples are collected, shall be reported.
7. As specified in section 7.15 of this Order and section 3.3 of this MRP (Attachment E).
8. Please see Attachment A of this Order for the definitions.
9. Ammonium may be determined by conversion from ammonia-nitrogen.
10. The minimum sampling frequency shall be once per month for a period of one year. After one year of monthly sampling, minimum sampling frequency may automatically be reduced to once per quarter.
11. Total nitrogen is the sum of total organic nitrogen, ammonia nitrogen, nitrate nitrogen, and nitrite nitrogen.

12. Total organic nitrogen can be derived by subtracting ammonia nitrogen from total kjeldahl nitrogen.
13. Dissolved inorganic carbon may be estimated using results of pH and alkalinity.

3.2.3. The Dischargers shall monitor the effluent at Monitoring Locations M-001E, M-001F, and M-001G as described in Table E-5 below. Effluent monitoring is only required for the monitoring location(s) that have flow during the monitoring period.

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
TSS	mg/L	24-hr Composite[1]	1/Day[2,3]	As required under 40 CFR part 136.
Oil and Grease	mg/L	Grab	1/Month[2,4]	As required under 40 CFR part 136.
Settleable Solids	ml/L	Grab	1/Week[4]	As required under 40 CFR part 136.
Turbidity	NTU	24-hr Composite[1]	1/Week[4]	As required under 40 CFR part 136.
pH	Standard Units	Grab	1/Day[3]	As required under 40 CFR part 136.
TDS	mg/L	24-hr Composite[1]	1/Week	As required under 40 CFR part 136.

Notes for Table E-5

1. If the discharge is intermittent, the 24-hr composite may be composed of samples taken from less than a 24-hr period. If 24-hr composite is not possible (e.g., a 24-hr composite would not yield sufficient volume to preform analytical testing), the Dischargers may take a grab in lieu of the 24-hr composite. The Dischargers shall document and report the day(s) and reason(s) it was not able to collect a 24-hr composite.
2. The Dischargers shall calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 7.12 of this Order.
3. Applies 5 days per week, except 7 days per week for at least 1 week during July or August of each year.
4. The minimum frequency of monitoring for this constituent shall increase to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.

3.2.4. The Dischargers shall monitor the effluent at Monitoring Location M-001H as described in Table E-6 below.

Table E-6. Effluent Monitoring (M-001H)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer or Calculated	Continuous	--

3.3. Whole Effluent Toxicity Testing Requirements

The WET refers to the overall aggregate toxic effect of an effluent measured directly by an aquatic toxicity test(s). The control of WET is one approach this Order uses to control the discharge of toxic pollutants. 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 effluent limitations for toxicity thereby ensuring that water quality standards are achieved in the receiving water?
(2) If the effluent does not comply with effluent limitations for toxicity, are unmeasured pollutants causing risk to aquatic life?
(3) If the effluent does not comply with effluent limitations for 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 0.42 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 >one parts per thousand (ppt), the Dischargers shall conduct the following chronic toxicity tests on effluent samples, at the Discharge IWC (0.42 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 Dischargers 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 Dischargers 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*/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 24 months of the most recent screening, whichever is later.

For each suite during the species sensitivity screening, the Dischargers 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 Toxic 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 Dischargers shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

Species sensitivity rescreening is required every 24 months. The Dischargers 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).

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 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 Dischargers 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-mircrometer-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 (EC25).

3.3.5.5. The Dischargers 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[4], 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 on the SMR due date specified in Table E-10.

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 Dischargers shall prepare and submit a copy of the Dischargers' 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 Dischargers 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 Dischargers intend to follow if toxicity is detected, and shall include, at a minimum:

- 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 Dischargers' methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facilities; and
- If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

[4] 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

3.3.8. **Accelerated Monitoring Schedule for Maximum Daily Single Result**

The maximum daily single result of greater than or equal to 235 TUc shall be used to determine if accelerated testing needs to be conducted.

Once the Dischargers become aware that the maximum daily single result is greater than or equal to 235 TUc, the Dischargers shall notify the San Diego Water Board and implement an accelerated monitoring schedule within five calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Dischargers shall ensure that the San Diego Water Board is notified, and the first of six accelerated monitoring tests is initiated within seven calendar days of the Dischargers 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 235 TUc, the Dischargers shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in greater than or equal to 235 TUc, the Dischargers shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, chronic toxicity tests results shall be used to determine effluent compliance for the chronic toxicity MDEL.

3.3.9. **TRE Process**

During the TRE Process, minimum effluent monitoring shall resume and results for chronic toxicity tests reported in TUc shall be used to determine effluent compliance for the chronic toxicity MDEL.

3.3.9.1. Preparation and Implementation of Detailed TRE Work Plan. The Dischargers shall immediately initiate a TRE using, according to the type of treatment facility, *USEPA manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) and, within 15 days 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 Dischargers to investigate, identify, and correct the causes of toxicity;
- Actions the Dischargers 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 Dischargers 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 Dischargers 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 Dischargers 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 Dischargers shall provide status updates in the monthly 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.

3.3.9.7. TRE/TIE Final Report. The final TRE/TIE report shall be submitted to the San Diego Water Board within 30 days of report completion. At minimum, the TRE/TIE Final Report should 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 Dischargers to reduce toxicity so that the Dischargers 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.

3.3.9.8. 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

The receiving water monitoring requirements set forth below are designed to measure the effects of the ACOO discharge on the receiving ocean waters, including effects on coastal water quality, seafloor sediments, and marine life. The overall receiving water monitoring program is intended to answer the following questions:

(1) Does the receiving water meet water quality standards?
(2) Are the receiving water conditions getting better or worse over time?
(3) What is the relative contribution of the Facilities discharge to pollution in the receiving water?
(4) What are the effects of the discharge on the receiving waters?

Receiving water in the vicinity of the ACOO shall be conducted as specified below. This program is intended to document conditions, within the zone of initial dilution (ZID), within the waste field where initial dilution is completed, at reference stations, and at other areas beyond the ZID where discharge impacts might be reasonably expected. Station location, sampling, sample preservation, and analyses, when not specified, shall be by methods approved by the San Diego Water Board. The monitoring program may be modified by the San Diego Water Board at any time. The Dischargers may also submit a list of proposed changes with supporting rationale to these monitoring requirements that it considers to be appropriate to the San Diego Water Board for approval.

All receiving water monitoring shall be conducted in accordance with restrictions and requirements established by the State of California Department of Fish and Wildlife and this Order. 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 (GPS).

In the event that the Dischargers are unable to obtain a sample from a monitoring station(s) due to safety, legal, or other reasons, collection of samples at such station(s) can be omitted. If safe, the visual observations listed in footnote no. 1 to Table E-7 below shall still be recorded and reported in the monthly SMR to the San Diego Water Board for these stations at the time of the sample collection. If practicable, an effort should be made to return to the sampling station that was omitted and collect the sample during safer conditions within the same reporting period. In the event that a monitoring location is omitted, the Dischargers shall submit a statement to the San Diego Water Board containing, at a minimum, the following information:

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

4.1. Nearshore and Offshore Water Quality Monitoring Requirements

The nearshore for the purposes of monitoring and assessment is considered to extend from the shoreline to a distance of 1,000 feet from the shoreline or the 30-foot depth

contour, whichever is further from the shoreline. Offshore for the purposes of monitoring and assessment is considered to extend beyond the nearshore zone. Nearshore and offshore monitoring is necessary to answer the following questions:

(1) Is natural light significantly reduced at any point outside the ZID as a result of the discharge?
(2) Does the discharge cause a discoloration of the ocean surface?
(3) Does the discharge of oxygen demanding waste cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally outside the ZID?
(4) Does the discharge of waste cause the pH to change at any time more than 0.2 units from that which occurs naturally outside the ZID?
(5) Does the discharge of waste cause the salinity to become elevated in the receiving water?
(6) Is the wastewater plume encroaching upon receiving water areas used for swimming, surfing, diving, and shellfish harvesting?
(7) What is the fate of the discharge plume?
(8) Is fecal indicator bacteria present outside the ZID? If so, is the bacteria human source?

4.1.1. Nearshore and offshore stations listed in Table E-1 (N1 through N7, A1 through A5, B1, and B2) shall be monitored as described in Table E-7 below:

Table E-7. Nearshore and Offshore Water Quality Monitoring Requirements

Parameter	Units	Sample Type	Sampling Frequency
Visual Observations	--	Visual[1]	1/Quarter
Fecal Coliform	Number/100 ml	Grab[2,3]	1/Quarter
Enterococci	CFU/100 ml	Grab[2,3]	1/Quarter
Temperature and Depth	˚C, meters	[4]	1/Quarter
Dissolved Oxygen	mg/L	[4]	1/Quarter
Light Transmittance	percent	[4]	1/Quarter
pH	standard units	[4]	1/Quarter
Salinity	ppt	[4]	1/Quarter
Colored Dissolved Organic Matter (CDOM)	ppb	[4]	1/Quarter
HF183	Number of copies (molecules)/100 mL	Grab[5]	1/Quarter[6]
Spectrophotometric pH [7]	standard units	Grab	1/Quarter
Alkalinity, Total [7]	mg/L $CaCO_3$	Grab	1/Quarter

Notes for Table E-7

1. Visual observations of the surface water conditions at the designated receiving water stations shall be conducted in such a manner as to enable the observer to describe and report the presence, if any, of floatables of sewage origin. Observations of wind (direction and speed), weather (cloudy, sunny, or rainy), direction of current, tidal conditions (high or low), water color, oil and grease, turbidity, and odor shall be recorded. The proximity of

recreational and commercial vessels to monitoring locations shall also be recorded. These observations shall be taken whenever a sample is collected.
2. At the surface for nearshore stations N1 through N7 and surface and mid-depth for offshore stations A1 through A5, B1, and B2.
3. Samples for fecal coliform and enterococci shall be collected on the same day fecal coliform and enterococci are sampled at monitoring location M-001, if required.
4. For offshore stations A1 through A5, B1, and B2, temperature, depth, dissolved oxygen, light transmittance, CDOM, pH, and salinity profile data shall be measured throughout the entire water column using a conductivity-temperature-depth (CTD) profiler during the quarterly sampling events. Depth profile measurements shall be obtained using multiple sensors to measure parameters through the entire water column (from the surface to as close to the bottom as practicable). For nearshore stations N1 through N7, temperature, depth, dissolved oxygen, light transmittance, pH, CDOM, and salinity shall be measured throughout the entire water column by a CTD profiler or at the surface by grab samples.
5. If required, samples shall be collected at the surface and mid-depth at offshore stations A1 through A4, B1, and B2 and analyzed in accordance with section 4.1.2 of this MRP.
6. HF183 monitoring is required only if the overall compliance rate with the receiving water limitations for bacterial characteristics at section 5.1.1 of this Order is below 90% within a rolling one-year period or a single monitoring location exceeds the bacteria receiving water limitations more than 50% of the time within a rolling one-year period at the offshore stations near the ACOO, excluding offshore station A5 (i.e., offshore stations A1 through A4).
7. Monitoring for alkalinity and spectrophotometric pH is recommended, but not required. If monitoring is conducted, it is recommended that the monitoring be consistent with the methods described in section 4.1.3 of this MRP.

4.1.2. **Human Associated HF183 Genetic Marker Monitoring Requirements.** The human associated HF183 genetic marker (HF183) monitoring requirement specified below is required if the overall compliance rate with the receiving water limitations for bacterial characteristics at section 5.1.1 of this Order is below 90% within a rolling one-year period or a single monitoring location exceeds the bacteria receiving water limitations more than 50% of the time within a rolling one-year period for offshore stations near the ACOO, excluding offshore station A5 (i.e., offshore stations A1 through A4), and the source of the exceedances is unknown. If the source of where the fecal contamination causing the bacteria receiving water limitation exceedances originated is known (e.g., the discharge through the ACOO or some other known source), the Dischargers shall submit a written report to the San Diego Water Board describing the specific cause and source of the exceedances and if human fecal waste is the cause, a strategy for prioritizing the bacterial receiving water sites for remediation. The written report shall be submitted to the San Diego Water Board within 90 days of becoming aware of the cause and source of the exceedances. If the San Diego Water Board concurs with the conclusions of the report, HF183 monitoring is not required. If HF183 monitoring is required, the San Diego Water Board will direct the Dischargers in writing to implement the HF183 monitoring and development of a strategy for remediating the bacterial receiving water sites based on measured human fecal waste levels. The San Diego Water Board will provide the Dischargers with a written

explanation regarding the need for the information and the evidence that supports requiring the Dischargers to provide the information. HF183 monitoring may be terminated once both the source of the bacteria exceedances is determined and the basis for the remediation strategy is determined to the satisfaction of the San Diego Water Board.

4.1.2.1. **Sample Collection.** If required, the Dischargers shall collect samples for HF183 concurrently with samples collected for fecal coliform at the offshore stations A1 through A4, B1, and B2, and in accordance with EPA method 1696, or an alternative method proposed by the Dischargers with comparable accuracy, unless the alternative method is not accepted by the San Diego Water Board. Samples shall be filtered through a membrane filter as soon as possible, but sample filtration shall be initiated no later than 6 hours after sample collection. Following filtration, the membrane filter shall be stored at -80 ºC for later analysis.

4.1.2.2. **Sample Analysis.** If a result for fecal coliform exceeds the single sample maximum receiving water limitation of 400 CFU per 100 mL (section 5.1.1.1.1.2 of this Order), the Dischargers shall analyze the HF183 sample that was collected concurrently with the fecal coliform sample that exceeded the receiving water limitation. Samples shall be analyzed in accordance with EPA method 1696, the droplet digital polymerase chain reaction (ddPCR) method developed by the Southern California Coastal Waters Research Project (SCCWRP), or an alternative method proposed by the Dischargers with comparable accuracy, unless the alternative method is not accepted by the San Diego Water Board. If the Dischargers propose to use the ddPCR method, the Dischargers shall submit a QA/QC procedure for acceptance by the San Diego Water Board. The Dischargers shall follow all quality control and quality assurance procedures outlined in the method or as approved by the San Diego Water Board. If the results for fecal coliform are below receiving water limitations, the Dischargers may discard the HF183 sample.

4.1.2.3. **Sample Results (if applicable).** Sample results for HF183 shall be submitted with the monthly self-monitoring report to the State Water Board's California Integrated Water Quality System (CIWQS) as an attachment in PDF format.

4.1.3. **Total Alkalinity and Spectrophotometric pH Monitoring Requirements.** Monitoring for total alkalinity and spectrophotometric pH is recommended, but not required. The San Diego Water Board recommends using the results for pH measured by spectrophotometric analysis to calibrate the pH results measured by the CTD profiler and to calculate aragonite saturation state. The pH measurements calibrated by the spectrophotometric pH and alkalinity measurements described below will be used for informational purposes only. Compliance with the pH receiving water limitation in section 5.1.3.2 of this Order will be determined based on the pH measurements calibrated according to USEPA approved 40 CFR part 136 methods.

4.1.3.1. **Monitoring Locations and Sample Collection.** If monitoring for spectrophotometric pH and total alkalinity is conducted, the San Diego Water Board recommends that the monitoring be consistent with the methods described in *An evaluation of potentiometric pH sensors in coastal monitoring applications*

(McLaughlin et al. 2017). Grab samples for spectrophotometric pH and alkalinity should be collected at the surface, thermocline, and bottom at offshore stations A1 and B2. It is recommended that a duplicate sample at the bottom at offshore station A1 is collected during each sampling event. For stations A1 and B2, grab samples should be collected by Niskin bottles attached to the same device as the CTD used to collect profile samples. Water from the Niskin bottles should be transferred to 500 mL Pyrex bottles and overfilled by a minimum of 250 mL leaving approximately 1% headspace. All bottles should be fixed with approximately 120 µL of saturated mercury (II) chloride solution and stored at room temperature until analysis.

4.1.3.2. **Sample Analysis.** If monitoring is conducted, the San Diego Water Board recommends the grab samples for pH be measured using the spectrophotometric technique described in *An automated system for spectrophotometric seawater pH measurements* (Carter et al. 2013), estimating pH at 25 degrees Celsius on the total hydrogen ion scale using m-cresol purple dye indicator and pH calibration equations based on *Purification and characterization of meta-cresol purple for spectrophotometric seawater pH measurements* (Liu et al. 2011). It is recommended that grab samples for total alkalinity be measured by a two-stage, potentiometric, and open-celled titration using coulometrically analyzed hydrochloric acid as described in *Reference material for oceanic CO2 analysis: A method for the certification of total alkalinity* (Dickson et al. 2003). The San Diego Water Board recommends the Dischargers use the spectrophotometric pH and total alkalinity results to calibrate and adjust the pH samples collected quarterly by the CTD and to calculate the aragonite saturation state. If results are not available for submittal with the quarterly SMR, the Dischargers may submit the results by email to SanDiego@waterboards.ca.gov.

4.2. Benthic Monitoring Requirements

Seafloor sediments integrate constituents that are discharged to the ocean. Most particles that come from the ACOO discharge, and any associated contaminants, will eventually settle to the seafloor where they are incorporated into the existing sediments. Sediments can accumulate these particles over the years until the point where sediment quality is degraded and beneficial uses are impaired.

Benthic organisms are strongly affected by sediment contaminant exposure because these organisms often live in continual direct contact with sediment/pore water, and many species ingest significant quantities of sediment as a source of nutrition. Because the benthos are dependent on their surroundings, they serve as a biological indicator that reflects the overall conditions of the aquatic environment.

The assessment of sediment quality with respect to sediment chemistry, sediment toxicity and benthic community condition is necessary to answer the following questions:

(1) Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?

(2) Is the concentration of substances set forth in Table 3 of the Ocean Plan for protection of marine aquatic life in marine sediments at levels which would degrade the benthic community?
(3) Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?
(4) Are benthic communities degraded as a result of the discharge?
(5) Is the sediment quality changing over time?

The assessment of sediment quality to evaluate potential effects of the ACOO discharge and compliance with narrative water quality standards specified in the Ocean Plan consist of the measurement and integration of three lines of evidence: 1) physical and chemical properties of seafloor sediments, 2) seafloor sediment toxicity to assess bioavailability and toxicity of sediment contaminants, and 3) ecological status of the biological communities (benthos) that live in or on the seafloor sediments. The Dischargers may request to fulfill the benthic monitoring requirements through a regional monitoring program described in section 5.2 of this MRP.

4.2.1. **Sediment Assessment for Physical and Chemical Properties**

4.2.1.1. **Sediment Sampling Stations and Monitoring Frequency.** The sediment monitoring program is designed to assess spatial and temporal trends at the offshore stations and to assess benthic habitat condition in terms of physical and chemical composition (e.g., grain-size distribution, sediment chemistry). Sediment samples for assessment of sediment chemistry shall be collected once during the permit term at each of the offshore stations listed in Table E-1 (A1 through A5, B1, and B2). Results from sediment monitoring are due no later than 180 days prior to the expiration date of this Order.

4.2.1.2. **Sediment Sample Collection Methods.** Sediment samples shall be taken using a 0.1-square meter modified Van Veen grab sampler. Samples for grain-size and chemical analyses shall be taken from the top two centimeters of the surface sediment. Sediment samples for physical and chemical properties shall be taken concurrently with and adjacent to (as much as possible) the sediment samples for toxicity and benthic community condition. Bulk sediment chemical analysis shall include at a minimum the set of constituents listed in Table E-8.

4.2.1.3. **Sediment Chemistry Test Methods.** Sediment chemistry is the measurement of the concentration of chemicals of concern in sediments. The chemistry line of evidence is used to assess the potential overall exposure risk to benthic organisms from pollutants in surficial sediments. Chemical analysis of sediment shall be conducted using USEPA-approved methods, methods developed by the National Oceanic and Atmospheric Administration's National Status and Trends for Marine Environmental Quality, or methods developed in conjunction with the Southern California Bight Regional Monitoring Program. For chemical analysis of sediment, samples shall be reported on a dry weight basis.

Sediment monitoring for physical and chemical properties shall be conducted at the offshore stations listed in Table E-1 (A1 through A5, B1, and B2) for the parameters identified in Table E-8:

Table E-8. List of Parameters to Characterize Sediment Contamination Exposure and Effect

Parameter	Units	Type of Sample	Minimum Frequency
Sediment Grain Size	micrometer (µm)	Grab	1/Permit Term
Total Organic Carbon	Percent	Grab	1/Permit Term
Total Nitrogen	Percent	Grab	1/Permit Term
Acid Volatile Sulfides	milligram/kilogram (mg/kg)	Grab	1/Permit Term
Dissolved Sulfide	mg/kg	Grab	1/Permit Term
Aluminum	mg/kg	Grab	1/Permit Term
Antimony	mg/kg	Grab	1/Permit Term
Arsenic	mg/kg	Grab	1/Permit Term
Cadmium	mg/kg	Grab	1/Permit Term
Total Chromium	mg/kg	Grab	1/Permit Term
Copper	mg/kg	Grab	1/Permit Term
Iron	mg/kg	Grab	1/Permit Term
Lead	mg/kg	Grab	1/Permit Term
Manganese	mg/kg	Grab	1/Permit Term
Mercury	mg/kg	Grab	1/Permit Term
Nickel	mg/kg	Grab	1/Permit Term
Selenium	mg/kg	Grab	1/Permit Term
Silver	mg/kg	Grab	1/Permit Term
Tin	mg/kg	Grab	1/Permit Term
Zinc	mg/kg	Grab	1/Permit Term
PCBs	nanogram/kilogram (ng/kg)	Grab	1/Permit Term
2,4-DDD	ng/kg	Grab	1/Permit Term
4,4-DDD	ng/kg	Grab	1/Permit Term
2,4-DDE	ng/kg	Grab	1/Permit Term
4,4-DDE	ng/kg	Grab	1/Permit Term
2,4-DDT	ng/kg	Grab	1/Permit Term
4,4-DDT	ng/kg	Grab	1/Permit Term
Aldrin	ng/kg	Grab	1/Permit Term
Alpha-Chlordane	ng/kg	Grab	1/Permit Term
Dieldrin	ng/kg	Grab	1/Permit Term
Endosulfan	ng/kg	Grab	1/Permit Term
Endrin	ng/kg	Grab	1/Permit Term
Gamma-BHC	ng/kg	Grab	1/Permit Term
Heptachlor	ng/kg	Grab	1/Permit Term
Heptachlor Epoxide	ng/kg	Grab	1/Permit Term
Hexachlorobenzene	ng/kg	Grab	1/Permit Term
Mirex	ng/kg	Grab	1/Permit Term
Trans-Nonachlor	ng/kg	Grab	1/Permit Term

Parameter	Units	Type of Sample	Minimum Frequency
Acenaphthene	microgram/ kilogram (µg/kg)	Grab	1/Permit Term
Acenaphthylene	µg/kg	Grab	1/Permit Term
Anthracene	µg/kg	Grab	1/Permit Term
Benzo(a)anthracene	µg/kg	Grab	1/Permit Term
Benzo(b)fluoranthene	µg/kg	Grab	1/Permit Term
Benzo(k)fluoranthene	µg/kg	Grab	1/Permit Term
Benzo(ghi)perylene	µg/kg	Grab	1/Permit Term
Benzo(a)pyrene	µg/kg	Grab	1/Permit Term
Benzo(e)pyrene	µg/kg	Grab	1/Permit Term
Biphenyl	µg/kg	Grab	1/Permit Term
Chrysene	µg/kg	Grab	1/Permit Term
Dibenzo(ah)anthracene	µg/kg	Grab	1/Permit Term
Fluoranthene	µg/kg	Grab	1/Permit Term
Fluorene	µg/kg	Grab	1/Permit Term
Indeno(123cd)pyrene	µg/kg	Grab	1/Permit Term
Naphthalene	µg/kg	Grab	1/Permit Term
1-Methylnaphthalene	µg/kg	Grab	1/Permit Term
2-Methylnaphthalene	µg/kg	Grab	1/Permit Term
2,6-Dimethylnaphthalene	µg/kg	Grab	1/Permit Term
2,3,5-Trimethylnaphthale	µg/kg	Grab	1/Permit Term
Perylene	µg/kg	Grab	1/Permit Term
Phenanthrene	µg/kg	Grab	1/Permit Term
1-Methylphenanthene	µg/kg	Grab	1/Permit Term
Pyrene	µg/kg	Grab	1/Permit Term

4.2.2. **Sediment Toxicity**

4.2.2.1. **Toxicity Sampling Stations and Frequency.** Sediment toxicity is a measure of the response of invertebrates exposed to surficial sediments under controlled laboratory conditions. The sediment toxicity line of evidence is used to assess both pollutant-related biological effects and exposure. Sediment samples for assessment of toxicity shall be monitored once during the permit term at each of the offshore stations listed in Table E-1 (A1 through A5, B1, and B2). Results from sediment toxicity sampling are due no later than 180 days prior to the expiration date of this Order.

4.2.2.2. **Sediment Toxicity Collection Methods.** Sediment samples shall be taken using a 0.1-square meter modified Van Veen grab sampler. Samples for toxicity analyses shall be taken from the top two centimeters of the surface sediment. Sediment samples for toxicity shall be taken concurrently with and adjacent to (as much as possible) the sediment samples for physical and chemical properties, and benthic community condition.

4.2.2.3. **Sediment Toxicity Test Methods.** Sediment toxicity tests shall utilize alternative amphipod species (*Eohaustorius estuaries, Leptocheirus plumulosus, Rhepoxynius abronius*) and be conducted in accordance with EPA 600/R-94/0925 (USEPA, 1994), *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, and the most recent Southern California Bight Project sediment toxicity testing guidelines (currently *Bight'18 Toxicology Laboratory Manual*, B'18 Toxicology Committee, June 27, 2018). Response criteria shall include mortality, emergence from sediment during exposure, and ability to rebury in clean sediment at the end of the 10-day exposure period.

4.2.2.4. **Data Analysis.** Analysis of sediment toxicity shall include a calculation of the mean control normalized response.

4.2.3. **Benthic Community Condition**

4.2.3.1. **Benthic Community Sampling Stations and Frequency.** Sediment samples for assessment of benthic community structure shall be collected once during the permit term at each of the offshore stations listed in Table E-1 (A1 through A5, B1, and B2). One sample per station shall be collected for analysis of benthic community structure. Results from benthic community sampling are due no later than 180 days prior to the expiration date of this Order.

4.2.3.2. **Benthic Community Sample Collection Methods.** Benthic community samples shall be collected using the guidance specified in the most recent field manual developed for the Southern California Bight Regional Monitoring Program (current field operations manual is available at: https://ftp.sccwrp.org/pub/download/BIGHT18/Bight18SedQualityFieldManual.pdf). The benthic samples shall be collected using a 0.1-square meter modified Van Veen grab sampler. These grab samples shall be taken concurrently with and adjacent to (as much as possible) samples collected for sediment physical and chemical properties, and toxicity. The samples shall be sieved using a 1.0-millimeter mesh screen. The benthic organisms retained on the sieve shall be fixed in 10 percent buffered formalin and transferred to at least 70 percent ethanol within two to seven days of storage. All benthic invertebrates in the screened sample shall be identified to the lowest possible taxon and enumerated (counted).

4.2.3.3. **Benthic Community Analysis.** Analysis of benthic community structure shall include determination of the number of species, number of individuals per species, and total numerical abundance present. The following parameters or metrics shall be calculated for each 0.1-square meter grab sample and summarized by station, as appropriate:

- Number of species;
- Total numerical abundance;
- Benthic Response Index (BRI);
- Swartz's 75 percent dominance index;
- Shannon-Weiner's diversity index (H);
- Multivariate pattern analyses (e.g., ordination and classification analyses); and

- Pielou evenness index (J).

4.2.4. **Benthic Monitoring Work Plan**

4.2.4.1. **Benthic Monitoring Work Plan.** The Dischargers shall submit to the San Diego Water Board within 180 days after the effective date of this Order, a Benthic Monitoring Work Plan to implement the sediment monitoring program. The Benthic Monitoring Work Plan is not required if the Dischargers are fulfilling the benthic monitoring requirements contained in Attachment E sections 4.2.1 through 4.2.3 by participating in a regional monitoring program, as described in Attachment E section 5.2. If required, the Benthic Monitoring Work Plan shall include the following elements:

- A Quality Assurance Project Plan (QAPP) describing the project objectives and organization, functional activities, and quality assurance/quality control protocols;
- Protocols for sediment sample collection and processing;
- Proposed methods for analyzing sediment data and integrating the three lines of evidence (i.e., sediment physical and chemical properties, sediment toxicity, and benthic community condition); and
- Schedule for completion of sample collection and submission of the results.

4.2.4.2. **Benthic Monitoring Work Plan Implementation.** The Dischargers shall implement the Benthic Monitoring Work Plan sixty (60) days after submission of the Benthic Monitoring Work Plan, unless otherwise directed in writing by the San Diego Water Board. The Dischargers shall notify the San Diego Water Board of the intent to initiate the proposed actions included in the Benthic Monitoring Work Plan; and comply with any conditions set by the San Diego Water Board.

4.3. Fish and Macroinvertebrates Monitoring Requirements

Many pollutants discharged into receiving waters have the potential to bioaccumulate and persist in tissues of aquatic organisms, including marine fishes. Chemical pollutants that bioaccumulate tend to biomagnify as they pass through the aquatic food chain. Therefore, fish monitoring data is required to assess the human health risks for individuals who may consume fish and to assess trends of contaminants levels in fish tissue over time.

Aquatic benthic macroinvertebrates are excellent indicators of ecosystem health because they are ubiquitous, abundant, diverse, and typically sedentary. The growth, survival, and reproduction of many species of aquatic invertebrates are all sensitive to changes in environmental health, making analysis of assemblage structure a good ecosystem monitoring tool.

Fish and invertebrate monitoring is necessary to answer the following questions:

(1) Does the concentration of pollutants in fish, shellfish, or other marine organisms used for human consumption bioaccumulate to levels that are harmful to human health?
(2) Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

(3) Are the concentrations of pollutants in fish and other marine organisms changing over time?
(4) Is the health of fish changing over time?
(5) Are the populations of selected species of fish and invertebrates changing over time?

The Dischargers may request to fulfill the fish and macroinvertebrate monitoring requirements through a regional monitoring program described in section 5.2 of this MRP.

4.3.1. **Fish and Macroinvertebrate Diver Surveys**

4.3.1.1. **Fish and Macroinvertebrate Diver Survey Frequency**. Diver surveys shall be conducted once during the permit term to assess the structure of fish and macroinvertebrates communities. The Dischargers shall notify the San Diego Water Board of the intent to initiate the diver surveys, no later than 30 days before the survey. Results from the diver surveys are due no later than 180 days prior to the permit expiration date.

4.3.1.2. **Fish and Macroinvertebrate Diver Survey Method and Location.** Diver surveys shall be conducted at the 20, 40, 60, and 80-foot depth contours at stations listed in Table E-1 (T1, T2, and T3). Sampling techniques shall follow those employed by biological divers of the California State Department of Fish and Wildlife.

4.3.1.2.1. In rocky or cobble areas, a 30-meter band transect, two meters wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) recording of water temperature (may be measured from a boat) and estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom; (2) recording of general bottom description; (3) enumeration and size estimation of the larger plants and animals in the band transect area; (4) development of a representative photographic record of the sample area; and (5) within each band, three ¼-meter square areas shall be randomly selected, and all macroscopic plant and animal life shall be identified within each square to as low a taxon as possible, and measured.

4.3.1.2.2. In sandy areas, a 30-meter band transect, two meters wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) recording of water temperature (may be measured from a boat), and estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom; (2) recording of general bottom description; (3) enumeration by estimate of the larger plants and animals in the band transect area; (4) recording of height, period, and crest direction of ripple marks; (5) recording of amount, description, and location of detritus on bottom; and (6) creation of a representative photographic record of the area sampled; (7) within each band, three cores of at least 42.5 centimeter squared in area shall be randomly taken to a depth of 15 centimeter where possible, (the three cores may be taken from a boat) and the material removed sifted through at least a 1-millimeter mesh screen, and all organisms identified to as low a taxon as

possible, enumerated, measured, and reproductive conditions assessed where feasible.

4.3.1.3. **Fish and Macroinvertebrate Community Structure Analysis.** All fish and macroinvertebrates shall be identified to species if possible. For fish, community structure analysis shall consist of determining the total number of individuals per species, the total numerical abundance of all fish, species richness, species diversity (H'), and multivariate pattern analyses (e.g., ordination and classification analyses). For macroinvertebrates, community structure shall be summarized as the total number of individuals per species, the total numerical abundance of all invertebrates, species richness, and species diversity (H').

4.3.2. **Rig Fishing**

4.3.2.1. **Rig Fishing Frequency.** Fish muscle tissues shall be analyzed once during the permit term from fishes collected in each of the two rig fishing zones described below in order to monitor the uptake of pollutants in selected species. The Dischargers shall notify the San Diego Water Board of the intent to initiate sample collection, no later than 30 days before sampling. Results from the fish muscle tissue analyses are due no later than 180 days prior to the expiration date of this Order.

4.3.2.2. **Rig Fishing Method and Location.** The fish shall be collected by hook and line or by setting baited lines from within zones surrounding rig fishing stations RF1 and RF2, listed in Table E-1. Rig Fishing Zone 1 is the nearfield area centered within a 0.5-km radius of station RF1 and Rig Fishing Zone 2 represents the southern farfield area centered within 1-km radium of station RF2. There are no depth requirements for these two rig fishing zones with regards to the collection of fishes for tissue analysis. Fish samples shall be identified to species, with number of individuals per species, standard length and wet weight recorded. Each individual fish used for fish tissue analysis shall be aged using otoliths or scales. Physical abnormalities or disease symptoms (e.g., fin rot, lesions, and tumors) and external parasites shall also be recorded and itemized.

4.3.2.3. **Rig Fishing Targeted Species.** The species of fish targeted for tissue analysis from the rig fishing stations shall include the following:

4.3.2.3.1. Flatfish, including but not limited to Pacific sanddab (*Citharichthys sordidus*), longfin sanddab (*Citharichthys xanthostigma*), bigmouth sole (*Hippoglossina stomata*), and hornyhead turbot (*Pleuronichthys verticalis*). If sufficient numbers of these primary flatfish species are not present in a zone, secondary candidate species such as the California scorpionfish (*Scorpaena guttata*) and halfbanded rockfish (*Sebastes semicinctus*), or other demersal fish species commonly found around the ACOO may be collected as necessary. The Dischargers shall analyze the liver tissue for the parameters in Table E-9.

4.3.2.3.2. Rockfish (*Sebastes spp.*), excluding species restricted by the California Department of Fish and Wildlife. Species shall be representative of those caught by recreational and/or commercial fishery activities in the region. If sufficient numbers of rockfish are not present or cannot be caught in a particular zone,

secondary target species (e.g., scorpionfish and lingcod) may be collected and analyzed as necessary. The Dischargers shall analyze the muscle tissue for the parameters listed in Table E-9.

4.3.2.4. **Rig Fishing Collection.** Three replicate composite samples of the target species shall be obtained from each zone, with each composite consisting of a minimum of three individual fish. Muscle tissue (for rockfish) or liver tissue (for flatfish) shall be chemically analyzed for the constituents specified in Table E-9 below.

Table E- 9. List of Parameters to Characterize Fish Tissue

Parameter	Units	Type of Sample	Minimum Frequency
Total Lipids	Percent	Composite	1/Permit Term
Aluminum	mg/kg	Composite	1/Permit Term
Antimony	mg/kg	Composite	1/Permit Term
Arsenic	mg/kg	Composite	1/Permit Term
Cadmium	mg/kg	Composite	1/Permit Term
Chromium	mg/kg	Composite	1/Permit Term
Copper	mg/kg	Composite	1/Permit Term
Iron	mg/kg	Composite	1/Permit Term
Lead	mg/kg	Composite	1/Permit Term
Manganese	mg/kg	Composite	1/Permit Term
Mercury	mg/kg	Composite	1/Permit Term
Nickel	mg/kg	Composite	1/Permit Term
Selenium	mg/kg	Composite	1/Permit Term
Silver	mg/kg	Composite	1/Permit Term
Tin	mg/kg	Composite	1/Permit Term
Zinc	mg/kg	Composite	1/Permit Term
PCBs	ng/kg	Composite	1/Permit Term
2,4-DDD	ng/kg	Composite	1/Permit Term
4,4-DDD	ng/kg	Composite	1/Permit Term
2,4-DDE	ng/kg	Composite	1/Permit Term
4,4-DDE	ng/kg	Composite	1/Permit Term
2,4-DDT	ng/kg	Composite	1/Permit Term
4,4-DDT	ng/kg	Composite	1/Permit Term
Aldrin	ng/kg	Composite	1/Permit Term
Alpha-Chlordane	ng/kg	Composite	1/Permit Term
Dieldrin	ng/kg	Composite	1/Permit Term
Endosulfan	ng/kg	Composite	1/Permit Term
Endrin	ng/kg	Composite	1/Permit Term
Gamma-BHC	ng/kg	Composite	1/Permit Term
Heptachlor	ng/kg	Composite	1/Permit Term
Heptachlor Epoxide	ng/kg	Composite	1/Permit Term
Hexachlorobenzene	ng/kg	Composite	1/Permit Term
Mirex	ng/kg	Composite	1/Permit Term
Trans-Nonachlor	ng/kg	Composite	1/Permit Term

Parameter	Units	Type of Sample	Minimum Frequency
Acenaphthene	µg/kg	Composite	1/Permit Term
Acenaphthylene	µg/kg	Composite	1/Permit Term
Anthracene	µg/kg	Composite	1/Permit Term
Benzo(a)anthracene	µg/kg	Composite	1/Permit Term
Benzo(b)fluoranthene	µg/kg	Composite	1/Permit Term
Benzo(k)fluoranthene	µg/kg	Composite	1/Permit Term
Benzo(ghi)perylene	µg/kg	Composite	1/Permit Term
Benzo(a)pyrene	µg/kg	Composite	1/Permit Term
Benzo(e)pyrene	µg/kg	Composite	1/Permit Term
Biphenyl	µg/kg	Composite	1/Permit Term
Chrysene	µg/kg	Composite	1/Permit Term
Dibenzo(a,h)anthracene	µg/kg	Composite	1/Permit Term
Fluoranthene	µg/kg	Composite	1/Permit Term
Fluorene	µg/kg	Composite	1/Permit Term
Indeno (1,2,3-cd) pyrene	µg/kg	Composite	1/Permit Term
Naphthalene	µg/kg	Composite	1/Permit Term
1-Methylnaphthalene	µg/kg	Composite	1/Permit Term
2-Methylnaphthalene	µg/kg	Composite	1/Permit Term
2,6-Dimethylnaphthalene	µg/kg	Composite	1/Permit Term
2,3,5-Trimethylnaphthale	µg/kg	Composite	1/Permit Term
Perylene	µg/kg	Composite	1/Permit Term
Phenanthrene	µg/kg	Composite	1/Permit Term
1-Methylphenanthene	µg/kg	Composite	1/Permit Term
Pyrene	µg/kg	Composite	1/Permit Term

4.4. California Environmental Data Exchange Network

In addition to submitting SMRs, the Dischargers shall also ensure that all the receiving water monitoring results are submitted to the California Environmental Data Exchange Network (CEDEN) or an equivalent database that is linked to CEDEN no later than 120 days after analyses have been completed or reports are received if analyses are conducted by an outside laboratory. Any data not accepted by CEDEN is not required to be submitted. A statement certifying that all applicable monitoring results have been timely uploaded into CEDEN or an equivalent database shall be submitted annually by March 1 of each year. Only monitoring results from the following requirements shall be reported in CEDEN:

- Nearshore and offshore water quality (section 4.1 of this MRP);
- Sediment assessment for physical and chemistry properties (section 4.2.1 of this MRP);
- Sediment toxicity (section 4.2.2 of this MRP);
- Benthic community condition (section 4.2.3 of this MRP);
- Fish and macroinvertebrate diver surveys, when CEDEN is updated to accept the data (section 4.3.1 of this MRP);
- Rig fishing (section 4.3.2 of this MRP); and

- Unified Beach Water Quality Monitoring and Assessment Program (section 5.3 of this MRP).

4.5. Receiving Water Status and Trends

4.5.1. **Receiving Water Monitoring Report.** The Dischargers shall submit a receiving water monitoring report once no later than 180 days prior to the expiration date of this Order. The receiving water monitoring report shall cover the following requirements:

- Nearshore and offshore water quality (section 4.1 of this MRP);
- Sediment assessment for physical and chemistry properties (section 4.2.1 of this MRP);
- Sediment toxicity (section 4.2.2 of this MRP);
- Benthic community condition (section 4.2.3 of this MRP);
- Fish and macroinvertebrate diver surveys (section 4.3.1 of this MRP);
- Rig fishing (section 4.3.2 of this MRP); and
- Plume tracking, if applicable (section 6.2 of this MRP).

4.5.2. The report shall include, as a minimum, the following information:

- A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.);
- A description of sampling stations, including, if such information is available, differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.);
- A description of the sample collection and preservation procedures used in the survey;
- A description of the specific method used for laboratory analysis;
- An in-depth discussion, evaluation (e.g., detailed statistical analyses), interpretation and tabulation of the data including interpretations and conclusions as to whether applicable receiving water limitations in this Order have been attained at each station;
- A narrative summary of general observations, including any abnormal conditions; and
- An in-depth discussion addressing the questions proposed in each section of the Receiving Water Monitoring Requirements of this MRP.

4.5.3. **State of the Ocean Report.** The Dischargers shall present an oral report to the San Diego Water Board summarizing the conclusions of the receiving water monitoring report. The State of the Ocean Report shall be given once no later than 180 days prior to the expiration date of this Order. If an oral report cannot be scheduled for a San Diego Water Board meeting, the San Diego Water Board may approve submission of a written State of the Ocean Report. The State of the Ocean Report shall include, at minimum, the following elements:

- Description of the monitoring effort completed;
- The status and trends of receiving water quality conditions; and
- Plans for future monitoring efforts.

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 inter-calibration exercise. The coalitions 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 Dischargers 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 answer the following questions:

(1) What are the status and trends of conditions in ocean waters in the San Diego Region with regard to beneficial uses? For example:
   i. Are fish and shellfish safe to eat?
   ii. Is water quality safe for swimming?
   iii. Are ecosystems healthy?
(2) What are the primary stressors causing or contributing to conditions of concern?
(3) What are the major sources of the stressors causing or contributing to conditions of concern?
(4) Are the actions taken to address such stressors and sources effective (i.e., environmental outcomes)?

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

- The Ocean Plan;
- San Diego Water Board Resolution No. R9-2012-0069, *Resolution in Support of a Regional Monitoring Framework*;
- San Diego Water Board staff report entitled *A Framework for Monitoring and Assessment in the San Diego Region*; and
- Other guidance materials, as appropriate.

5.1. Kelp Bed Canopy Monitoring Requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (*Macrocystis pyrifera*) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of

coastal and island communities in southern California, providing food and habitat for numerous animals. Monitoring of the kelp beds is necessary to answer the following questions:

(1) What is the maximum areal extent of the coastal kelp bed canopies each year?
(2) What is the variability of the coastal kelp bed canopy over time?
(3) Are coastal kelp beds disappearing? If yes, what are factors that could contribute to the disappearance?
(4) Are new coastal kelp beds forming?

The Dischargers shall participate with other Southern California ocean dischargers in an ongoing regional survey of coastal kelp beds in the Southern California Bight. The intent of these surveys is to provide an indication of the health of these kelp beds, recognizing that the extent of kelp bed canopies may change due to a variety of influences.

Kelp beds shall be monitored by means of vertical aerial infrared photography to determine the maximum areal extent of the canopies of coastal kelp beds each year. Surveys shall be conducted as close as possible to when kelp bed canopies are at their greatest extent during the year. The entire San Diego Region coastline, from the international boundary to the San Diego Region/Santa Ana Region boundary shall be photographed on the same day.

Annually by October 1, the Dischargers shall submit to the San Diego Water Board a report which summarizes the data, analyses, assessment, and images produced by the surveys. The report is a joint collaboration among multiple ocean dischargers in the Southern California (e.g., Regional 9 Kelp Survey Consortium member agencies). In addition to the kelp bed canopies, the images shall show onshore reference points, locations of all ocean outfalls and diffusers, artificial reefs, areas of known hard-bottom substrate (i.e., rocky reefs), and depth contours at intervals of 30-feet mean lower low water (MLLW). The report shall also be made available in a user-friendly format on a website that is readily available to the public.

The surveys shall be conducted on a “continuous improvement” basis, as needed improvements shall be made in monitoring, analysis, assessment, and/or documentation. For example, these could include:

- More sophisticated analysis of patterns, correlations, and cycles that may be related to the extent of kelp bed canopies; or
- Projects to improve understanding of influences on kelp beds or of how the extent of the canopies of various kelp beds has changed since the early 20th century.

5.2. Southern California Bight Monitoring Program Participation Requirements

The Dischargers shall, as directed by the San Diego Water Board, 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.

During these coordinated sampling efforts, a portion of the Dischargers' receiving water sampling and analytical effort, as defined in section 4 of this MRP, may be reallocated to provide a regional assessment of the impact of the discharge of wastewater to the Southern California Bight. In that event, the San Diego Water Board shall notify the Dischargers in writing that a portion of the requirements to perform the receiving water sampling and analytical effort defined in section 4 of this MRP is suspended for the duration of the reallocation. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The level of resources in terms of sampling and analytical effort redirected from the receiving water monitoring program required under section 4 of this MRP shall approximately equal the level of resources provided to implement the regional monitoring and assessment program, unless the San Diego Water Board and the Dischargers agree otherwise. The specific scope and duration of the receiving water monitoring program reallocation and redirection shall be determined in writing by the San Diego Water Board, in consultation with the Dischargers.

5.3. Unified Beach Water Quality Monitoring and Assessment Program

The Dischargers shall continue to participate in the Unified Regional Beach Water Quality Monitoring and Assessment Program in south Orange County in collaboration with the south Orange County MS4 copermittees and Orange County Health Care Agency.

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

All receiving water monitoring results obtained through the Unified Beach Water Quality Monitoring and Assessment Program shall be uploaded to CEDEN as described in section 4.4 of this MRP.

6. Special Studies Requirements

6.1. Climate Change Action Plan

The Dischargers shall prepare and submit a Climate Change Action Plan (CCAP) within three years of the effective date of this Order. The Dischargers 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 (CO_2) from human activity. The increased CO_2 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 and wildfires, 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 Facilities (including sewers, pipes and other conveyances), and operations ability to meet the requirements of this Order due to climate change if current trends continue. The CCAP shall also identify steps being taken or planned to address greenhouse gas emissions attributable to wastewater treatment plants, solids handling, and effluent discharge processes.

The CCAP shall also identify steps being taken or planned to address flooding, sea level rise, and wildfire risks; volatile rain period impacts (both dry and wet weather); challenges in accommodating high and low wastewater flows; impacts on process design parameters due to higher biochemical oxygen demand, ammonia (as N), and TSS influent concentrations; impacts on wastewater treatment operations and quality; the potential need to adjust NPDES permit conditions and the Dischargers' pollution control program; 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.

6.2. Plume Tracking Study

Plume tracking is a single study or ongoing program designed to assess dispersion and fate of the wastewater plume discharged from the ACOO. The Dischargers may delay the implementation of the Plume Tracking Study to coordinate the sampling effort with the San Juan Creek Ocean Outfall. However, the Dischargers shall still comply with requirements to submit a Plume Tracking Monitoring Plan (PTMP) Work Plan and PTMP as described in sections 6.2.2 and 6.2.3 of this MRP, respectfully. The Plume Tracking Study shall be designed to address, at minimum, the following questions:

(1) Are the current monitoring locations and methods adequate to determine whether the wastewater plume is encroaching on water recreational areas, including, but not limited to, areas used for swimming, scuba diving, surfing, and fishing? If not, what monitoring locations and/or methods are more appropriate?
(2) How does the brine discharge from the Irvine Desalter Project PWTS, South Coast Water District Aliso Creek WRF, and future brine discharges (along with increased recycled water use and decreased outfall discharge flows) affect the dynamics of the wastewater plume and initial dilution?
(3) Does the wastewater plume have the potential to interact with wastewater plumes from other ocean outfalls or other sources of pollution, such as storm water?
(4) What is the fate of the wastewater plume in typical and atypical oceanographic conditions, and when and under what conditions is the wastewater plume no longer distinguishable from ambient receiving water?
(5) What parameters are most useful for assessing the presence of a wastewater plume?

(6) What is the variability in the degree of initial dilution that occurs under typical and atypical oceanographic conditions?
(7) At what distance is the wastewater plume no longer distinguishable from the ambient receiving water?

The Dischargers shall develop and submit the following:

6.2.1. **Conceptual Site Model (CSM).** The Dischargers shall construct a CSM based on available site-specific data such as the effluent quality at ACOO, occurrence of waste constituents in the receiving water and sediment, and direction and magnitude of surface and subsurface currents. The CSM shall include three-dimensional spatial extent and temporal variability of the waste constituents in the receiving water; and the location and exposure points of actual and potential receptors (humans and marine life).

The CSM shall be refined and updated as data becomes available. The initial CSM shall include a discussion of the level of uncertainty of conclusions, outline data gaps in the initial CSM, and describe the additional work needed to complete the CSM. Updates to the CSM shall be included in the plume tracking semiannual progress reports required in section 6.2.4 of this MRP. The initial CSM shall be submitted to the San Diego Water Board with the work plan described in section 6.2.2 of this MRP.

6.2.2. **Plume Tracking Monitoring Plan (PTMP) Work Plan.** The Dischargers shall develop and submit to the San Diego Water Board within 180 days of the effective date of this Order, a PTMP Work Plan designed to guide the collection of information to produce the final PTMP described in section 6.2.3 of this MRP. The PTMP Work Plan shall include, but is not limited to, the following:

6.2.2.1. The CSM;

6.2.2.2. Evaluation of available technology that may assist with the Plume Tracking Study;

6.2.2.3. Specific questions that will be answered with the Plume Tracking Study;

6.2.2.4. A description of the approach to be taken for conducting a feasibility analysis for:

6.2.2.4.1. Installation and operation by the Dischargers of a permanent, real-time oceanographic mooring system located near the terminal diffuser structure of the ACOO;

6.2.2.4.2. Utilizing advanced oceanographic sampling technologies such as an autonomous underwater vehicle (AUV) or remotely operated towed vehicle (ROTV) either alone or in conjunction with an ACOO real-time mooring; and

6.2.2.4.3. An alternative method identified during the evaluation of available technologies that may assist with the PTMP.

6.2.2.5. Schedule for completion of all activities and submission of a final PTMP report as described in section 6.2.3 below.

The Dischargers shall implement the PTMP Work Plan to develop the final PTMP as directed by the San Diego Water Board sixty (60) days after Board approval of the PTMP Work Plan. The Dischargers shall notify the San Diego Water Board of the

intent to initiate the proposed actions included in the PTMP Work Plan; and comply with any conditions set by the San Diego Water Board.

6.2.3. **Plume Tracking Monitoring Plan (PTMP).** The Dischargers shall, in consultation with the San Diego Water Board, prepare and submit a final PTMP, prepared in accordance with the approved PTMP Work Plan, to evaluate dispersion and fate of the wastewater plume discharged from the ACOO. The PTMP shall include, but is not limited to, the following elements:

6.2.3.1. A feasibility analysis, including an assessment of advantages, disadvantages, cost, usefulness, and effectiveness of the following:

6.2.3.1.1. Installation and operation by the Dischargers of a permanent, real-time oceanographic mooring system located near the terminal diffuser structure of the ACOO. The mooring system shall be designed to measure, at minimum, direction and velocity of subsurface currents, and ocean stratification. If determined to be feasible, this element shall also include:

6.2.3.1.1.1. A plan for implementation of the ACOO real-time mooring system, including data acquisition and processing; and

6.2.3.1.1.2. Provision for networking the ACOO system to be compatible with similar systems being deployed by other dischargers in the San Diego Region, as well as a third-party system operated by the University of California, San Diego, Scripps Institution of Oceanography in the coastal waters off the City of Del Mar.

6.2.3.1.2. Utilizing advanced oceanographic sampling technologies such as an AUV or ROTV either alone or in conjunction with an ACOO real-time mooring system.

6.2.3.1.3. An alternative approach proposed by the Dischargers to answer the questions posed above for the Plume Tracking Study, if applicable.

6.2.3.2. A detailed description of recommended actions;

6.2.3.3. A monitoring plan to implement the recommended actions; and

6.2.3.4. A detailed description and schedule for completion of all activities planned to implement the recommendations in the PTMP, and the schedule for submission of the final results of the PTMP as described in section 6.2.5 of this MRP.

The PTMP shall be submitted in accordance with the timeframe outlined in the approved PTMP Work Plan described in section 6.2.2 of this MRP.

6.2.4. **PTMP Implementation.** The Dischargers shall initiate implementation of the PTMP sixty (60) days after submission in accordance with the schedule contained in the PTMP, unless otherwise directed by the San Diego Water Board. The Dischargers shall notify the San Diego Water Board of the intent to initiate the proposed actions included in the PTMP; and comply with any conditions set by the San Diego Water Board. The Dischargers shall submit semiannual progress reports on implementation of the PTMP to the San Diego Water Board on February 1 and August 1 of each year.

6.2.5. **Plume Tracking Study Results.** Unless otherwise directed by the San Diego Water Board, the final results of the Plume Tracking Study shall be submitted with the Receiving Water Monitoring Report and be included in the State of the Ocean report required in section 4.5 of this MRP. The Receiving Water Monitoring Report shall include in-depth discussion, evaluation, interpretation, and tabulation of the project data. Report interpretations and conclusions shall include the state of the receiving waters around the ACOO and the estimated locations of the ACOO plume during the study.

6.2.6. **Receiving Water Monitoring Recommendations Report.** The Dischargers shall submit a Receiving Water Monitoring Recommendations Report that includes recommendations for future nearshore and offshore monitoring, including potential modifications to the locations of monitoring stations to better assess the impact of the discharge through the ACOO. The Dischargers shall also evaluate the feasibility of event-based monitoring, including collecting samples during certain oceanographic conditions at locations where the plume is most likely to occur. The Receiving Water Monitoring Recommendations Report shall be submitted to the San Diego Water Board no later than 180 days after the completion of the Plume Tracking Study, unless an extension is granted by the San Diego Water Board.

7. Reporting Requirements

7.1. General Monitoring and Reporting Requirements

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

7.1.2. The Dischargers 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 Dischargers shall electronically submit SMRs using the State Water Board's CIWQS program website (https://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 or unplanned service interruption for electronic submittal. SMRs must be signed and certified as required by section 5 of the Standards Provisions (Attachment D). The Dischargers 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 Dischargers shall report in the SMR the results for all monitoring specified in this MRP under sections 3 through 4. The Dischargers shall submit SMRs including the results of all required monitoring using USEPA-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 Dischargers monitor 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. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling.
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling.
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 February 1
Once during the permit term	Permit effective date	Permit term	No later than 180 days prior to the expiration date of this Order

7.2.4. **Reporting Protocols.** The Dischargers 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 CFR part 136.

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

7.2.4.1. 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).

7.2.4.2. 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 (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

7.2.4.4. 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 are the Dischargers to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

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

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

7.2.6.1. 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.

7.2.6.2. 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.

7.2.7. The Dischargers shall submit SMRs in accordance with the following requirements:

7.2.7.1. The Dischargers 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 Dischargers are 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 Dischargers shall electronically submit the data in a tabular format as an attachment.

7.2.7.2. The Dischargers shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements and/or exceedance of performance goals; 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.

7.2.7.3. The Dischargers shall add all violations, including violations of receiving water limitations, to CIWQS under the “Violations” tab.

7.3. Discharge Monitoring Reports (DMRs)

The DMRs are USEPA reporting requirements. The Dischargers shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports (eSMR) module eSMR 2.5 or any upgraded version. Electronic DMRs submittal shall be in addition to eSMR submittal. Information about electronic DMRs submittal is available at the DMR website (https://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/).

7.4. Other Reports

The following reports are required under Special Provisions (sections 4.1, 6.1, and 6.3 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-11. Other Reports

Report	Location of requirement	Due Date
Report of Waste Discharge (ROWD) (for reissuance)	Page 2 of the Order	No later than 180 days before the Order expiration date
Performance Goal Exceedance Investigation Work Plan	Section 4.1.2	30 days after the third successive exceedance of a performance goal

Report	Location of requirement	Due Date
Performance Goal Exceedance Report	Section 4.1.2	As specified in the Performance Goal Exceedance Investigation Work Plan
Aliso Creek Ocean Outfall Capacity Report	Section 6.3.5.1.	No later than 180 days prior to this Order's expiration date
Treatment Plant Capacity Report	Section 6.3.5.2	Four years prior to reaching plant design capacity[1]
Annual Pretreatment Report	Section 6.3.5.3.4	Annually no later than March 1
Annual Biosolids Report	Section 6.3.5.4.8	Annually no later than February 19
Asset Management Plan	Section 6.3.5.7	Within 180 days of the effective date of this Order
DMR-QA Study	Section 1.7 of this MRP	Annually no later than December 31[2]
Initial Investigation TRE Work Plan	Section 3.3.7 of this MRP	Within 90 days of the effective of this Order
Benthic Monitoring Work Plan	Section 4.2.4 of this MRP	Within 180 days of the effective date of this Order
California Environmental Data Exchange Network Data Submittal Certification	Section 4.4 of this MRP	Annually no later than March 1
Receiving Water Monitoring Report	Section 4.5.1 and 4.5.2 of this MRP	No later than 180 days prior to the expiration date of this Order
State of the Ocean Report	Section 4.5.3 of this MRP	No later than 180 days prior to the expiration date of this Order
Kelp Bed Canopy Report	Section 5.1 of this MRP	Annually no later than October 1
CCAP	Section 6.1 of this MRP	No later than three years of the effective date of this Order
PTMP Work Plan	Section 6.2.2 of this MRP	Within 180 days of the effective date of this Order
PTMP	Section 6.2.3 of this MRP	As specified in the Plume Tracking Monitoring Plan Work Plan
Plume Tracking Semiannual Progress Report	Section 6.2.4 of this MRP	After implementation of PTMP January 1 through June 30: due August 1 July 1 through December 31: due February 1
Receiving Water Monitoring Recommendations Report	Section 6.2.5 of this MRP	No later than 180 days after the completion of the Plume Tracking Study

Notes for Table E-11

1. Submit in person or by mail to the San Diego Water Board office (2375 Northside Drive. Suite 100, San Diego, CA 92108) or by email at SanDiego@waterboards.ca.gov.
2. See section 1.7. of this MRP for instructions on how to submit the study.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section 2.2 of this Order, the California Regional Water Quality Control Board, San Diego Region (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 the State of California (State). Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to these Dischargers. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to these Dischargers.

1. Permit Information

The following table summarizes administrative information related to the Facilities.

Table F-1. Facility Information

Type of Information	Facility/Discharger Information
WDID	9 000000117
Discharger(s)	For purposes of this Order including this Fact Sheet and Attachments A through E, the term "Discharger(s)" shall mean South Orange County Wastewater Authority (SOCWA), Irvine Ranch Water District, El Toro Water District, Moulton Niguel Water District (MNWD), and/or South Coast Water District.
Name of Discharge Structure	Aliso Creek Ocean Outfall (ACOO)
Facility and Facility Address	MNWD Regional Treatment Plant (MNWD RTP) 29201 La Paz Road, Laguna Niguel, CA 92677, Orange County
Facility and Facility Address	SOCWA Coastal Treatment Plant (SOCWA CTP) 28303 Alicia Parkway, Laguna Niguel, CA 92677, Orange County
Facility and Facility Address	Irvine Ranch Water District Los Alisos Water Reclamation Plant (WRP) 22312 Muirlands Boulevard, Lake Forest, CA 92630, Orange County
Facility and Facility Address	El Toro Water District WRP 23542 Moulton Parkway, Laguna Woods, CA 92637, Orange County
Facility and Facility Address	Irvine Desalter Project Portable Water Treatment System (PWTS) 26 Waterworks Way, Irvine, CA 92618, Orange County
Facility and Facility Address	Irvine Desalter Project Shallow Groundwater Unit (SGU) 7000 Marine Way, Irvine, CA 92620, Orange County
Facility and Facility Address	South Coast Water District Aliso Creek Water Reclamation Facility (WRF) 28303 Alicia Parkway, Laguna Niguel, CA 92677, Orange County
Facility Contact, Title and Phone	Betty Burnett, General Manager, (949) 234-5420

Authorized Person to Sign and Submit Reports	Betty Burnett, General Manager, (949) 234-5420
Mailing Address	34156 Del Obispo Street, Dana Point, CA 92629
Billing Address	Same as mailing address
Type of Facility	Publicly-owned Treatment Works (POTW), surface water and groundwater desalination facility, and groundwater treatment facility
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Recycling Requirements	Producer and Distributor (regulated under separate waste discharge requirements (WDRs))
Facility Permitted Flow	• MNWD RTP – 12.0 million gallons per day (MGD) • SOCWA CTP – 6.7 MGD • Los Aliso WRP – 7.5 MGD • El Toro Water District WRP – 6.0 MGD • Irvine Desalter Project PWTS – 1.0 MGD • Irvine Desalter Project SGU – 0.85 MGD • South Coast Water District Aliso Creek WRF – 0.32 MGD • Combined Discharge to the ACOO – 34.37 MGD
Facility Design Flow	• MNWD RTP – secondary-treatment capacity of 12.0 MGD, tertiary-treatment capacity of 9 MGD • SOCWA CTP – secondary-treatment capacity of 6.7 MGD • Los Aliso WRP – secondary-treatment capacity of 7.5 MGD, tertiary-treatment capacity of 5.5 MGD • El Toro Water District WRP – secondary-treatment capacity of 6.0 MGD, tertiary-treatment capacity of 3.7 MGD • Irvine Desalter Project PWTS – extract and treat up to 6 MGD of groundwater to produce up to 1 MGD of waste brine • Irvine Desalter Project SGU – extract and treat up to 0.85 MGD of groundwater • ACOO – 34.37 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

1.1. SOCWA is a public joint powers authority established pursuant to California Government Code section 6500 et seq. and owned by the following member agencies: the City of Laguna Beach, the City of San Clemente, the City of San Juan Capistrano, El Toro Water District, Emerald Bay Service District, Irvine Ranch Water District, Moulton Niguel Water District, Santa Margarita Water District, South Coast Water District (SCWD), and Trabuco Canyon Water District.

MNWD is the owner and operator of the MNWD RTP (a POTW).

SOCWA CTP (a POTW), associated land outfalls, Effluent Transmission Main (ETM), and the ACOO.

The SCWD is the owner and operator of the Advanced Wastewater Treatment Plant (AWT, a POTW) at the SOCWA CTP and the South Coast Water District Aliso Creek WRF, a water harvesting and treatment system located at the SOCWA CTP.[5]

The Irvine Ranch Water District independently owns and operates the Los Aliso WRP (a POTW). The Irvine Ranch Water District also owns and operates the Irvine Desalter Project PWTS and Irvine Desalter Project SGU, a multifaceted groundwater project.[6]

The El Toro Water District independently owns and operates the El Toro Water District WRP (a POTW).[7]

Each of the SOCWA member agencies owns, operates, and maintains its own sanitary sewer system which conveys wastewater to the MNWD RTP, SOCWA CTP, Los Aliso WRP, or El Toro Water District WRP. SOCWA does not own or operate any portion of a sanitary sewer collection system. SOCWA holds the member agency responsible for meeting this Order's requirements for the facility/facilities that the member agency owns and/or operates.

The MNWD RTP, SOCWA CTP, Los Aliso WRP, El Toro Water District WRP, Irvine Desalter Project PWTS, Irvine Desalter Project SGU, South Coast Water District Aliso Creek WRF, associated land outfalls, ETM, and ACOO are collectively referred to as the Facilities.

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/Dischargers herein.

1.2. The Facilities discharge wastewater through the ACOO to the Pacific Ocean, a water of the United States. The Dischargers were previously regulated by Order No. R9-2012-0013 and National Pollutant Discharge Elimination System (NPDES)

[5] SOCWA holds the SCWD responsible for meeting this Order's requirements for the facilities that the SCWD own and operate through a Memorandum of Understanding between SOCWA and the SCWD.
[6] SOCWA holds the IRWD responsible for meeting this Order's requirements for the facilities that the IRWD own and/or operate through a Memorandum of Understanding between SOCWA and the IRWD.
[7] SOCWA holds the El Toro Water District responsible for meeting this Order's requirements for the facilities that the El Toro Water District own and operate through a Memorandum of Understanding between SOCWA and the El Toro Water District.

Permit No. CA0107611 adopted on April 11, 2012, and expired on May 31, 2017. Attachment B provides a map of the area around the Facilities. Attachment C provides flow schematics of the Facilities.

1.3. The Dischargers jointly filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on November 28, 2016. The Dischargers jointly submitted an updated ROWD and application on May 30, 2018. The application was deemed complete on July 11, 2018. The following site visits were conducted to observe operations and collect additional data to develop permit limitations and requirements for waste discharge: February 2, 2018, at the Irvine Desalter Project PWTS and Irvine Desalter Project SGU; May 27, 2018, at the MNWD RTP; June 22, 2020, at the Los Alisos WRP; May 26, 2021, at the El Toro Water District WRP; and August 26, 2021, at the SOCWA CTP and Aliso Creek WRF.

1.4. Regulations at title 40 of the Code of Federal Regulations (40 CFR) 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 (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Dischargers comply with all federal NPDES requirements for continuation of expired permits.

2. Facility Description

2.1. Description of Wastewater and Biosolids Treatment and Controls

2.1.1. SOCWA Regional Treatment Plant (MNWD RTP)

The MNWD RTP is located at 29201 La Paz Road, Laguna Niguel, California and provides wastewater treatment to a population of approximately 129,000 residents[8] within the service area of the Moulton Niguel Water District.

The MNWD RTP has a secondary-treatment capacity of 12 MGD with the following wastewater treatment unit operations and processes: coarse screening, aerated grit removal, primary clarification, activated sludge aeration, and secondary clarification. A portion of the secondary-treated wastewater receives tertiary treatment through the following process: chemical addition, coagulation, filtration, and chlorine disinfection. The MNWD RTP has a tertiary-treatment capacity of 9 MGD.[9]

The San Diego Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of tertiary-treated wastewater from the MNWD RTP in the San Diego Region.

The MNWD RTP treats solids produced by the MNWD RTP, raw solids trucked

[8] Estimated population based on an average influent flow of 7.761 mgd between January 2015 and June 2016 at the MNWD.

[9] At the October 17, 2018, compliance evaluation inspection (CEI) for the MNWD RTP, SOCWA staff stated that one of the two tertiary-treatment systems at the MNWD RTP was no longer in use, which brought the tertiary-treatment capacity down from 11.4 MGD to 9 MGD.

to the MNWD RTP from the El Toro WRP, and raw solids transported by force main to the MNWD RTP from the SOCWA CTP. Solids treatment consists of dissolved air flotation thickening, anaerobic digestion, and centrifuge dewatering. Dewatered biosolids are removed from the MNWD RTP by a private contractor and are either sent to a composting facility in Kern County, California or La Paz County, Arizona. Screenings and grit are transported by a private contractor to a Class I sanitary landfill in Simi Valley, California.

Secondary-treated wastewater not recycled at the MNWD RTP is discharged to the ACOO under this Order. From January 2016 to November 2020, the reported average influent daily flow to the MNWD RTP was 7.7 MGD and the average effluent daily flow from the MNWD RTP to the ACOO was 2.9 MGD.

2.1.2. SOCWA Coastal Treatment Plant (SOCWA CTP)

The SOCWA CTP is located at 28303 Alicia Parkway, Laguna Niguel, California and provides wastewater treatment to a population of approximately 48,000 residents[10] within the service areas/boundaries of the SCWD, the City of Laguna Beach, and the Emerald Bay Service District.

The SOCWA CTP has a secondary-treatment capacity of 6.7 MGD with the following wastewater treatment unit operations and processes: coarse screening, aerated grit removal, primary clarification, activated sludge aeration, and secondary clarification. A portion of the secondary-treated wastewater receives tertiary treatment through the SCWD AWT at the SOCWA CTP. The SCWD AWT includes chemical addition, coagulation, filtration, and chlorine disinfection. The SCWD AWT has a tertiary-treatment capacity of 9 MGD.

The San Diego Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of tertiary-treated wastewater from the SCWD AWT in the San Diego Region.

Waste activated sludge from the SOCWA CTP is thickened using dissolved air flotation and pumped via a four-mile-long pipeline to the MNWD RTP for treatment and disposal. SOCWA CTP screenings and grit are transported by a private contractor to a Class I sanitary landfill in Simi Valley, California.

Secondary-treated wastewater not recycled at the SOCWA CTP is discharged to the ACOO under this Order. From January 2016 to November 2020, the reported average influent daily flow to the SOCWA CTP was 2.7 MGD and the average effluent daily flow from the SOCWA CTP to the ACOO was 2.3 MGD.

2.1.3. Irvine Ranch Water District Los Alisos Water Reclamation Plant (WRP)

The Los Alisos WRP is located at 22312 Muirlands Boulevard in Lake Forest, California and provides wastewater treatment to a population of approximately

[10] Estimated population based on an average influent flow of 2.90 MGD during January 2015 through June 2016 at the SOCWA CTP.

56,000 residents[11] within the service area of the Irvine Ranch Water District.

Secondary-treatment capacity at the Los Alisos WRP is 7.5 MGD and includes screening and aerated lagoons.

Biosolids are conveyed to the Irvine Ranch Water District Michelson Water Reclamation Plant in Irvine for processing per requirements established by the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board) Order No. R8-2015-0024 (NPDES No. CA8000326). Screenings and grit from the Los Alisos WRP influent are hauled to a Class I Landfill.

A portion of the secondary-treated wastewater receives tertiary treatment, which includes chemical addition, flash mixing, coagulation, flocculation, sedimentation, filtration, and chlorine disinfection. Los Alisos WRP tertiary-treatment facilities provide 5.5 MGD of capacity. Disinfected tertiary-treated wastewater produced at the Los Alisos WRP is used within the San Diego and Santa Ana Regions.

By letter dated July 22, 2016, the San Diego Water Board memorialized an agreement between the Santa Ana Water Board and San Diego Water Board to designate the Santa Ana Water Board as the sole Regional Water Board responsible for regulating the treatment, use, and distribution of tertiary-treated wastewater from the Los Alisos WRP.

Secondary-treated wastewater not recycled at the Los Alisos WRP is discharged to the ACOO under this Order. From January 2016 to November 2020, the reported average influent daily flow to the Los Alisos WRP was 3.3 MGD and the average effluent daily flow from the Los Alisos WRP to the ACOO was 1.3 MGD.

2.1.4. El Toro Water District Water Reclamation Plant (WRP)

The El Toro Water District WRP is located at 23542 Moulton Parkway in Laguna Woods, California and provides wastewater treatment to a population of approximately 52,000 residents[12] within the service area of the El Toro Water District.

The El Toro Water District WRP has a secondary-treatment capacity of 6.0 MGD with the following wastewater treatment unit operations and processes: flow equalization, bar screening, aerated grit removal, fine screening, activated sludge aeration, and secondary clarification. A portion of the secondary-treated wastewater receives tertiary treatment, which includes chemical addition, rotating disk cloth media filtration, and chlorine disinfection. The tertiary-treatment capacity is 3.7 MGD.

The El Toro Water District WRP recycled water is currently used within the Santa Ana Region pursuant to requirements established by the Santa Ana Water Board Order No. R8-2015-0023.

[11] Estimate based on an average influent flow of 3.35 MGD during January 2015 through June 2016 at the Los Alisos WRP.
[12] Based on an average influent flow of 3.12 MGD during January 2015 through June 2016 at the El Toro Water District WRP.

Waste activated sludge is thickened using dissolved air floatation and then trucked to the MNWD RTP for treatment and disposal. Screenings and grit are transported by a private contractor to a sanitary landfill in Simi Valley, California.

Secondary-treated wastewater not recycled at the El Toro Water District WRP is discharged to the ACOO under this Order. From January 2016 to November 2020, the reported average influent daily flow to the El Toro Water District WRP was 3.1 MGD and the average effluent daily flow from the El Toro Water District WRP to the ACOO was 2.4 MGD.

2.1.5. Irvine Desalter Project Portable Water Treatment System (PWTS)

The Irvine Desalter Project is a multifaceted groundwater project owned and operated by Irvine Ranch Water District. One of the facets of the Irvine Desalter Project is the Irvine Desalter Project PWTS, located at 26 Waterworks Way in Irvine, California. At this facility, Irvine Ranch Water District extracts up to 6 MGD of groundwater from wells upgradient of a contaminated groundwater plume in Irvine, California. Extracted groundwater undergoes the following treatment process: greensand filtration for the removal of manganese; chemical addition (pH adjustment and threshold inhibitors); cartridge filtration; reverse osmosis (RO); addition of sodium hypochlorite (bleach) and decarbonation; and final chemical treatment (sodium hydroxide, bleach, and aqueous ammonia). Irvine Ranch Water District conveys the treated potable supply to its potable water system and up to 1.0 MGD of the waste brine from the RO to the ACOO. From January 2016 to November 2020, the reported average effluent daily flow from the Irvine Desalter Project PWTS to the ACOO was 0.6 MGD.

2.1.6. Irvine Desalter Project Shallow Groundwater Unit (SGU)

The other facet of the Irvine Desalter Project is the Irvine Desalter Project SGU, located at 7000 Marine Way in Irvine, California. At this facility, Irvine Ranch Water District treats groundwater that has been contaminated by volatile organic compounds (primarily trichloroethylene) on or near the former Marine Corps Air Station El Toro. As part of this operation, up to 0.85 MGD of groundwater from extraction wells within the Department of the Navy Shallow Groundwater Unit is treated using air stripping to remove volatile organic compounds. Irvine Ranch Water District discharges up to 0.85 MGD of treated groundwater to the ACOO. From January 2016 to November 2020, the reported average effluent daily flow from the Irvine Desalter Project SGU to the ACOO was 0.6 MGD.

2.1.7. South Coast Water District Aliso Creek Water Reclamation Facility (WRF)

The South Coast Water District Aliso Creek WRF is located at 28303 Alicia Parkway in Laguna Niguel, California, at the SOCWA CTP. This facility was formerly called the South Coast Water District Aliso Creek Water Harvesting Project in the previous order, Order No. R9-2012-0013. The facility was originally designed to capture and treat urban runoff from Aliso Creek. During the August 26, 2021 inspection, the Aliso Creek WRF was treating tertiary-treated wastewater from the SOCWA CTP, not urban runoff from Aliso Creek due to the low flows within Aliso Creek. If the Aliso Creek WRF captures urban runoff from

Aliso Creek, the bypass flow in Aliso Creek is required to by at least 4.7 cubic feet per second (cfs). The SCWD originally projected average flows of 10 cfs in Aliso Creek; however, current average flows in Aliso Creek is less than 4.7 cfs. Since starting the Aliso Creek WRF in 2015, SCWD has only captured flows from Aliso Creek for about one hour. Treatment includes coarse screening, filtration, and RO. The South Coast Water District Aliso Creek WRF discharges up to 0.32 MGD of RO waste brine to the ACOO. From January 2016 to November 2020, the reported average effluent daily flow from the South Coast Water District Aliso Creek WRF to the ACOO was 0.07 MGD.

2.1.8. Land Outfalls Tributary to the ACOO

The waste brine from the Irvine Desalter Project PWTS and treated groundwater from the Irvine Desalter Project SGU discharges to the South Irvine Brine Line. The waste brine and treated groundwater in the South Irvine Brine Line commingle with the secondary-treated wastewater from the Los Alisos WRP at the start of the ACOO Land Outfall Reach A, a 11,904-feet-long pipeline with a capacity of 7.5 MGD. The effluent from Irvine Desalter Project and Los Alisos WRP commingle with the secondary-treated wastewater from the El Toro Water District WRP at the start of the ACOO Land Outfall Reach B, a 4,012-feet-long pipeline with a capacity of 15 MGD. The ACOO Land Outfall Reach B discharges to the ACOO Land Outfall Reach C, a 3,654-feet-long pipeline with a capacity of 15 MGD. The ACOO Land Outfall Reach C discharges to the ACOO Land Outfall Reach D, a 6,860-feet-long pipeline with a capacity of 20 MGD. At the end of the ACOO Land Outfall Reach D, the effluent from the above four facilities discharges to the ACOO Land Outfall Reach E. The secondary-treated wastewater from the MNWD RTP flows through the RTP land outfall and discharges to the start of the ACOO Land Outfall Reach E, commingling with the effluent from the Irvine Desalter Project, Los Aliso WRP, and El Toro Water District WRP. The ACOO Land Outfall Reach E is a 17,210-feet-long pipeline with a capacity of 34.4 MGD. At the end of the ACOO Land Outfall Reach E, the effluent from the Irvine Desalter Project, Los Aliso WRP, El Toro Water District WRP, and MNWD RTP discharges to the Aliso Creek Land Outfall and commingles with the secondary-treated wastewater from the SOCWA CTP and waste brine from the South Coast Water District Aliso Creek WRF. The Aliso Creek Land Outfall is a 5,405-feet-long pipeline with a capacity of 50 MGD and discharges to the ACOO. Attachment B provides a map of all the land outfalls and facilities. Table F-2 below summarizes the land outfalls, sizes, and facilities.

Table F-2. Facility Information

Land Outfall	Pipeline Capacity (MGD)	Reach Length (feet)	Facilities Discharging to the Land Outfall Reach (Rated Capacity of Each Facility in MGD)	Rated Capacity of Upstream Facilities (MGD)
South Irvine Brine Line	--	--	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85)	1.85
ACOO ETM Reach A	7.5	11,904	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85) Los Alisos WRP (7.5)	9.35[1]
ACOO ETM Reach B	15	4,012	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85) Los Alisos WRP (7.5) El Toro Water District WRP (6.0)	15.35
ACOO ETM Reach C	15	3,654	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85) Los Alisos WRP (7.5) El Toro Water District WRP (6.0)	15.35
ACOO ETM Reach D	20	6,860	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85) Los Alisos WRP (7.5) El Toro Water District WRP (6.0)	15.35
ACOO ETM Reach E	34.4	17,210	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85) Los Alisos WRP (7.5) El Toro Water District WRP (6.0) MNWD RTP (12.0)	27.35
Aliso Creek Land Outfall	50	5,405	Irvine Desalter Project PWTS and Irvine Desalter Project SGU (1.85) Los Alisos WRP (7.5) El Toro Water District WRP (6.0) MNWD RTP (12.0) SOCWA CTP (6.7) South Coast Water District Aliso Creek WRF (0.32)	34.37

Note for Table F-2

1 Effluent Monitoring Location M-001H has been added to ensure flows through the ACOO ETM Reach A remain below 7.5 MGD.

2.2. Discharge Points and Receiving Waters

SOCWA is the owner and operator of the ACOO, which has been in use since 1979. The outfall extends 7,900 feet offshore in a southwesterly direction from the

mouth of Aliso Creek. The inshore end of the diffuser is located approximately 6,700 feet offshore at a depth of approximately 170 feet. The 1,200-foot-long diffuser is collinear with the outfall and extends to a maximum depth of 195 feet. The terminus of the diffuser is located at Latitude 33º29'53" N and Longitude 117º46'16" W.

The design capacity of the ACOO is 50 MGD. In the previous Order, the Dischargers were subject to a flow limitation of 34.37 MGD. From January 2016 to November 2020, the reported average effluent daily flow to the ACOO was 10.2 MGD and the maximum flow was 29.8 MGD (January 23, 2017).

In 2005, the San Diego Water Board determined the minimum probable initial dilution factor to be 237 parts seawater per 1 part wastewater (237:1) for the discharge of up to 34.37 MGD of effluent through the ACOO using the USEPA Modeling Application Visual Plumes. The computer modeling was performed based on characteristics of the ACOO, the effluent, and the receiving water, subject to the input limitations of Visual Plumes. Initial dilution (Dm) factors were determined for each month during the period July 2008 through June 2009 using receiving water characteristics for each month provided by the Dischargers. The minimum probable initial dilution factor was calculated using March 2009 receiving water data for determining the lowest average initial dilution within any single month of the year. Section 4.3 of this Fact Sheet include additional discussion on initial dilution. Additional details of the initial dilution computer modeling performed are provided in Attachment H of Order No. R9-2012-0013 and in the San Diego Water Board records.

On December 31, 2018, SOCWA submitted the *Hydrodynamic Modeling Study for the San Juan Creek and Aliso Creek Ocean Outfalls*, dated May 14, 2018, to the San Diego Water Board. Based on that study, the minimum probable initial dilution factor of 234:1 was calculated for the discharge of up to 35 MGD of effluent through the ACOO using April 2014 receiving water data for determining the lowest average initial dilution within any single month of the year. Thus, this Order reduces the dilution factor from 237:1 to 234:1.

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

Effluent limitations contained in the previous Order, Order No. R9-2012-0013, for discharges from the Facilities and representative monitoring data obtained at Monitoring Locations M-001A, M-001B, M-001C, M-001D, M-001E, M-001F, M-001G, and M-001 (Discharge Point No. 001) from April 2012 To October 2021 are as follows:

Table F-3. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001A[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	12.0	--	--	11.87	--	--
Carbonaceous Biochemical Oxygen Demand 5-day @ 20 degrees Celsius (°C) ($CBOD_5$)	mg/L	25	40	--	10.0	14.1	--
$CBOD_5$	lbs/day[2]	2.502	4,003	--	363	850	--
$CBOD_5$	% Removal	85[3]	--	--	90[3]	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	13.7	23.8	--
TSS	lbs/day[2]	3,002	4,504	--	853	2,072	--
TSS	% Removal	85[3]	--	--	69.3[3]	--	--
Oil and Grease	mg/L	25	40	75	2	2	2
Oil and Grease	lbs/day[2]	2,502	4,003	7,506	132	132	132
Settleable Solids	ml/L	1.0	1.5	3.0	0.5	1.5	5.7
Turbidity	NTU	75	100	225	6.02	10	27.4
pH	standard units	--	--	6.0 – 9.0[4]	--	--	6.2 – 8.0[4]

Notes for Table F-3
1. Monitoring data from April 2012 to October 2021.
2. Mass emission rate (MER) effluent limitations are based on the permitted flow rate for the MNWD RTP (12.0 MGD).
3. Minimum value.
4. Instantaneous minimum and maximum value.

Table F-4. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001B[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	6.7	--	--	3.9	--	--
$CBOD_5$	mg/L	25	40	--	12.9	16.2	--
$CBOD_5$	lbs/day[2]	1,397	2,235	--	271	375	--
$CBOD_5$	% Removal	85[3]	--	--	91[3]	--	--
TSS	mg/L	30	45	--	16.1	39	--
TSS	lbs/day[2]	1,676	2,515	--	437	1244	--
TSS	% Removal	85[3]	--	--	89[3]	--	--
Oil and Grease	mg/L	25	40	75	<2.0	<2.0	<2.0
Oil and Grease	lbs/day[2]	1,397	2,235	4,191	67	67	67
Settleable Solids	ml/L	1.0	1.5	3.0	0.2	0.6	2.8
Turbidity	NTU	75	100	225	7.3	13	13
pH	standard units	--	--	6.0 – 9.0[4]	--	--	6.1 – 7.9[4]

Notes for Table F-4
1. Monitoring data from April 2012 to October 2021.
2. MER effluent limitations are based on the permitted flow rate for the SOCWA CTP (6.7 MGD).
3. Minimum value.
4. Minimum and maximum value.

Table F-5. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001C[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	7.5	--	--	5.82	--	--
$CBOD_5$	mg/L	25	40	--	15	24	--
$CBOD_5$	lbs/day[2]	1,564	2,502	--	486	659	--

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
$CBOD_5$	% Removal	85[3]	--	--	84.7[3]	--	--
TSS	mg/L	30	45	--	27	59	--
TSS	lbs/day[2]	1,877	2,815	--	836	1,812	--
TSS	% Removal	85[3]	--	--	73[3]	--	--
Oil and Grease	mg/L	25	40	75	2.0	2.8	2.8
Oil and Grease	lbs/day[2]	1,564	2,502	4,691	56	68	68
Settleable Solids	ml/L	1.0	1.5	3.0	0.1	1.5	10
Turbidity	NTU	75	100	225	16	24	130
pH	standard units	--	--	6.0 – 9.0[4]	--	--	6.1 – 8.6[4]

Notes for Table F-5
1. Monitoring data from April 2012 to October 2021.
2. MER effluent limitations are based on the permitted flow rate for the Los Alisos WRP (7.5 MGD).
3. Minimum value.
4. Minimum and maximum value.

Table F-6. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001D[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	6.0	--	--	5.7	--	--
$CBOD_5$	mg/L	25	40	--	11.6	23.6	--
$CBOD_5$	lbs/day[2]	1,251	2,002	--	332	530	--
$CBOD_5$	% Removal	85[3]	--	--	94.5[3]	--	--
TSS	mg/L	30	45	--	21.2	27.1	--
TSS	lbs/day[2]	1,501	2,252	--	550	847	--

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
TSS	% Removal	85[3]	--	--	87.5[3]	--	--
Oil and Grease	mg/L	25	40	75	<1.6	<1.6	<1.6
Oil and Grease	lbs/day[2]	1,251	2,002	3,753	<52	<52	<52
Settleable Solids	ml/L	1.0	1.5	3.0	0.4	0.5	3
Turbidity	NTU	75	100	225	7.1	17	23
pH	standard units	--	--	6.0 – 9.0[4]	--	--	6.1 – 7.9[4]

Notes for Table F-6
1. Monitoring data from April 2012 to October 2021.
2. MER effluent limitations are based on the permitted flow rate for the El Toro Water District WRP (6.0 MGD).
3. Minimum value.
4. Minimum and maximum value.

Table F-7. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001E[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	1.0	--	--	0.85	--	--
TSS	mg/L	60	--	--	14	--	--
TSS	lbs/day[2]	500	--	--	98	--	--
Oil and Grease	mg/L	25	40	75	2.6	2.6	2.6
Oil and Grease	lbs/day[2]	209	334	626	18.2	18	18.2
Settleable Solids	ml/L	1.0	1.5	3.0	<0.3	<0.3	<0.3
Turbidity	NTU	75	100	225	4.6	4.8	4.8
pH	standard units	--	--	6.0 – 9.0[3]	--	--	7.0 – 8.3[3]

Notes for Table F-7

1. Monitoring data from April 2012 to October 2021.
2. MER effluent limitations are based on the permitted flow rate for the Irvine Desalter Project PWTS (1.0 MGD).
3. Minimum and maximum value.

Table F-8. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001F[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	0.85	--	--	0.73	--	--
TSS	mg/L	60	--	--	23	--	--
TSS	lbs/day[2]	425	--	--	131	--	--
Oil and Grease	mg/L	25	40	75	2.8	2.8	2.8
Oil and Grease	lbs/day[2]	177	284	532	14	14	14
Settleable Solids	ml/L	1.0	1.5	3.0	<0.3	<0.3	<0.3
Turbidity	NTU	75	100	225	11	11	11
pH	standard units	--	--	6.0 – 9.0[3]	--	--	6.7 – 8.5[3]

Notes for Table F-8
1 Monitoring data from April 2012 to October 2021.
2. MER effluent limitations are based on the permitted flow rate for the Irvine Desalter Project SGU (0.85 MGD).
3. Minimum and maximum value.

Table F-9. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001G[1]

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
Flow	MGD	0.32	--	--	0.17	--	--
TSS	mg/L	60	--	--	33.2	--	--

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum
TSS	lbs/day[2]	160	--	--	29.6	--	--
Oil and Grease	mg/L	25	40	75	<2.0	<2.0	<2.0
Oil and Grease	lbs/day[2]	67	107	200	<2.8	<2.8	<2.8
Settleable Solids	ml/L	1.0	1.5	3.0	0.1	0.1	0.1
Turbidity	NTU	75	100	225	8.7	8.7	8.7
pH	standard units	--	--	6.0 – 9.0[3]	--	--	6.7 – 7.9[3]

Notes for Table F-9
1 Monitoring data from April 2012 to October 2021.
2. MER effluent limitations are based on the permitted flow rate for the South Coast Water District Aliso Creek WRF (0.32 MGD, referred to as the Aliso Creek Water Harvesting Project in Order No. R9-2012-0013).
3. Minimum and maximum value.

Table F-10. Historical Effluent Limitations and Monitoring Data at Monitoring Location M-001[1,2]

Parameter	Units	Six-Month Median Effluent Limitation	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Six-Month Median Discharge	Highest Average Monthly Discharge	Highest Daily Discharge	Highest Instantaneous Maximum
Flow	MGD	--	34.37	--		--	19.7	--	
Total Chlorine Residual	µg/L	480	--	1,900	14,000	21	--	<171	<171
Total Chlorine Residual	lbs/ day[3]	140	--	550	4,100	3	--	<20	<20

Parameter	Units	Six-Month Median Effluent Limitation	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation	Instantaneous Maximum Effluent Limitation	Highest Six-Month Median Discharge	Highest Average Monthly Discharge	Highest Daily Discharge	Highest Instantaneous Maximum
Chronic Toxicity[4]	Toxic Units Chronic (TUc)	--	--	238	--	--	--	1000	--
Heptachlor	µg/L	--	1.2E-02	--	--	--	<0.01	--	--
Heptachlor	lbs/day[3]	--	3.4E-03	--	--	--	<0.001	--	--
Tetrachlorodibenzo dioxin (TCDD) Equivalents	µg/L	--	9.3E-07	--	--	--	0.34	--	--
TCDD Equivalents	lbs/day[3]	--	2.7E-07	--	--	--	3.5E-09	--	--

Notes for Table F-10

1. Monitoring data from April 2012 to June 2021.
2. Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.
3. MER effluent limitations are based on the permitted flow rate for the ACOO (34.37 MGD).
4. Chronic toxicity expressed as Toxic Units Chronic (TUc) = 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.

2.4. Compliance Summary

As of December 6, 2021, the Dischargers have reported the following alleged violations of Order No. R9-2012-0013:

2.4.1. Order No. R9-2012-0013, section III.A prohibits the discharge of waste from the Facilities to a location other than the Discharge Point No. 001, unless specifically regulated by this Order or separate WDRs. The following are reported discharges to locations other than Discharge Point No. 001:

2.4.1.1. On January 22, 2017, 124,320 gallons of secondary-treated wastewater spilled from the MNWD RTP to Sulphur Creek and Sulphur Creek Reservoir.

The discharge was due to a heavy storm event overwhelming the MNWD RTP and improper equipment at the MNWD RTP. The Moulton Niguel Water District sends its sewage to the MNWD RTP and is looking into inflow and infiltration during storm events. SOCWA replaced the improper equipment.

2.4.1.2. On July 18, 2017, 7,575 gallons of raw sewage spilled at the MNWD RTP. SOCWA reported a "The control power on Barscreen 1 blew a 30-amp fuse making the barscreen inoperable."

2.4.1.3. On July 18, 2017, 200 gallons of raw sewage spilled at the MNWD RTP. SOCWA reported a "The control power fuse blew, preventing operation of Bar Screen 1."

2.4.1.4. On October 5, 2017, 30,000 gallons of tertiary-treated wastewater spilled from the South Coast Water District Aliso Creek WRF to Aliso Creek. SOCWA reported a "Buffer tank overflow failure. Sump pump shut off which released pH neutral water to Aliso Creek."

2.4.1.5. On September 29, 2019, due to a failed valve, the SOCWA CTP spilled 500 gallons of backwash from the advanced treatment plant. Some of the spill was recovered and returned to the treatment system, while some of the spill soaked into the onsite planter.

2.4.1.6. From February 28 to March 10, 2020, the ETM owned by the El Toro Water District and operated by SOCWA experienced a pipeline failure resulting in a spill of non-chlorinated secondary treated effluent near the intersection of Moulton Parkway and El Toro Road in the City of Laguna Woods. The spill was approximately 300,474 gallons of secondary treated effluent that was released to Veeh Creek.

2.4.1.7. On August 16, 2020, 2,000 gallons of secondary-treated wastewater overflowed from a line break at the MNWD RTP to Sulphur Creek, a tributary to Aliso Creek.

2.4.1.8. On May 5, 2021, the sewage sludge force main between the SOCWA CTP and the MNWD RTP experienced a pipeline failure resulting in a spill of non-chlorinated sewage sludge near the intersection of Alicia Parkway and AWMA Road in the City of Laguna Niguel, CA. The spill was contained on the same day, resulting in a total spill volume of approximately 436 gallons of sewage sludge released to Sulphur Creek.

2.4.1.9. On June 10, 2021, the sewage sludge force main between the SOCWA CTP and the MNWD RTP experienced a pipeline failure resulting in a spill of non-chlorinated sewage sludge within the Aliso and Woods Canyons Wilderness Park. The pipeline leak was repaired, and the spill was contained on the same day. A total spill volume of approximately 1,920 gallons of sewage sludge was released, cleaned up, and disposed of properly offsite.

2.4.1.10. As stated in this Fact Sheet under section 6.2.5.5, reports for sanitary sewer overflows from the sanitary sewer systems are available at the State Water Resources Control Board (State Water Board) Public Sanitary Sewer Overflow (SSO) Report Database.[13]

[13] https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main

2.4.2. Order No. R9-2012-0013, section IV.A.1.a, Table 7 states that the instantaneous maximum effluent limitation for settleable solids in the MNWD RTP effluent (Monitoring Location M-001A) shall not exceed 3.0 ml/L. The MNWD RTP effluent exceeded the instantaneous maximum effluent limitation for settleable solids on December 27, 2019, with a reported value of 5.7 ml/L.

2.4.3. Order No. R9-2012-0013, section IV.A.1.a, Table 9 states that the instantaneous maximum effluent limitation for settleable solids in the Los Alisos WRP effluent (Monitoring Location M-001C) shall not exceed 3.0 ml/L. The Los Alisos WRP effluent exceeded the instantaneous maximum effluent limitation for settleable solids on October 30, 2013, with a reported value of 10 ml/L.

2.4.4. Order No. R9-2012-0013, section IV.A.1.a, Table 9 states that the average weekly effluent limitations (AWELs) for TSS in the Los Alisos WRP effluent (Monitoring Location M-001C) shall not exceed 45 mg/L. The Los Alisos WRP effluent exceeded the AWEL for TSS on November 2, 2013, with a reported value of 59 mg/L.

2.4.5. Order No. R9-2012-0013, section IV.A.1.a, Table 9 states that the minimum average monthly percent removal for $CBOD_5$ in the Los Alisos WRP effluent (Monitoring Location M-001C) shall not fall below 85 percent. The Los Alisos WRP effluent did not meet the minimum average monthly percent removal for $CBOD_5$ on December 31, 2014, with a reported value of 73.3 percent.

2.4.6. Order No. R9-2012-0013, section IV.A.1.c, Table 14 states that the maximum daily effluent limitation (MDEL) for chronic toxicity in the ACOO effluent (Monitoring Location M-001) shall not exceed 238 TUc. The ACOO effluent exceeded the MDEL for chronic toxicity on April 9, 2018, with a reported value of 1,000 TUc and on May 14, 2019, with a reported value of 500 TUc.

2.4.7. Order No. R9-2012-0013, section IV.A.1.c, Table 14 states that the average monthly effluent limitation (AMEL) for TCDD equivalents in the ACOO effluent (Monitoring Location M-001C) shall not exceed 9.3×10^{-7} ug/l. The ACOO effluent exceeded the AMEL for TCDD equivalents on July 26, 2018, with a reported value of 1.99×10^{-6} ug/l.

2.4.8. Order No. R9-2012-0013, Attachment D, section I.D states, “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.” On January 11, July 11, July 14, and July 17, 2017, 60, 100, 225, and 300 gallons of raw sewage spilled at the MNWD RTP, respectively. The Discharger contained the January spill and pumped the spill back to the plant. The Discharger contained the July spills and routed the spill to the influent junction structure.

2.4.9. Order No. R9-2012-0013, Attachment D, section IV.B.1 requires that records of monitoring information shall include time of sampling. On September 11, 2018, at the Irvine Desalter Project PWTS, the Dischargers failed to record the time of sampling on the chain of custody. An approximate sample collection time was recorded after the error was found.

2.4.10. Order No. R9-2012-0013, Attachment E, section III.A.1, Table E-2 states that the influent $CBOD_5$ and biochemical oxygen demand (5-day @ 20°C) (BOD_5) shall be monitored weekly and monthly, respectively, at Monitoring Location M-NFC (influent to the Los Alisos WRP). During the month of October 2019, the effluent flow from the Los Alisos WRP to the ACOO only occurred from October 4 through 7. Due to miscommunication the $CBOD_5$ and BOD_5 was not monitored during this discharge period.

2.4.11. Order No. R9-2012-0013, Attachment E, section IV.A, Table E-3 states that the effluent flow shall be monitored continuously at Monitoring Location M-001A. On February 15, 2017, the Discharger failed to monitor the effluent flow from Monitoring Location M-001A using the continuous recorder/totalizer. The Discharger reported flows based on the previous 7-day flow average calculated by the Chief Plant Operator.

2.4.12. Order No. R9-2012-0013, Attachment E, section IV.A, Table E-3 states that $CBOD_5$ shall be monitored five times per week at Monitoring Locations M-001A and M-001B. During the week of September 22-28, 2018, the Discharger only report four results for $CBOD_5$ at Monitoring Locations M-001A and M-001B.

2.4.13. Order No. R9-2012-0013, Attachment E, section IV.A, Table E-3 states that BOD_5 shall be monitored at least once per month at Monitoring Locations M-001A and M-001B. The January 2015 monthly monitoring report did not include any monitoring results for BOD_5 at Monitoring Locations M-001A and M-001B. The low temperature control switch on the BOD incubator failed causing the in-process BOD bottles to freeze and the results to be lost.

2.4.14. Order No. R9-2012-0013, Attachment E, section IV.A, Table E-3 states that oil and grease shall be monitored at least once per month at Monitoring Location M-001C. The November 2018 monthly monitoring report did not include any monitoring results for oil and grease at Monitoring Location M-001C. The oil and grease sample was not submitted to the laboratory for analysis for this month.

2.4.15. Order No. R9-2012-0013, Attachment E, section IV.A, Table E-3 states that pH shall be monitored at least five days a week at Monitoring Location M-001C. On May 6, 2020, the Los Aliso WRP missed the requirement for daily pH monitoring due to the low flows to the ACOO.

2.4.16. Order No. R9-2012-0013, Attachment E, section IV.B, Table E-4 states that temperature and dissolved oxygen shall be monitored at least weekly at Monitoring Location M-001. In May 2019 and July 2021, the Dischargers did not sample for temperature and dissolved oxygen at Monitoring Location M-001. In June 2021, a weekly sample for dissolved oxygen was missed.

2.4.17. Order No. R9-2012-0013, Attachment E, section IV.B, Table E-4 states that the phenolic compounds (chlorinated) shall be monitored semiannually at Monitoring Location M-001. Footnote 8 of Table E-4 states, "Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol." For the January to June 2017 semiannual monitoring report, the phenolic compounds (chlorinated) monitoring results did not include 2,4,5-trichlorophenol.

2.4.18. Order No. R9-2012-0013, Attachment E, section IV.C, Table E-6 states that TSS shall be monitored at least once per month at Monitoring Location M-001F. The October 2012 and August 2017 monthly monitoring reports did not include any monitoring results for TSS at Monitoring Location M-001F.

2.4.19. Order No. R9-2012-0013, Attachment E, section IV.C, Table E-6 states that settleable solids shall be monitored at least once per month at Monitoring Locations M-001E and M-001F. The November 2017 monthly monitoring report did not include any monitoring results for settleable solids at Monitoring Locations M-001E and M-001F.

2.4.20. Order No. R9-2012-0013, Attachment E, section X.B.3, Table E-15 includes that the due dates for the self-monitoring reports (SMRs). The Dischargers submitted the December 2019 and fourth quarter 2019 SMRs on February 3, 2020, two days past the due date of February 1, 2020. The Dischargers submitted the first quarter 2020 SMR on May 10, 2020, nine days past the due date of May 1, 2020.

2.4.21. Order No. R9-2012-0013, Attachment E, section X.B.4 states that the Dischargers shall not use a Minimum Level (ML) that is greater than that specified in Appendix II of the Ocean Plan. In the December 2015 monthly monitoring report and the first quarter 2016 monitoring report, the Dischargers reported MLs that are greater than the MLs specified in Appendix II of the Ocean Plan for at least three constituents.

2.5. Planned Changes

The Dischargers do not anticipate any changes to the Facilities 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 California Water Code (Water Code) (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit

authorizing the Dischargers to discharge into waters of the United States at the discharge location described in Table 2 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 the provisions of Chapter 3 of 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 a Water Quality Control Plan for the San Diego Basin (Basin Plan) on September 8, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Board. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are summarized in Table F-11:

Table F-11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	• Industrial service supply (IND); • Navigation (NAV); • Water contact recreation (REC-1); • Non-contact 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).

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

3.3.2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, 2015, and 2018. The State Water Board adopted the latest

amendment on August 7, 2018, the USEPA approved the amendments 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-12:

Table F-12. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	• IND; • REC-1; • REC-2, including aesthetic enjoyment; • NAV; • COMM; • Mariculture; • Preservation and enhancement of designated Areas of Special Biological Significance (ASBS); • Rare and endangered species; • MAR; • Fish migration; • Fish spawning; and • SHELL.

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

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 federal 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.

3.3.5. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, 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 limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare and endangered species. The Dischargers are responsible for meeting all requirements of the applicable Endangered Species Act.

3.3.6. **Sewage Sludge and Biosolids.** This Order does not authorize any act that results in violation of requirements administered by USEPA to implement 40 CFR part 503, *Standards for the Use or Disposal of Sewage Sludge*. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Dischargers are responsible for meeting all applicable requirements of 40 CFR part 503 that are under USEPA's enforcement authority.

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 303(d) list for water in the Pacific Ocean in the vicinity of the ACOO include:

- Aliso Creek mouth as impaired for indicator bacteria and toxicity;
- 0.03 miles along the Pacific Ocean shoreline at the Aliso Creek mouth as impaired for indicator bacteria and toxicity; and
- 0.03 miles along the Pacific Ocean shoreline at the Aliso Beach, North, middle, and South as impaired for indicator bacteria.

Several total maximum daily loads (TMDLs) for bacteria indicators have been adopted and approved within San Diego Region; however, these TMDLs did not contain applicable wasteload allocations for the discharges from the ACOO. Nonetheless, this Order implements receiving water objectives for bacterial indicators.

3.5. Other Plans, Polices and Regulations

3.5.1. **Secondary Treatment Regulations.** Part 133 of 40 CFR establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.

3.5.2. **Storm Water.** Pursuant to Order No 2014-0057-DWQ, NPDES Permit No. CAS000001, *General Permit for Storm Water Discharges Associated with Industrial Activities* (Storm Water Order), sewerage treatment plants are

classified (per Occupational Safety and Health Administration) as Standard Industrial Classification (SIC) code 4952 or Sewerage Systems. SIC code 4952 (https://www.waterboards.ca.gov/water_issues/programs/stormwater/sicnum.shtml) falls within the Regulated SIC Code for enrollment under the Storm Water Order. The eligibility for enrollment under the Order is not based on treatment design flow or capacity of the sewerage treatment plants. It is the industrial activity that is regulated. The MNWD RTP, SOCWA CTP, Los Alisos WRP, El Toro Water District WRP have the same SIC code (4952) and are enrolled under the Storm Water Order. The list of SIC codes can be found at https://www.waterboards.ca.gov/water_issues/programs/stormwater/sicnum.shtml.

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

4. Rationale for Effluent Limitations and Discharge Specifications

The federal CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 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 (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where applicable technology-based limitations and standards and WQBELs both result in effluent limitations, the more protective numeric limitation shall be applied.

4.1. Discharge Prohibitions

This Order retains the discharge prohibitions from the previous Order, Order No. R9-2012-0013, as described below. Discharges from the Facilities to surface waters in violation of prohibitions contained in this Order are violations of the federal CWA and therefore are subject to third party lawsuits. Discharges from the Facilities to land in violation of prohibitions contained in this Order are violations of the Water Code and are not subject to third party lawsuits under the federal CWA because the Water Code does not contain provisions allowing third party lawsuits.

4.1.1. Order No. R9-2012-0013 contained Discharge Prohibition III.A, which prohibited discharges to a location other than Discharge Point No. 001, unless specifically regulated by Order No. R9-2012-0013 or separate WDRs. This prohibition has been retained in this Order as Discharge Prohibitions 3.1 and 3.2. Discharge Prohibitions 3.1 and 3.2 also prohibit discharges not in compliance with the effluent limitations specified in section 4.1 of this Order.

4.1.2. Order No. R9-2012-0013 contained Discharge Prohibitions III.B and III.C, which required compliance with the discharge prohibitions of the Ocean Plan and Basin Plan, respectively. These prohibitions have been retained in this Order as Discharge Prohibitions 3.3 and 3.4.

4.2. Technology-Based Effluent Limitations

4.2.1. Scope and Authority

Section 301(b) of the federal CWA and implementing USEPA permit regulations at 40 CFR section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge from the MNWD RTP, SOCWA CTP, Los Alisos WRP, and El Toro Water District WRP authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR part 133. Discharges must also meet TBELs based on Ocean Plan Table 4.

Regulations promulgated in 40 CFR section 125.3(a)(1) require TBELs for municipal dischargers to be placed in NPDES permits based on secondary treatment standards or equivalent to secondary treatment standards.

The federal CWA established the minimum performance requirements for POTWs (defined in section 304(d)(1)). Section 301(b)(1)(B) of that federal CWA requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

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

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.

4.2.2. Applicable Technology-Based Effluent Limitations

4.2.2.1. **Federal Regulations.** This Order establishes AWELs and AMELs for $CBOD_5$ and TSS, and an average monthly percent removal of at least 85 percent for $CBOD_5$ and TSS based on secondary treatment standards for POTWs established in 40 CFR part 133.

Part 133 of 40 CFR establishes the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. Section 133.102(a)(4) of 40 CFR allows for effluent limitations for $CBOD_5$ to be applied in lieu of effluent limitations for BOD_5 where BOD_5 may not provide a reliable measure of the oxygen demand of the effluent. USEPA has determined that a 30-day average effluent limitation of 25 mg/L and a 7-day average effluent limitation of 40 mg/L are effectively equivalent to the secondary treatment standards for BOD_5. Consistent with Order No. R9-2012-0013, this Order includes effluent limitations for $CBOD_5$.

Section 133.102 of 40 CFR, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal of $CBOD_5$ and TSS shall not be less than 85 percent. Consistent with the previous order, Order No. R9-2012-0013, this Order contains limitations requiring an average of 85 percent removal of $CBOD_5$ and TSS over each calendar month.

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

These TBELs based on secondary treatment standards are applicable to each of the POTWs (MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP) prior to the commingling of their respective effluents with any other wastewater. Thus, compliance with these effluent limitations must be determined at Monitoring Locations M-001A, M-001B, M-001C, and M-001D, respectively, upstream of the location where these wastewaters commingle with other wastewaters.

Section 122.45(d) of 40 CFR require that all permit limitations be expressed, unless impracticable, as AMELs and AWELs for POTWs. TBELs based on secondary treatment standards for $CBOD_5$, TSS, and pH are summarized in Table F-13 below, applying AMELs in lieu of 30-day average and AWELs in lieu of 7-day average.

Table F-13. Summary of TBELs Based on Secondary Treatment Standards

Parameter	Unit	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Minimum Effluent Limitation	Instantaneous Maximum Effluent Limitation
$CBOD_5$	mg/L	25	40	--	--
$CBOD_5$	% Removal	≥85	--	--	--
TSS	mg/L	30	45	--	--
TSS	% Removal	≥85	--	--	--
pH	standard units	--	--	6.0	9.0

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

The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table 4 of the Ocean Plan establishes TBELs for POTWs and industrial discharges for which effluent limitation guidelines (ELGs) have not been established. This Order carries over numeric effluent limitations based on Table 4 of the Ocean Plan from Order No. R9-2012-0013 for the MNWD RTP, SOCWA CTP, Los Aliso WRP, El Toro Water District WRP, Irvine Desalter Project PWTS, Irvine Desalter Project SGU, and South Coast Water District Aliso Creek WRF, at Monitoring Locations M-001A, M-001B, M-001C, M-001D, M-001E, M-001F, and M-001G, respectively.

Because secondary treatment standards contain effluent limitations for TSS that are more stringent than Table 4 of the Ocean Plan, the more stringent effluent limitations for TSS have been applied to discharges from the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP.

Table 4 of the Ocean Plan requires dischargers to, as a monthly average, achieve a percent removal of 75 percent for suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L. The discharges generated at the Irvine Desalter Project PWTS, Irvine Desalter Project SGU, and South Coast Water District Aliso Creek WRF are considered industrial discharges and are subject to Ocean Plan Table 4 limits prior to commingling with other discharges to the ACOO. The TBELs from the Ocean Plan are summarized in Table F-14:

Table F-14. Summary of TBELs on Table 4 of the Ocean Plan

Parameter	Unit	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Instantaneous Maximum Effluent Limitation	Instantaneous Maximum Effluent Limitation
Oil and Grease	mg/L	25	40	--	75
TSS	mg/L	60[1]	--	--	--
TSS	% Removal	[1]	--	--	--
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

Note for Table F-14

1. Table 4 of the Ocean Plan requires that the Dischargers shall, as a monthly average, remove 75 percent of suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L.

4.2.2.3. **Effluent Flow.** This Order carries over the effluent flow limitations from Order No. R9-2012-0013. This Order also adds an effluent limitation for the flows entering the ACOO ETM Reach A to ensure the capacity of the pipeline is not exceeded. The San Diego Water Board established effluent limitations for flow based on the design flow capacity/facility description of the Facilities as reported in the ROWD. The effluent flow limitations are a component of this Order to ensure proper operation and maintenance of treatment processes and systems.[14] Proper operation includes ensuring flows stay within the design capacity of the process treatment units and conveyance systems.[15] Operating beyond the design capacity may result in insufficient treatment and/or discharges that threaten beneficial uses. Furthermore, federal regulations require that NPDES permit effluent limitations, standards, or prohibitions for POTWs be calculated based on design flow.[16] In compliance with applicable regulations, the mass-based effluent limitations in this Order are calculated based on design flow of the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP.

4.3. Water Quality-Based Effluent Limitations (WQBELs)

4.3.1. Scope and Authority

Federal 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.

[14] Section 6.3.5.2 of this Order also requires the Dischargers to submit a treatment plant capacity report to the San Diego Water Board showing how flow volumes will be prevented from exceeding existing capacity or how capacity will be increased four years prior to reaching POTW design capacity.
[15] See 40 CFR section 122.41 (e).
[16] 40 CFR section 122.45 (b)(1).

4.3.2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establish water quality 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.”

The Basin Plan states, “The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.”

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 19 chemicals and chemical characteristics, including total chlorine residual, 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 evaluated the need for effluent limitations for non-conventional and toxic pollutant parameters, based on water quality objectives in 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. 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 amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; 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 probable 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.

Before 2001, the State Water Board determined the minimum probable initial dilution factor to be 260:1 using the computer model UMERGE and 27 MGD of secondary-treated wastewater. In 2004, the San Diego Water Board reevaluated the minimal probable initial dilution with a discharge consisting of 26 MGD of secondary-treated wastewater and 1 MGD of RO waste brine when considering authorization of waste brine from the Irvine Desalter Project. Based on that reevaluation, the San Diego Water Board determined that the addition of the RO waste brine would not have a significant impact on the minimum probable initial dilution factor. An initial dilution factor of 260:1 was used in Order Nos. R9-2001-0008 and R9-2006-0055. In 2012, the San Diego Water Board reevaluated the minimal probable initial dilution with a permitted flow rate of 34.37 MGD using the USEPA Modeling Application Visual Plumes. Based on this reevaluation, the minimum probable initial dilution factor was calculated to be 237:1. An initial dilution factor of 237:1 was used in Order No. R9-2012-0013. Additional details of the 2012 initial dilution computer modeling results are provided in Attachment H of Order No. R9-2012-0013 and in the San Diego Water Board records. On December 31, 2018, SOCWA submitted the *Hydrodynamic Modeling Study for the San Juan Creek and Aliso Creek Ocean Outfalls*, dated May 14, 2018, to the San Diego Water Board. Based on that study, the minimum probable initial dilution factor of 234:1 with a 39.6-meter horizontal spread was calculated for the discharge of up to 35 MGD of effluent through the ACOO using the April 2014 receiving water data for determining the lowest average initial dilution within any single month of the year. Thus, this Order reduces the dilution factor from 237:1 to 234:1.

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

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting RPAs, the San Diego Water Board has conducted the RPA for the constituents listed in Table F-15 below. For constituents that do not display reasonable potential, this Order includes desirable maximum effluent concentrations (MECs) which were derived using effluent limitation determination procedures described below and are referred to in this Order as "performance goals." A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Dischargers are required to monitor for these constituents as stated in the Monitoring and Reporting Program (MRP, Attachment E) of this Order in order to gather data for use in RPAs for future permit reissuances.

Effluent data provided in the Dischargers' monitoring reports for the Facilities from January 2016 through October 2021, were used in the RPA (the most recent years). A minimum probable initial dilution of 234:1 was considered in this evaluation.

A summary of the RPA results is provided in Table F-15:

Table F-15. RPA Results Summary

Parameter	Units	N[1]	MEC[2,3]	Most Stringent Criteria	Background	RPA Endpoint[4]
Arsenic	µg/L	18	5.6	8[5]	3[6]	2
Cadmium	µg/L	18	0.1	1[5]	0	2
Chromium VI, Total Recoverable	µg/L	18	0.9	2[5]	0	2
Copper	µg/L	18	5	3[5]	2[6]	2
Lead	µg/L	18	90	2[5]	0	2
Mercury	µg/L	19	0.21	0.04[5]	0.0005[6]	2
Nickel	µg/L	18	5.4	5[5]	0	2
Selenium	µg/L	18	12	15[5]	0	2
Silver	µg/L	18	0.2	0.7[5]	0.16[6]	2
Zinc	µg/L	18	170	20[5]	8[6]	2
Cyanide	µg/L	18	6.4	1[5]	0	2
Total Chlorine Residual	µg/L	0[7]	N/A	2[5]	0	3
Ammonia	µg/L	111	41,500	600[5]	0	2
Acute Toxicity	TUa	31	1.7	0.3[8]	0	2
Chronic Toxicity	TUc	113[8]	1000	1[8]	0	1
Phenolic Compounds	µg/L	18	<0.0310	30[5]	0	2
Chlorinated Phenolics	µg/L	18	<0.0340	1[5]	0	2
Endosulfan	µg/L	18	0.05	0.009[5]	0	2
Endrin	µg/L	18	<0.0007	0.002[5]	0	2

Parameter	Units	N[1]	MEC[2,3]	Most Stringent Criteria	Background	RPA Endpoint[4]
HCH	µg/L	18	<0.0008	0.004[5]	0	2
Radioactivity	picocuries per liter (pCi/L)	18	29	[10]	0	--
Acrolein	µg/L	11	<0.76	220[11]	0	3
Antimony	µg/L	11	4	1,200[11]	0	3
Bis(2-chloroethoxyl)methane	µg/L	12	<0.058	4.4[11]	0	3
Bis(2-chloroisopropyl)ether	µg/L	12	<0.04	1,200[11]	0	3
Chlorobenzene	µg/L	11	<0.058	570[11]	0	3
Chromium (III)[17]	µg/L	11	<0.001	190,000[11]	0	3
Di-n-butyl phthalate	µg/L	12	<0.07	3,500[11]	0	3
Dichlorobenzenes	µg/L	11	<0.08	5,100[11]	0	3
Diethyl phthalate	µg/L	12	<0.094	33,000[11]	0	3
Dimethyl phthalate	µg/L	12	<0.06	820,000[11]	0	3
4,6-Dinitro-2-methylphenol	µg/L	12	<0.1	220[11]	0	3
2,4-Dinitrophenol	µg/L	12	<1.0	4[11]	0	3
Ethylbenzene	µg/L	11	0.11	4,100[11]	0	3
Fluoranthene	µg/L	12	<0.042	15[11]	0	3
Hexachlorocyclopentadiene	µg/L	12	<0.034	58[11]	0	3
Nitrobenzene	µg/L	12	<0.063	4.9[11]	0	3
Thallium	µg/L	11	7.2	2[11]	0	3
Toluene	µg/L	11	<0.06	85,000[11]	0	3
Tributyltin	µg/L	11	0.17	0.0014[11]	0	3
1,1,1-Trichloroethane	µg/L	11	<0.08	540,000[11]	0	3
Acrylonitrile	µg/L	11	<0.19	0.1[11]	0	3
Aldrin	µg/L	11	<0.0007	0.000022[11]	0	3
Benzene	µg/L	11	<0.12	5.9[11]	0	3
Benzidine	µg/L	12	<0.7	0.000069[11]	0	3
Beryllium	µg/L	11	<0.05	0.033[11]	0	3
Bis(2-chloroethyl) ether	µg/L	12	<0.037	0.045[11]	0	3
Bis(2-ethylhexyl) phthalate	µg/L	12	30	3.5[11]	0	3
Carbon tetrachloride	µg/L	11	<0.09	0.9[11]	0	3
Chlordane	µg/L	11	<0.007	0.000023[11]	0	3
Chlorodibromomethane	µg/L	11	<0.06	8.6[11]	0	3

Parameter	Units	N[1]	MEC[2,3]	Most Stringent Criteria	Background	RPA Endpoint[4]
Chloroform	µg/L	11	2.3	130[11]	0	2
DDT	µg/L	11	<0.0005	0.00017[11]	0	3
1,4-Dichlorobenzene	µg/L	11	<0.09	18[11]	0	3
3,3-Dichlorobenzidine	µg/L	12	<0.59	0.0081[11]	0	3
1,2-Dichloroethane	µg/L	11	<0.12	28[11]	0	3
1,1-Dichloroethylene	µg/L	11	<0.07	0.9[11]	0	3
Dichlorobromomethane	µg/L	11	0.6	6.2[11]	0	3
Dichloromethane (Methylene Chloride)	µg/L	11	<0.1	450[11]	0	3
1,3-Dichloropropene (1,3-dichloropropylene)	µg/L	11	<0.1	8.9[11]	0	3
Dieldrin	µg/L	11	<0.0005	0.00004[11]	0	3
2,4-Dinitrotoluene	µg/L	12	<0.03	2.6[11]	0	3
1,2-Diphenylhydrazine	µg/L	12	<0.044	0.16[11]	0	3
Halomethanes	µg/L	10	<0.09	130[11]	0	3
Heptachlor	µg/L	11	<0.0007	0.00005[11]	0	3
Heptachlor Epoxide	µg/L	11	<0.0004	0.00002[11]	0	3
Hexachlorobenzene	µg/L	12	<0.001	0.00021[11]	0	3
Hexachlorobutadiene	µg/L	12	<0.05	14[11]	0	3
Hexachloroethane	µg/L	12	<0.05	2.5[11]	0	3
Isophorone	µg/L	12	<0.05	730[11]	0	3
N-nitrosodimethylamine	µg/L	12	<0.12	7.3[11]	0	3
N-nitrosodi-N-propylamine	µg/L	12	<0.03	0.38[11]	0	3
N-nitrosodiphenylamine	µg/L	10	<0.05	2.5[11]	0	3
PAHs	µg/L	12	<0.035	0.0088[11]	0	3
PCBs	µg/L	11	<0.02	0.000019[11]	0	3
TCDD equivalents	µg/L	10	1.99E-06	3.9E-09[11]	0	1
1,1,2,2-Tetrachloroethane	µg/L	11	<0.06	2.3[11]	0	3
Tetrachloroethylene (Tetrachloroethene)	µg/L	11	<0.09	2[11]	0	3
Toxaphene	µg/L	11	<0.01	0.00021[11]	0	3
Trichloroethylene (Trichloroethene)	µg/L	11	<0.1	27[11]	0	3
1,1,2-Trichloroethane	µg/L	11	<0.08	9.4[11]	0	3
2,4,6-Trichlorophenol	µg/L	12	<0.034	0.29[11]	0	3
Vinyl Chloride	µg/L	11	<0.077	36[11]	0	3

Notes for Table F-15

1. Number of data points available for the RPA.

2. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3. Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore, it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a reasonable potential (i.e., Endpoint 2).
4. End Point 1 – Reasonable potential determined, limit required, monitoring required.
   End Point 2 – Discharge determined not to have reasonable potential; monitoring may be established.
   End Point 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring
5. Based on the six-Month Median in the Table 3 of the Ocean Plan.
6. Background concentrations contained in Table 5 of the Ocean Plan.
7. Order No. R9-2012-0013 did not require monitoring of total chlorine residual on days when none of the treatment units that are subject to this Order use chlorine for disinfection. The Dischargers reported monitoring results for total chlorine residual from March 2013 to August 2013; the Dischargers did not report any monitoring results for total chlorine residual from September 2013 to February 2020. This RPA only include effluent monitoring data from the most recent years (January 2015 through April 2021).
8. Based on the Daily Maximum in Table 3 of the Ocean Plan.
9. Includes results for Giant Kelp (germination and growth), Red Abalone (exclusive and inclusive), and Topsmelt (survival and growth).
10. Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the CCR. Levels of radioactivity that exceed the applicable criteria are not expected in the discharge.
11. Based on the 30-Day Average in Table 3 of the Ocean Plan.

Endpoint 1

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e., Endpoint 1) was determined for chronic toxicity and TCDD equivalents and effluent limitations (based on the revised initial dilution of 234:1, as discussed below) have been retained from Order No. R9-2012-0013.

The MRP (Attachment E) is designed to obtain additional information for these constituents to determine if reasonable potential exists for these constituents in future permit renewals and/or updates.

Endpoint 2

Consistent with 40 CFR section 122.44(l)(2)(i)(B), effluent limitations from the previous Order, Order No. R9 2012-0013, 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. Except as discussed below, parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus this Order does not establish effluent limitations for these parameters.

Endpoint 3

For parameters for which Endpoint 3 was concluded, reasonable potential was inconclusive. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established in Order No. R9-2012-0013, performance goals have been retained. For parameters for which Endpoint 3 was concluded and previous effluent limitations had been established in Order No. R9-2012-0013, effluent limitations have been retained. Endpoint 3 was determined for total chlorine residual and heptachlor and thus effluent limitations for these two parameters from Order No. R9-2012-0013 were carried over to this Order.

Bacterial Indicators

This Order does not include effluent limitations for bacterial indicators for the following reasons:

- The discharge point (Discharge Point No. 001) is located at the terminus of the Aliso Creek Ocean Outfall, 6,700 feet offshore at a depth of 170 feet.
- The revised minimum probable dilution factor is 234:1.
- The San Diego Water Board is not aware of any shellfish harvesting within the zone of initial dilution of the ACOO.
- There are no kelp beds within the zone of initial dilution of the ACOO.
- The nearshore and offshore receiving water monitoring results for total coliform between January 2014 and June 2016 consistently complied with the Ocean Plan single sample maximum.
- About 99 percent of the nearshore and offshore receiving water monitoring results for fecal coliform between January 2014 and June 2016 complied with the Ocean Plan single sample maximum.
- At least 92 percent of the nearshore and offshore receiving water monitoring results for enterococcus between January 2014 and June 2016 complied with the Ocean Plan single sample maximum.

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:

Ce = Co + Dm (Co – Cs) where,
Ce = the effluent limitation (µg/L)
Co = the water quality objective to be met at the completion of initial dilution (µg/L)
Cs = background seawater concentration
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

4.3.4.2. As discussed in section 4.3.3 above, this Order reduces the Dm from 237:1 to 234:1.

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 "Cs"). In accordance with Table 3 implementing procedures of the Ocean Plan, Cs equals zero for all pollutants 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-16 below:

Table F-16. Pollutants Having Background Concentrations

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

4.3.4.4. As an example, effluent limitations for total chlorine residual were determined as follows.

Water quality objectives from the Ocean Plan for total chlorine residual are:

Table F-17. Example Parameter Water Quality Objectives

Parameter	Units	Six-Month Median	Daily Maximum	Instantaneous Maximum
Total Chlorine Residual	µg/L	2	8	60

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

Total Chlorine Residual:
Ce = 2 + 234 (2 – 0) = 470 (six-Month Median)
Ce = 8 + 234 (8 – 0) = 1,900 (Daily Maximum)
Ce = 60 + 234 (60 – 0) = 14,000 (Instantaneous Maximum)

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

4.3.4.5. Section 122.45(f)(1) of the 40 CFR requires effluent limitations 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. However, section III.C.4.j of the Ocean Plan requires that mass limitations be established for all parameters in Table 3 of the Ocean Plan. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 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., California Toxics Rule criteria and maximum contaminant levels) and

mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation: lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34

4.3.4.6. Based on the results of the RPA, a summary of the WQBELs established in this Order are provided in the table below.

Table F-18. Summary of WQBELs at Monitoring Location M-001

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Total Chlorine Residual	µg/L	4.7E+02	--	1.9E+03	1.4E+04
Total Chlorine Residual	lbs/day[2]	1.3E+02	--	5.4E+02	4.0E+03
Chronic Toxicity[3,4]	TUc	--	--	235	--
Heptachlor	µg/L	--	1.2E-02	--	--
Heptachlor	lbs/day[2]	--	3.4E-03	--	--
TCDD Equivalents	µg/L	--	9.2E-07	--	--
TCDD Equivalents	lbs/day[2]	--	2.6E-07	--	--

Notes for Table F-18

1. The scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation, a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.
2. The MER limitation, in lbs/day, was calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the ACOO (34.37 MGD) and C is the concentration (mg/L).
3. As specified in section 7.15 of this Order and section 3.3 of the MRP (Attachment E).
4. A numeric WQBEL is established because effluent data showed that there is reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The chronic toxicity effluent limitation is protective of both the numeric acute and chronic toxicity 2019 Ocean Plan water quality objectives. The effluent limitation will 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 Toxic Units Chronic (TUc) = 100/NOEC, where NOEC (No Observed Effect Concentration) is 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 water quality objectives have been assigned performance goals.

Pursuant to Water Code section 13383, this Order includes monitoring and reporting requirements related to performance goals. Performance goals serve to maintain existing treatment levels and effluent quality and supports state and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected level of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan and the overall pollutant control performance of the Facilities. 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 this Order but serve as indicators that the effluent may be causing or contributing to an exceedance of water quality objectives. However, any two consecutive exceedances of the performance goals will trigger an investigation into the cause of the exceedance. If the exceedance persists in three successive monitoring events, the Dischargers are required to submit a Performance Goal Exceedance Investigation Work Plan to the San Diego Water Board within 30 days of the Dischargers 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. Repeated exceedances of performance goals may prompt the San Diego Water Board to reopen and amend this Order to replace performance goals for constituents of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit reissuance. The Dischargers are in violation of this Order if it does not comply with the performance goal investigation and reporting requirements, when required by the terms of this Order. A summary of the performance goals is provided in Table F-19 below.

Table F-19. Summary of Performance Goals at Monitoring Location M-001

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Arsenic, Total Recoverable	µg/L	1.18E+03	--	6.82E+03	1.81E+04
Arsenic, Total Recoverable	lbs/day[2]	3.38E+02	--	1.95E+03	5.19E+03
Cadmium, Total Recoverable	µg/L	2.35E+02	--	9.40E+02	2.35E+03
Cadmium, Total Recoverable	lbs/day[2]	6.74E+01	--	2.69E+02	6.74E+02
Chromium VI, Total Recoverable[3]	µg/L	4.70E+02	--	1.88E+03	4.70E+03

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Chromium VI, Total Recoverable[3]	lbs/day[2]	1.3E+02	--	5.4E+02	1.3E+03
Copper, Total Recoverable	µg/L	2.4E+02	--	2.4E+03	6.6E+03
Copper, Total Recoverable	lbs/day[2]	6.8E+01	--	6.7E+02	1.9E+03
Lead, Total Recoverable	µg/L	4.7E+02	--	1.9E+03	4.7E+03
Lead, Total Recoverable	lbs/day[2]	1.3E+02	--	5.4E+02	1.3E+03
Mercury, Total Recoverable	µg/L	9.3E+00	--	3.7E+01	9.4E+01
Mercury, Total Recoverable	lbs/day[2]	2.7E+00	--	1.1E+01	2.7E+01
Nickel, Total Recoverable	µg/L	1.2E+03	--	4.7E+03	1.2E+04
Nickel, Total Recoverable	lbs/day[2]	3.4E+02	--	1.3E+03	3.4E+03
Selenium, Total Recoverable	µg/L	3.5E+03	--	1.4E+04	3.5E+04
Selenium, Total Recoverable	lbs/day[2]	1.0E+03	--	4.0E+03	1.0E+04
Silver, Total Recoverable	µg/L	1.3E+02	--	6.2E+02	1.6E+03
Silver, Total Recoverable	lbs/day[2]	3.6E+01	--	1.8E+02	4.6E+02
Zinc, Total Recoverable	µg/L	2.8E+03	--	1.7E+04	4.5E+04
Zinc, Total Recoverable	lbs/day[2]	8.1E+02	--	4.9E+03	1.3E+04
Cyanide, Total	µg/L	2.4E+02	--	9.4E+02	2.4E+03
Cyanide, Total	lbs/day[2]	6.7E+01	--	2.7E+02	6.7E+02
Ammonia, Total (as N)	µg/L	1.4E+05	--	5.6E+05	1.4E+06
Ammonia, Total (as N)	lbs/day[2]	4.0E+04	--	1.6E+05	4.0E+05
Phenolic Compounds (non-chlorinated)	µg/L	7.1E+03	--	2.8E+04	7.1E+04
Phenolic Compounds (non-chlorinated)	lbs/day[2]	2.0E+03	--	8.1E+03	2.0E+04
Chlorinated Phenolics	µg/L	2.4E+02	--	9.4E+02	2.4E+03
Chlorinated Phenolics	lbs/day[2]	6.7E+01	--	2.7E+02	6.7E+02

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Endosulfan	µg/L	2.1E+00	--	4.2E+00	6.3E+00
Endosulfan	lbs/day[2]	6.1E-01	--	1.2E+00	1.8E+00
Endrin	µg/L	4.7E-01	--	9.4E-01	1.4E+00
Endrin	lbs/day[2]	1.3E-01	--	2.7E-01	4.0E-01
HCH (BHC)	µg/L	9.4E-01	--	1.9E+00	2.8E+00
HCH (BHC)	lbs/day[2]	2.7E-01	--	5.4E-01	8.1E-01
Radioactivity	Picocuries per Liter (pCi/L)	[4]	--	--	--
Acrolein	µg/L	--	5.2E+04	--	--
Acrolein	lbs/day[2]	--	1.5E+04	--	--
Antimony	µg/L	--	2.8E+05	--	--
Antimony	lbs/day[2]	--	8.1E+04	--	--
Bis(2-chloroethoxy) Methane	µg/L	--	1.0E+03	--	--
Bis(2-chloroethoxy) Methane	lbs/day[2]	--	3.0E+02	--	--
Bis(2-chloroisopropyl) Ether	µg/L	--	2.8E+05	--	--
Bis(2-chloroisopropyl) Ether	lbs/day[2]	--	8.1E+04	--	--
Chlorobenzene	µg/L	--	1.3E+05	--	--
Chlorobenzene	lbs/day[2]	--	3.8E+04	--	--
Chromium (III), Total Recoverable[3]	µg/L	--	4.5E+07	--	--
Chromium (III), Total Recoverable[3]	lbs/day[2]	--	1.3E+07	--	--
Di-n-butyl Phthalate	µg/L	--	8.2E+05	--	--
Di-n-butyl Phthalate	lbs/day[2]	--	2.4E+05	--	--
Dichlorobenzenes	µg/L	--	1.2E+06	--	--
Dichlorobenzenes	lbs/day[2]	--	3.4E+05	--	--
Diethyl Phthalate	µg/L	--	7.8E+06	--	--
Diethyl Phthalate	lbs/day[2]	--	2.2E+06	--	--
Dimethyl Phthalate	µg/L	--	1.9E+08	--	--
Dimethyl Phthalate	lbs/day[2]	--	5.5E+07	--	--
4,6-dinitro-2-methylphenol	µg/L	--	5.2E+04	--	--
4,6-dinitro-2-methylphenol	lbs/day[2]	--	1.5E+04	--	--
2,4-dinitrophenol	µg/L	--	9.4E+02	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
2,4-dinitrophenol	lbs/day[2]	--	2.7E+02	--	--
Ethylbenzene	µg/L	--	9.6E+05	--	--
Ethylbenzene	lbs/day[2]	--	2.8E+05	--	--
Fluoranthene	µg/L	--	3.5E+03	--	--
Fluoranthene	lbs/day[2]	--	1.0E+03	--	--
Hexachlorocyclopentadiene	µg/L	--	1.4E+04	--	--
Hexachlorocyclopentadiene	lbs/day[2]	--	3.9E+03	--	--
Nitrobenzene	µg/L	--	1.2E+03	--	--
Nitrobenzene	lbs/day[2]	--	3.3E+02	--	--
Thallium, Total Recoverable	µg/L	--	4.7E+02	--	--
Thallium, Total Recoverable	lbs/day[2]	--	1.3E+02	--	--
Toluene	µg/L	--	2.0E+07	--	--
Toluene	lbs/day[2]	--	5.7E+06	--	--
Tributyltin	µg/L	--	3.3E-01	--	--
Tributyltin	lbs/day[2]	--	9.4E-02	--	--
1,1,1-trichloroethane	µg/L	--	1.3E+08	--	--
1,1,1-trichloroethane	lbs/day[2]	--	3.6E+07	--	--
Acrylonitrile	µg/L	--	2.4E+01	--	--
Acrylonitrile	lbs/day[2]	--	6.7E+00	--	--
Aldrin	µg/L	--	5.2E-03	--	--
Aldrin	lbs/day[2]	--	1.5E-03	--	--
Benzene	µg/L	--	1.4E+03	--	--
Benzene	lbs/day[2]	--	4.0E+02	--	--
Benzidine	µg/L	--	1.6E-02	--	--
Benzidine	lbs/day[2]	--	4.6E-03	--	--
Beryllium, Total Recoverable	µg/L	--	7.8E+00	--	--
Beryllium, Total Recoverable	lbs/day[2]	--	2.2E+00	--	--
Bis(2-chloroethyl) Ether	µg/L	--	1.1E+01	--	--
Bis(2-chloroethyl) Ether	lbs/day[2]	--	3.0E+00	--	--
Bis(2-ethlyhexyl) Phthalate	µg/L	--	8.2E+02	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Bis(2-ethlyhexyl) Phthalate	lbs/day[2]	--	2.4E+02	--	--
Carbon Tetrachloride	µg/L	--	2.1E+02	--	--
Carbon Tetrachloride	lbs/day[2]	--	6.1E+01	--	--
Chlordane	µg/L	--	5.4E-03	--	--
Chlordane	lbs/day[2]	--	1.5E-03	--	--
Chlorodibromo-methane (Dibromochlorometha ne)	µg/L	--	2.0E+03	--	--
Chlorodibromo-methane (Dibromochlorometha ne)	lbs/day[2]	--	5.8E+02	--	--
Chloroform	µg/L	--	3.1E+04	--	--
Chloroform	lbs/day[2]	--	8.8E+03	--	--
Dichlorodiphenyl-trichloroethane (DDT)	µg/L	--	4.0E-02	--	--
DDT	lbs/day[2]	--	1.1E-02	--	--
1,4-dichlorobenzene	µg/L	--	4.2E+03	--	--
1,4-dichlorobenzene	lbs/day[2]	--	1.2E+03	--	--
3,3'-dichlorobenzidine	µg/L	--	1.9E+00	--	--
3,3'-dichlorobenzidine	lbs/day[2]	--	5.5E-01	--	--
1,2-dichloroethane	µg/L	--	6.6E+03	--	--
1,2-dichloroethane	lbs/day[2]	--	1.9E+03	--	--
1,1-dichloroethylene	µg/L	--	2.1E+02	--	--
1,1-dichloroethylene	lbs/day[2]	--	6.1E+01	--	--
Dichlorobromo-methane	µg/L	--	1.5E+03	--	--
Dichlorobromo-methane	lbs/day[2]	--	4.2E+02	--	--
Dichloromethane (Methylene Chloride)	µg/L	--	1.1E+05	--	--
Dichloromethane (Methylene Chloride)	lbs/day[2]	--	3.0E+04	--	--
1,3-dichloropropene (1,3-Dichloropropylenes)	µg/L	--	2.1E+03	--	--
1,3-dichloropropene (1,3-Dichloropropylenes)	lbs/day[2]	--	6.0E+02	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
Dieldrin	µg/L	--	9.4E-03	--	--
Dieldrin	lbs/day[2]	--	2.7E-03	--	--
2,4-dinitrotoluene	µg/L	--	6.1E+02	--	--
2,4-dinitrotoluene	lbs/day[2]	--	1.8E+02	--	--
1,2-diphenylhydrazine	µg/L	--	3.8E+01	--	--
1,2-diphenylhydrazine	lbs/day[2]	--	1.1E+01	--	--
Halomethanes	µg/L	--	3.1E+04	--	--
Halomethanes	lbs/day[2]	--	8.8E+03	--	--
Heptachlor Epoxide	µg/L	--	4.7E-03	--	--
Heptachlor Epoxide	lbs/day[2]	--	1.3E-03	--	--
Hexachlorobenzene	µg/L	--	4.9E-02	--	--
Hexachlorobenzene	lbs/day[2]	--	1.4E-02	--	--
Hexachlorobutadiene	µg/L	--	3.3E+03	--	--
Hexachlorobutadiene	lbs/day[2]	--	9.4E+02	--	--
Hexachloroethane	µg/L	--	5.9E+02	--	--
Hexachloroethane	lbs/day[2]	--	1.7E+02	--	--
Isophorone	µg/L	--	1.7E+05	--	--
Isophorone	lbs/day[2]	--	4.9E+04	--	--
N-nitrosodimethylamine	µg/L	--	1.7E+03	--	--
N-nitrosodimethylamine	lbs/day[2]	--	4.9E+02	--	--
N-nitrosodi-N-propylamine	µg/L	--	8.9E+01	--	--
N-nitrosodi-N-propylamine	lbs/day[2]	--	2.6E+01	--	--
N-nitrosodiphenylamine	µg/L	--	5.9E+02	--	--
N-nitrosodiphenylamine	lbs/day[2]	--	1.7E+02	--	--
Polynuclear Aromatic Hydrocarbons (PAHs)	µg/L	--	2.1E+00	--	--
PAHs	lbs/day[2]	--	5.9E-01	--	--
Polychlorinated Biphenyls (PCBs)	µg/L	--	4.5E-03	--	--
PCBs	lbs/day[2]	--	1.3E-03	--	--
1,1,2,2-tetrachloroethane	µg/L	--	5.4E+02	--	--

Parameter	Unit	Six-Month Median[1]	Average Monthly[1]	Maximum Daily[1]	Instantaneous Maximum[1]
1,1,2,2-tetrachloroethane	lbs/day[2]	--	1.5E+02	--	--
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	4.7E+02	--	--
Tetrachloroethylene (Tetrachloroethene)	lbs/day[2]	--	1.3E+02	--	--
Toxaphene	µg/L	--	4.9E-02	--	--
Toxaphene	lbs/day[2]	--	1.4E-02	--	--
Trichloroethylene (Trichloroethene)	µg/L	--	6.3E+03	--	--
Trichloroethylene (Trichloroethene)	lbs/day[2]	--	1.8E+03	--	--
1,1,2-trichloroethane	µg/L	--	2.2E+03	--	--
1,1,2-trichloroethane	lbs/day[2]	--	6.3E+02	--	--
2,4,6-trichlorophenol	µg/L	--	6.8E+01	--	--
2,4,6-trichlorophenol	lbs/day[2]	--	2.0E+01	--	--
Vinyl Chloride	µg/L	--	8.5E+03	--	--
Vinyl Chloride	lbs/day[2]	--	2.4E+03	--	--

Notes for Table F-19

1. The scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation, a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.
2. The MER limitation, in lbs/day, was calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the permitted flow for the ACOO (34.37 MGD) and C is the concentration (mg/L).
3. Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
4. Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations, Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

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. Because of the nature of discharges into the POTW sewershed, it is possible that toxic constituents could be present in the Facilities effluent or could have synergistic or additive effects. The Irvine Desalter Project SGU, which treats groundwater contaminated by volatile organic compounds (primarily trichloroethylene), could also contain toxic constituents that could have synergistic or additive effects.

4.3.6.2. For chronic toxicity, the previous Order, Order No. R9-2012-0013 established an effluent limitation of 238 TUc and monthly monitoring. During the term of Order No. R9-2012-0013, the maximum reported effluent chronic toxicity value was 1,000 TUc (April 10, 2018). Using the RPA procedures from the Ocean Plan, the effluent does have reasonable potential to cause an exceedance of the narrative water quality objective for chronic toxicity (i.e., Endpoint 1). Thus, this Order retains the effluent limitation for chronic toxicity from Order No. R9-2012-0013.

This Order contains a reopener to require 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.

4.3.6.3. For acute toxicity, Order No. R9-2012-0013 established performance goals and quarterly monitoring. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period of time and may measure mortality, reproduction, and growth. A chemical at a low concentration could have chronic effects but no acute effects until the chemical was at a higher concentration. Thus, chronic toxicity is a more stringent requirement than acute toxicity. To ensure the aggregated impacts of pollutants present within the Dischargers' effluent does not result in the presence of toxicity within the receiving water, this Order maintains effluent limitations for chronic toxicity. This Order removes acute toxicity performance goals and effluent monitoring. Removal of numeric acute toxicity performance goals does not constitute backsliding because chronic toxicity is a more stringent requirement than acute toxicity.

4.4. Final Effluent Limitation Considerations

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 limitations may be relaxed. This permit complies with all applicable federal and State Anti-backsliding regulations. The effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R9-2012-0013.

4.4.2. Satisfaction of Antidegradation Policies

The WDRs for the Dischargers 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. When a significant lowering of water quality is allowed

by the San Diego Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), *Antidegradation Policy Implementation for NPDES Permitting*.

This Order complies with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16. The effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R9-2012-0013, and no degradation of the receiving water is expected.

4.4.3. Stringency of Requirements for Individual Pollutants

This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on $CBOD_5$, TSS, oil and grease, settleable solids, turbidity, and pH. Restrictions on these pollutants are discussed in section 4.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the federal 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 Discharge Specifications

The Ocean Plan includes section III.A.2, *General Requirements for Management of Waste Discharge to the Ocean*. This Order incorporates these requirements to this Order for the discharge of waste to the ocean through the ACOO to be consistent with the Ocean Plan.

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.

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

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 the Standard Provisions (Attachment D).

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

6.1. Standard Provisions

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6.2. Special Provisions

6.2.1. Reopener Provisions

This Order may be re-opened and modified, revoked and reissued, or terminated for cause 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 modification include, but are not limited to, revisions to effluent limitations, receiving water requirements, monitoring and reporting requirements; participation in the Southern California Coastal Water Research Project (SCCWRP) monitoring program or other regional or water body monitoring coalition as determined by the San Diego Water Board; revisions to sludge use or disposal practices; or adoption of new or revised regulations, water quality control plans, or policies by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan or Ocean Plan.

6.2.2. Special Studies and Additional Monitoring Requirements

6.2.2.1. Spill Prevention and Response Plans

The federal CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is illegal under the federal CWA. Further, the Basin Plan prohibits discharges of waste to land, except as authorized by WDRs or the terms described in Water Code section 13264. The Basin Plan also prohibits the unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system. Further, Discharge Prohibitions 3.1 and 3.2 of this Order prohibits the discharge of waste from the Facilities to a location other than Discharge Point No. 001.

Sanitary collection and treatment systems experience periodic failures resulting in discharges that may affect waters of the United States and/or State. There are many factors which may affect the likelihood of a spill. To ensure appropriate funding, management, and planning to reduce the likelihood of a spill, and to increase the level of response if a spill does occur, this Order requires the Dischargers to maintain and implement Spill Prevention and Response Plans.

6.2.2.2. Spill Reporting Requirements

To determine compliance with Discharge Prohibitions 3.1 and 3.2 and provide appropriate notification to the general public for the protection of public health, spill reporting requirements have been established in section 6.3.2.2 of this Order.

6.2.2.3. **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 Dischargers 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 Dischargers shall 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 Violation Assessment. The results of the assessment will assist the Dischargers and the San Diego Water Board in determining permit compliance and appropriate corrective actions for the protection of water quality and designated beneficial uses.

6.2.3. Best Management Practices and Pollution Prevention

The Pollutant Minimization Program (PMP) is based on the requirements of the section III.C.9 of the Ocean Plan. The goal of the program is to reduce potential sources of pollutants by using source control measures if the specified circumstances occur.

6.2.4. Construction, Operation, and Maintenance Specifications

6.2.4.1. **Publicly-Owned Treatment Works (POTWs)** - This Order carries over provisions from the previous Order, Order No. R9-2012-0013 to ensure that new treatment facilities and expansions of existing treatment facilities are completely constructed and operable prior to initiation of the discharge from the new or expanded facilities.

6.2.4.2. This Order carries over a provision from the previous Order, Order No. R9-2012-0013 to ensure the Facilities are protected against the impact of storm events.

6.2.4.3. This Order adds a provision to ensure the Facilities are protected against regional impacts due to climate change (e.g., sea level rise and floods).

6.2.4.4. This Order adds a provision based on the requirements of 40 CFR section 122.41(e) to ensure the Facilities have adequate power.

6.2.5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

6.2.5.1. **Aliso Creek Ocean Outfall (ACOO) Capacity Report**

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

6.2.5.2. **Ensuring Adequate Treatment Plant Capacity**

The previous order, Order No. R9-2012-0013 required the Dischargers to submit a report four years prior to the time wastewater flows are projected to reach plant capacity, as stated in title 23, division 3, chapter 9, article 2, sections 2232 and 2235.3 of the CCR. The requirement states:

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

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

6.2.5.3. **Pretreatment Program**

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

The Dischargers' implementation and enforcement of its approved pretreatment program is an enforceable condition of this Order. If the Dischargers fail to perform the pretreatment functions, the San Diego Water Board, the State Water Board, or USEPA may take enforcement actions against the Dischargers as authorized by the federal CWA and Water Code.

6.2.5.4. **Sludge (Biosolids) Requirements**

The use and disposal of biosolids within the United States is regulated under State and federal laws and regulations, including permitting requirements and technical standards included in 40 CFR part 503. The Dischargers are required to comply with the standards and time schedules contained in 40 CFR part 503 for biosolids used or disposed of within the United States

Title 27, division 2, subdivision 1, section 20005 of the CCR establishes approved methods for the disposal of collected screenings, residual sludge,

biosolids, and other solids removed from liquid wastes. Requirements to ensure the Dischargers dispose of solids in compliance with State and federal regulations have been included in this Order.

6.2.5.5. **Collection System**

The State Water Board issued Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer System* (Statewide General SSO Order) on May 2, 2006. The State Water Board amended the MRP for the Statewide General SSO Order through Order WQ 2013-0058-EXEC on August 6, 2013. The Statewide General SSO Order requires public agencies that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a POTW to enroll for coverage and comply with the Statewide General SSO Order. The Statewide General SSO Order requires agencies to develop Sanitary Sewer Management Plans (SSMPs) and report all sanitary sewer overflows, among other requirements and prohibitions.

The Statewide General SSO Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive, and therefore, more stringent than the requirements under federal standard provisions. The member agencies that are discharging wastewater into the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP are enrolled in the Statewide General SSO Order.

The San Diego Water Board issued Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region* (Regional General SSO Order). The Regional General SSO Order is more stringent and prescriptive than the Statewide General SSO Order. The member agencies that are discharging wastewater into the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP are also enrolled in the Regional General SSO Order.

Regardless of the coverage obtained under Order No. 2006-0003-DWQ or Order No. R9-2007-0005, SOCWA's member agencies' sewage collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, SOCWA's member agencies must report any noncompliance (40 CFR sections 122.44(1)(6) and (7)), properly operate and maintain its collection system [40 CFR section 122.41(e)], and mitigate or prevent any discharge from the collection system in violation of this Order [40 CFR section 122.41(d)].

Sanitary sewer overflows that are reported under the Statewide General SSO Order and Regional General SSO Order are available to the public at the State Water Board Public SSO Report Database.[17]

[17] https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main

6.2.5.6. **Requirements for Receipt of Anaerobically Digestible Material**

Some POTWs choose to accept organic material such as food waste, fats, oils, and grease into their anaerobic digesters for co-digestion to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the collection system, which could cause sanitary sewer overflows. The California Department of Resources Recycling and Recovery has proposed an exemption from requiring Process Facility/Transfer Station permits where this activity is regulated under WDRs or NPDES permits. The proposed exemption is restricted to anaerobically digestible material that has been prescreened, slurried, and processed/conveyed in a closed system to be co-digested with regular POTW sludge. The proposed exemption requires that a POTW develop Standard Operating Procedures (SOPs) for the proper handling, processing, tracking, and management of the anaerobically digestible material before it is received by the POTW.

The SOPs are required for POTWs that accept hauled food waste, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of SOPs for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt this activity from separate and redundant permitting programs. If the POTW does not accept food waste, fats, oil, or grease for resource recovery purposes, it is not required to develop and implement SOPs.

6.2.5.7. **Asset Management Plan**

This Order requires the Dischargers to develop and implement an Asset Management Plan. Asset management is the practice of managing infrastructure capital assets to minimize the total cost of owning and operating these assets while delivering the desired service levels. Many utilities use asset management to pursue and achieve sustainable infrastructure. A high-performing asset management program includes detailed asset inventories, operation and maintenance tasks, and long-range financial planning. Standard Provision 1.4 in Attachment D of this Order is based on the requirements of 40 CFR section 122.41(e) and requires the Dischargers to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the Dischargers to achieve compliance with the conditions of this Order. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the Dischargers have sufficient financial and technical resources to continually maintain a targeted level of service and the operational integrity of the POTWs. Asset management requirements have been established in this Order to ensure compliance with Standard Provision 1.4 in Attachment D of this Order and the requirements of 40 CFR section 122.41(e).

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 authorize the San Diego Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP (Attachment E) establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. The reports required by the MRP (Attachment E) are needed to ensure compliance with the Order, protect beneficial uses, and obtain other benefits as described in this Fact Sheet and the MRP (Attachment E). Thus, the burdens, including costs, of the MRP (Attachment E) required by this Order bear a reasonable relationship to the need for and benefits to be obtained from the MRP (Attachment E). The following provides the rationale for the monitoring and reporting requirements contained in the MRP (Attachment E) for the Facilities.

7.1. Core Monitoring Requirements

7.1.1. Influent Monitoring

Influent monitoring is required to determine the effectiveness of the source control program, to assess the performance of treatment facilities, and to evaluate compliance with effluent limitations. Influent monitoring frequencies and sample types for flow, $CBOD_5$, and TSS have been retained from the previous Order, Order No. R9-2012-0013 for the MNWD RTP, SOCWA CTP, Los Aliso WRP, and El Toro Water District WRP. However, this Order lists the influent monitoring parameters required for the pretreatment program in section 6.3.5.3 of this Order. This Order also removes influent monitoring for BOD_5 because this Order does not contain any effluent limitations for BOD_5.

Refer to section 3.1 of the MRP (Attachment E) of this Order.

7.1.2. Effluent Monitoring

Effluent monitoring is required to determine compliance with the conditions of this Order, to identify operational problems, to improve plant performance, and to conduct reasonable potential analyses for subsequent orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data. Effluent monitoring requirements have been carried over from the previous Order, Order No. R9-2012-0013 with the following exceptions:

7.1.2.1. This Order removes effluent monitoring for BOD_5 because this Order does not contain any limitations for BOD_5.

7.1.2.2. This Order adds a trigger to increase monitoring frequency if the applicable effluent limitation or performance goal specified in this Order is exceeded.

7.1.2.3. This Order replaces the requirement to monitor for conductivity with a requirement to monitor for total dissolved solids at Monitoring Locations M-001, M-001E, M-001F, and M-001G and increases the frequency from once per month to once per week to be consistent with the NPDES permits in the San Diego Region.

7.1.2.4. This Order increases the monitoring frequency for TSS and pH at Monitoring Locations M-001E, M-001F, and M-001G from once per month to once per day to be consistent with the NPDES permits in the San Diego Region.

7.1.2.5. This Order increases the monitoring frequency for settleable solids and turbidity at Monitoring Locations M-001E, M-001F, and M-001G from once per month to once per week to be consistent with the NPDES permits in the San Diego Region.

7.1.2.6. This Order adds quarterly monitoring requirements for fecal coliform and enterococci to document the effluent's relationship with the receiving water monitoring data. This requirement only applies if the overall compliance with the receiving water limitations for bacterial characteristics at section 5.1.1 of this Order is below 90% within a rolling one-year period or a single monitoring location exceeds the bacteria receiving water limitations more than 50% of the time within a rolling one-year period at the offshore stations near the ACOO, excluding offshore station A5 (i.e. offshore stations A1 through A4), and the source of the exceedance is unknown.

7.1.2.7. As stated in section 4.3.3 of this Fact Sheet, reasonable potential was inconclusive (i.e., Endpoint 3) for heptachlor and thus effluent limitations for heptachlor from Order No. R9-2012-0013 was carried over to this Order. Based on the RPA, this Order increases the monitoring frequency for heptachlor from semiannually to quarterly to determine compliance with the effluent limitations and to ensure a sufficient dataset for performing a more statistically-sound RPA for the reissuance of this Order.

7.1.2.8. As stated in section 4.3.3 of this Fact Sheet, reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e., Endpoint 1) was determined for TCDD equivalents and thus effluent limitations for TCDD equivalents from Order No. R9-2012-0013 was carried over to this Order. Based on the RPA, this Order increases the monitoring frequency for TCDD equivalents from semiannually to monthly to determine compliance with the effluent limitations and to ensure a sufficient dataset for performing a more statistically-sound RPA for the reissuance of this Order.

7.1.2.9. As noted in section 4.3.6 of this Fact Sheet, this Order removes the requirement to monitor for acute toxicity in the effluent.

7.1.2.10. This Order reduces the monitoring frequency for chronic toxicity from monthly to quarterly.

7.1.2.11. For this Order, the Dischargers may apply the performance goal for both chromium (VI) and chromium (III) as a total chromium performance goal. The

Ocean Plan allows dischargers to meet the objective for chromium (VI) as a total chromium objective (footnote a, of Table 3 of the Ocean Plan). Total chromium includes both chromium (VI) and chromium (III) and applicable federal regulations in 40 CFR 136 under the CWA do not specify an analytical method for chromium (III)[18] Thus, this Order allows the Dischargers to also meet the objective for chromium (III) as a total chromium objective. If the Dischargers only monitors for total chromium to meet the requirements for both chromium (VI) and chromium (III), the total chromium data will be used to determine if reasonable potential exists for both chromium (VI) and chromium (III) in future permit reissuances and/or updates.

7.1.2.12. This Order adds monthly monitoring requirements for ammonium, total nitrogen, nitrate, nitrite, total organic nitrogen, total phosphorus, phosphate, total organic carbon, dissolved inorganic carbon, dissolved iron, and alkalinity to gather data on the contribution of the discharge to ocean acidification, hypoxia, and harmful algal blooms. After one year of monitoring these parameters, the monitoring frequency for these parameters may be reduced from monthly to quarterly. The chemistry data will be used in the ocean acidification and hypoxia model currently under development by the Southern California Coastal Water Research Project (SCCWRP) to improve understanding of how changing seawater chemistry conditions manifest as adverse biological effects in vulnerable marine organisms. While atmospheric carbon dioxide is the main driver of ocean acidification, increasing evidence suggests wastewater discharges of organic carbon and nutrients to ocean waters may contribute to ocean acidification and hypoxia, particularly on smaller spatial scales. Upon discharge to ocean waters, organic carbon is broken down by bacteria, which consume dissolved oxygen during the decomposition process, triggering hypoxic conditions, increasing carbon dioxide (CO_2) levels and lowering pH. When nutrients such as nitrogen and phosphorus are introduced to ocean waters, they can trigger algae blooms which create more dissolved CO_2 when the algae die. Following death of the algae, the algae decomposed by bacteria further decreases dissolved oxygen levels and increases acidity.

Ocean acidification and hypoxia, and the potential contribution of anthropogenic nutrients (such as those from wastewater treatment plants) to ocean acidification and hypoxia is a high priority issue for the Ocean Plan triennial review. (See Issue F of the State Water Board's *Proposed Final Staff Report and Work Plan for 2019 Review of the Water Quality Control Plan for Ocean Waters of California*, October 18, 2019.) Additionally, the West Coast Ocean Acidification and Hypoxia Science Panel recommends that California actively employ strategies that address local factors that can reduce the frequency and severity of ocean acidification and hypoxic events. A first step in addressing local factors is to better understand the local factors, which

[18] In order to obtain a value for chromium (III), two separate methods must be used: one for total chromium determination and one for chromium (VI) determination. The value for chromium (III) is obtained by subtracting the chromium (VI) value from the total chromium value.

includes knowing the magnitude of nutrients discharged from wastewater treatment plants to the ocean environment.

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

7.1.3. 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 Dischargers 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 Dischargers intend 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 Dischargers 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 Dischargers are required to submit a Detailed TRE Work Plan in accordance with its submitted Initial Investigation TRE Work Plan and USEPA guidance[19] which shall include further steps taken by the Dischargers to investigate, identify, and correct the causes of toxicity; actions the Dischargers will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for these actions. The Dischargers 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 Dischargers 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 six succeeding 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 Dischargers 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

[19] 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).

corrective actions. The Dischargers 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) of this Order.

7.2. Receiving Water Monitoring Requirements

The receiving water and sediment monitoring requirements set forth below are designed to measure the effects of the ACOO discharge on the receiving water. These monitoring requirements will remain in effect on an interim basis, pending development of a new and updated monitoring and assessment program.

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

7.2.1. Nearshore and Offshore Water Quality Monitoring Requirements

Nearshore and offshore water quality monitoring is required to determine if the effluent is causing or contributing to exceedances of the water quality standards outside of the ZID, to determine the fate of the effluent plume, evaluate the contribution of the discharge to ocean acidification, and to gather data for future permit reissuances. Nearshore and offshore monitoring requirements have been carried over from the previous Order, Order No. R9-2012-0013, with the following exceptions:

7.2.1.1. For nearshore monitoring requirements, this Order adds monitoring requirements for temperature, depth, dissolved oxygen, light transmittance, pH, colored dissolved organic matter (CDOM), and salinity to better understand the characteristics of the wastewater plume, evaluate compliance with receiving water limitations, and incorporate the requirements of Ocean Plan.

7.2.1.2. For offshore monitoring requirements, this Order changes the pH monitoring from a grab sample at the surface to profile monitoring and dissolved oxygen and light transmittance grab samples at the surface, mid-depth, and bottom to profile monitoring. These changes are also made to better understand the characteristics of the wastewater plume.

7.2.1.3. For offshore monitoring requirements, this Order adds monitoring requirements for CDOM to be consistent with Appendix III section 10.1 of the Ocean Plan.

7.2.1.4. For nearshore and offshore monitoring requirements, monitoring for *enterococcus* bacteria has been changed to monitoring for enterococci and monitoring requirements for total coliform has been removed. These changes reflect the new bacterial provisions contained in the 2018 amendment to the Ocean Plan.

7.2.1.5. Monitoring frequency at nearshore and offshore stations has been reduced from monthly to quarterly to help offset the costs of additional monitoring requirements and the development of a Plume Tracking Study.

7.2.1.6. In the event of recurring exceedances of bacterial standards in the receiving water, this Order requires the Dischargers to monitor for the human associated HF183 genetic marker (HF183) to confirm if fecal contamination associated with the bacterial exceedances is from a human source. The need for this monitoring will be triggered if the overall compliance rate with the receiving water limitations for bacterial characteristics at section 5.1.1 of this Order falls below 90% within a rolling one-year period or a single monitoring location exceeds the bacteria receiving water limitations more than 50% of the time within a rolling one-year period at the offshore stations located near the ACOO, excluding offshore station A5 (i.e., offshore stations A1 through A4), and the source of the exceedances is unknown. If the source of where the fecal contamination causing the bacteria receiving water limitation exceedances originated is known (e.g., storm events, the discharge through the ACOO, or some other known source), the Dischargers are required to submit a written report to the San Diego Water Board describing the specific cause and source of the exceedances and if human fecal waste is the cause, a strategy for prioritizing the bacterial receiving water sites for remediation. If the San Diego Water Board concurs with the conclusions of the report, HF183 monitoring is not required. If HF183 monitoring is required, the San Diego Water Board will direct the Dischargers in writing to implement the HF183 monitoring and development of a strategy for remediating the bacterial receiving water sites based on measured human fecal waste levels. The San Diego Water Board will provide the Dischargers with a written explanation regarding the need for the information and the evidence that supports requiring the Dischargers to provide the information. If directed to implement HF183 monitoring, the Dischargers are required to collect samples for HF183 concurrently with samples collected for fecal coliform at the offshore and/or nearshore stations experiencing the exceedances. The human associated HF183 genetic marker, derived from the 16S rRNA gene of Bacteroides, is increasingly being used to identify human sources of sewage pollution in coastal waters. Monitoring for the HF183 genetic marker under this Order will be used to confirm the presence of human fecal material when the single sample maximum receiving water limitation for fecal coliform is exceeded in the receiving ocean waters. After the San Diego Water Board implements the requirement to collect samples for the HF183 genetic marker, analysis of HF183 is only required if the concurrently collected sample for fecal coliform exceeds the single sample maximum receiving water limitation. Results for the HF183 monitoring will be used for investigative purposes, there is no receiving water limitation expressed in terms of the HF183 genetic marker.

7.2.1.7. This Order recommends, but does not require, the Dischargers monitor for pH by spectrophotometric technique and total alkalinity at a subset of offshore stations, as recommended by SCCWRP to provide more precise measure of

pH in the receiving water. Increased precision of pH measurements will allow for better evaluation of changes in pH due to ocean acidification. Compliance with the pH receiving water limitation in section 5.1.3.2 of this Order will be based on the pH measurements calibrated according to USEPA approved 40 CFR 136 methods. Measurements of pH by spectrophotometric technique and total alkalinity is used provide a more precise measure of pH in the receiving water and to calibrate the pH measurements collected by potentiometric sensors (i.e., glass electrodes) attached to conductivity-temperature-depth (CTD) profile samplers utilized during routine receiving water monitoring. Section 5.1.3.2 of this Order requires that pH shall not be changed at any time more than 0.2 standard units from that which occurs naturally. The imprecision of pH measurement technology (e.g., glass electrodes) has been well documented in the scientific literature. The margin of error associated with using dated technology to measure pH can be greater than 0.2 pH units, which makes it impossible to achieve the precision required to measure compliance with the pH receiving water limitation in section 5.1.3.2 of this Order. However, calibrating glass electrodes with measurements of pH by spectrophotometric technique and total alkalinity in the laboratory can increase the precision of the glass electrodes measurements collected in the field. A 2017 study suggests that pH measurements with this calibration method can be used to differentiate trends or spatial difference greater than 0.2 pH units, while the uncalibrated potentiometric glass electrodes can be used to differentiate trends or spatial difference greater than 0.5 pH units.[20]

In addition to imprecision of glass electrodes, emerging evidence suggests that monitoring parameters other than pH, especially aragonite saturation state (relevant to shell-building in calcifying organisms) and partial pressure of carbon dioxide (relevant to fish behavior and navigation) is needed to assess ocean acidification effects (see *The West Coast Ocean Acidification and Hypoxia Science Panel, Major Findings, Recommendations, and Actions*, Appendix G at Pgs. 26-27 available at: https://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/926_WestCoastOAHSciencePanel.pdf). While the main driver of ocean acidification is due to atmospheric carbon dioxide, the discharge of anthropogenic nutrients from wastewater treatment plants may exacerbate ocean acidification, especially on smaller spatial scales. A recent study suggests that nutrients from wastewater effluent may provide a significant source of nitrogen for nearshore productivity in Southern California waters, and may be equivalent to upwelling on smaller spatial scales that are more relevant to algal blooms. Anthropogenic nutrients from wastewater effluent may increase algal blooms. As these algal blooms die off, the decay promotes bacterial

[20] McLaughlin, K., Nezlin, N.P., Weisberg, S.B., Dickson, A.G., Booth, J.A., Cash, C.L., Feit, A., Gully, J.R., Johnson, S., Latker, A., Mengel, M.J., Robertson, G.L., Steele, A., & Terriquez, L. (2017b). An evaluation of potentiometric pH sensors in coastal monitoring applications. Limnology and Oceanography: Methods, 15, 679-689. doi: 10.1002/lom3.10191

respiration resulting in increased carbon dioxide, lower pH, and decreases in oxygen (e.g., hypoxia). This Order also recommends the Dischargers calculate aragonite saturation state to evaluate the potential effects of the discharge on ocean acidification.

Refer to sections 4.1 of the MRP (Attachment E) of this Order.

7.2.2. Benthic Monitoring Requirements

Sediments integrate constituents that are discharged to the ocean. Most particles that come from the ACOO discharge, and any associated contaminants, will eventually settle to the seafloor where they are incorporated into the existing sediments. Sediments can accumulate these particles over the years until the point where sediment quality is degraded and beneficial uses are impaired.

Consistent with Appendix III, section 6 of the Ocean Plan, section 4.2 of the MRP (Attachment E) requires periodic assessment of sediment quality to evaluate potential effects of the ACOO discharge and compliance with narrative water quality standards specified in the Ocean Plan. The required assessment consists of the measurement and integration of three lines of evidence: 1) physical and chemical properties of seafloor sediments, 2) seafloor sediment toxicity to assess bioavailability and toxicity of sediment contaminants, and 3) ecological status of the biological communities (benthos) that live in or on the seafloor sediments.

The benthic community is strongly affected by sediment composition (e.g., sand, silt, and clay distributions), sediment quality (e.g., chemistry, toxicity), and water quality. Because benthic macroinvertebrates (e.g., infauna) are dependent on their surroundings, they often serve as important biological indicators that reflect the overall conditions of the marine environment.

Benthic monitoring requirements have been updated from the previous Order, Order No. R9-2012-0013, to provide more detail on monitoring frequency, methods, and analyses. This Order adds monitoring requirements for dissolved sulfide, acid volatile sulfides, selenium, iron, tin, aluminum, total nitrogen, total organic carbon, antimony, manganese, selenium, tin, hexachlorobenzene, and additional pesticides to help determine if concentrations of pollutants in marine sediments are at levels that would degrade the benthic community. This Order removes the monitoring requirements for BOD, sulfides, chemical oxygen demand, cyanide, and radioactivity. While the Ocean Plan requires annual monitoring for sediment chemistry, the San Diego Water Board reduced the frequency to once per permit term to offset the cost of the Plume Tracking Study and other monitoring requirements.

This Order also requires sediment toxicity analyses at each offshore station. Sediment toxicity is a measure of the response of invertebrates exposed to surficial sediments under controlled laboratory conditions. The sediment toxicity line of evidence is used to assess both pollutant-related biological effects and exposure and provides a measure of exposure to all pollutants present, including non-traditional or unmeasured chemicals.

This Order requires the development of a Benthic Monitoring Work Plan, which includes a schedule for completion of sediment sampling and submission of the results, protocols for sediment sample collection and processing, and the proposed methods for analyzing the sediment data and integrating the three lines of evidence. Benthic monitoring results are due no later than 180 days before the expiration of this Order.

Refer to section 4.2 of the MRP (Attachment E) of this Order.

7.2.3. Fish and Macroinvertebrate Monitoring Requirements

Marine aquatic invertebrates are excellent indicators of ecosystem health because they are ubiquitous, abundant, diverse, and typically sedentary. The growth, survival, and reproduction of aquatic invertebrates are all sensitive to declines in environmental health, making analysis of assemblage structure a good ecosystem monitoring tool. Additionally, many pollutants discharged into receiving waters have the potential to bioaccumulate and persist in the tissues of aquatic organisms, including marine fishes. Chemical pollutants that bioaccumulate tend to magnify in concentration as they pass through the aquatic food chain. Fish monitoring data is required to assess the human health risks for individuals who may consume fish and to assess trends of contaminants levels in the receiving water over time.

This Order requires fish and invertebrate diver surveys once per permit term to evaluate the effect of the discharge on marine communities around the ACOO.

Fish trawls, a standard method for fish and invertebrate monitoring used in other NPDES permits and regional monitoring programs (e.g., Southern California Bight Regional Monitoring Program), was considered for this Order as it allows for better characterization of the fish and invertebrate communities near the outfall diffuser. However, ACOO is adjacent to the Laguna Beach No-Take State Marine Conservation Area (SMCA) and Dana Point SMCA. These areas are set aside to protect the diversity and abundance of marine life, the habitats they depend on, and the integrity of marine ecosystems. While the California State Department of Fish and Wildlife may approve trawling in these areas with a scientific collectors permit, diver surveys better preserve the goals of the Laguna Beach No-Take SMCA.

Consistent with appendix III section 9.1 of the Ocean Plan, this Order creates two additional monitoring stations, designated for Rig Fishing, where hook and line fishing must be used to collect muscle tissue from selected fish species. The fish targeted for tissue analysis are rockfish, which are commonly targeted by commercial and recreational fishers. The Rig Fishing stations represent one nearfield (RF1) and one southern farfield (RF2). A northern farfield Rig Fishing station was not incorporated in this Order because the sample location would be within the Laguna Beach No-Take SMCA. While part of the nearfield and southern farfield collection zones are within the Dana Point SMCA, the Dana Point SMCA does allow some recreational and commercial fishing. Rig fishing targets flatfish for analysis of pollutants in liver tissue and rockfish for analysis of

pollutants in muscle tissue. Fish used for fish tissue analysis are required to be aged to provide additional information on bioaccumulation rates. Fish and invertebrate monitoring results are due no later than 180 days before the expiration of this Order.

Refer to section 4.3 of the MRP (Attachment E) of this Order.

7.2.4. Receiving Water Monitoring Reporting Requirements

7.2.4.1. **California Environmental Data Exchange Network**

The California Environmental Data Exchange Network (CEDEN) is a central database to find and share information about the State's water bodies, including streams, lakes, rivers, and the coastal ocean. Many groups in the State monitor water quality, aquatic habitat, and wildlife health to ensure good stewardship of our ecological resources. CEDEN aggregates this data and makes it accessible to environmental managers and the public. CEDEN requires a minimum level of quality assurance and quality control measures to ensure the data reported are of sufficient quality. When developing integrated reports for listing impaired water bodies pursuant to Clean Water Act section 303(d), Regional Water Quality Control Boards must rely on data submitted to CEDEN to make determinations of water quality. Data not included in CEDEN are generally not permissible to be included in the integrated reports.

This Order requires the Dischargers submit applicable receiving water monitoring data to CEDEN or an equivalent database that is linked to CEDEN to ensure the monitoring data is available to the San Diego Water Board for integrated reports and is easily accessible to the public and other environmental managers. Additionally, the requirement to submit receiving water monitoring data to CEDEN is consistent with the San Diego Water Board's A Framework for Monitoring and Assessment in the San Diego Region, endorsed by the San Diego Water Board in December 2012 through Resolution No. R9-2012-0069. CEDEN currently does not accept all receiving water monitoring data collected pursuant to this Order; however, CEDEN is periodically updated to accept additional data. The Dischargers are only required to submit data that is accepted by CEDEN until such time CEDEN is updated to accept the data. The Dischargers are required to submit an annual certification that all applicable receiving water monitoring data has been timely uploaded to CEDEN.

7.2.4.2. **Receiving Water Monitoring Report**

This Order requires the Dischargers submit a Receiving Water Monitoring Report once per permit term. The main objectives of the Receiving Water Monitoring Report is to 1) evaluate compliance with the receiving water limitations of this Order including California Ocean Plan water quality objectives and water-contact bacteriological standards; 2) identify any biological or chemical changes in the receiving water that may be associated with the wastewater discharge and 3) answer the key regulatory questions posed in the MRP that the receiving water monitoring program was designed to answer. The

assessment and evaluation of the receiving water monitoring data in the Receiving Water Monitoring Report documents any effects of wastewater discharge, other anthropogenic influences (e.g., storm water discharge, urban runoff), or natural factors (e.g., climate changes) on coastal water quality, seafloor sediment conditions, and local marine organisms. The Receiving Water Monitoring Report helps educate the public about potential water quality impacts resulting from the discharge.

7.2.4.3. **State of the Ocean**

This Order requires the Dischargers present a State of the Ocean oral report to the San Diego Water Board at a public Board meeting. The State of the Ocean oral report summarizes the conclusions of the Receiving Water Monitoring Report, including a description of the monitoring efforts completed, the status and trends of receiving water quality conditions, and plans for future monitoring efforts. Similar to the Receiving Water Monitoring Report, the State of the Ocean oral report helps educate the public about potential water quality impacts resulting from the discharge in a more concise and approachable manner. In addition to educating the public, the State of the Ocean oral report also allows for public participation by providing a forum for the public to comment on the findings presented by the Dischargers.

7.2.5. Groundwater – Not Applicable

7.3. 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 inter-calibration exercise. The coalitions 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.

Consistent with Appendix III section 1 of the Ocean Plan, the Dischargers may be required by the San Diego Water Board, to 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.

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

7.3.1. Kelp Bed Canopy Monitoring Requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (*Macrocystis pyrifera*) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals.

Refer to section 5.1 of the MRP (Attachment E) of this Order.

7.3.2. Southern California Bight Regional Monitoring Program Participation Requirements

The Southern California Bight (Bight), defined as the concave bend of the shoreline extending from Point Conception to Punta Colonet in Mexico, is host to unique, biologically diverse marine ecosystems that have long been vulnerable to the impacts of human activity. The coastal zone of the Bight hosts nearly 22 million United States residents that engage in a wide variety of industrial, military, and recreational activities. Approximately 5,600 miles of watersheds, half of which is highly developed, drain into the Bight. The Southern California Bight Regional Monitoring Program brings together researchers and water-quality managers to pool their resources and work together to investigate the condition of marine ecosystems both spatially and temporally, and extend greater protections to the Bight's diverse habitats and natural resources.

Consistent with Appendix III section 1 of the Ocean Plan, the Dischargers may be required to participate in the Southern California Bight Regional Monitoring Program coordinated by 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 Bight.

During these coordinated sampling efforts, the Dischargers' receiving water sampling and analytical effort, as defined in section 4 of the MRP (Attachment E), may be reallocated to provide a regional assessment of the impact of the discharge of wastewater to the Bight. In that event, the San Diego Water Board will notify the Dischargers in writing that a portion of the requirement to perform the receiving water sampling and analytical effort defined in section 4 of the MRP (Attachment E) is suspended for the duration of the reallocation. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The level of resources in terms of sampling and analytical effort redirected from the receiving water monitoring program required under section 4 of the MRP (Attachment E) shall equal the level of resources provided to implement the regional monitoring and assessment program, unless the San Diego Water Board and the Dischargers agree otherwise. The specific scope and duration of the receiving water monitoring program reallocation and redirection

will be determined and set by the San Diego Water Board, in consultation with the Dischargers.

Refer to section 5.2 of the MRP (Attachment E) of this Order.

7.3.3. Unified Beach Water Quality Monitoring and Assessment Program

The Dischargers are required to continue to participate in shoreline monitoring activities conducted under the Unified Regional Beach Water Quality Monitoring and Assessment Program in south Orange County in collaboration with the south Orange County MS4 copermittees and Orange County Health Care Agency.

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

Refer to section 5.3 of the MRP (Attachment E) of this Order.

7.4. Special Studies Requirements

7.4.1. Climate Change Action Plan

Changing climate conditions may fundamentally alter the way wastewater facilities are designed and operated. Climate change research indicates the overarching driver of change is increased atmospheric CO_2 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 Facilities (e.g., flooding, increased influent flows during wet weather, wildfires, and heat waves). 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's Executive Order N-10-1920 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.

Based on all of these considerations, this Order requires the Dischargers to prepare and submit a Climate Change Action Plan (CCAP) within three years of the effective date of this Order.

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

7.4.2. Plume Tracking Study

This Order includes a requirement to develop a Plume Tracking Study. At minimum, this Order requires the Dischargers submit a Plume Tracking Monitoring Plan Work Plan and Plume Tracking Monitoring Plan. However, this Order allows the Dischargers to postpone the implementation of the Plume Tracking Study to coordinate the plume tracking monitoring effort with the San Juan Creek Ocean Outfall. Therefore, the plume tracking monitoring surveys may not occur during this permit term. Plume tracking is necessary to determine if the plume is moving towards the shore or surface where it may encroach upon water recreation areas. Additionally, plume direction and mixing have a direct effect on sediment loading as the direction of the plume determines where the discharged particles will eventually settle. While nearshore and offshore monitoring can identify if the plume is encroaching upon the water recreation area during typical oceanographic conditions, infrequent sampling at preset intervals is unable to capture atypical oceanographic conditions that may lead to abnormal plume behavior. The Plume Tracking Study will be used to evaluate whether the monitoring methods and locations established in Order Nos. R9-2006-0055 and R9-2012-0013 and reinstated in this Order are still appropriate and applicable.

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

7.5. Other Monitoring Requirements

Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program. Under the authority of section 308 of the CWA (33 U.S.C. section 1318), USEPA requires major and selected minor permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Dischargers can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by USEPA to the State Water Board, the Dischargers can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Dischargers shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of

the most recent Water Pollution Performance Evaluation Study to USEPA's DMR-QA Coordinator and Quality Assurance Manager.

Refer to section 1.7 of the MRP (Attachment E) of this Order.

8. Public Participation

The San Diego Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Facilities. As a step in the WDR adoption process, the San Diego Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process by providing a period of a minimum of 30 days for public review and comment on the Tentative Order.

8.1. Notification of Interested Parties

The San Diego Water Board notified the Dischargers 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 Dischargers and all known interested parties on January 4, 2022.

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, Suite 100, San Diego, CA 92108.

To be fully responded to by staff and considered by the San Diego Water Board, the written comments were due at the San Diego Water Board office by 5:00 p.m. on February 3, 2022.

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 9, 2022
Time: 9:00 AM
Location: City of Mission Viejo, City Council Chambers, 200 Civic Center, Mission Viejo, CA 92691

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, section 2050. 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. Petitions may be sent in as follows:

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 petition for review, see:
https://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

8.5. Information and Copying

The ROWD, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the 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 these Facilities, 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 Joann Lim by email at Joann.Lim@waterboards.ca.gov or by phone at (619) 521-3362.

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

1. Ocean Plan Discharge Prohibitions

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

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

1.3. 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.

1.4. 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).

1.5. 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.

2. Basin Plan Discharge Prohibitions

2.1. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.

2.2. The discharge of waste to land, except as authorized by WDRs of the terms described in Water Code section 13264 is prohibited.

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

2.4. 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 of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

2.5. 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.

2.6. 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.

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

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

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

2.10. 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.

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

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

2.13. 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.

2.14. 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.