CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

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TENTATIVE ORDER NO. R9-2025-0003
NPDES NO. CA9000001

WASTE DISCHARGE REQUIREMENTS FOR THE EAST COUNTY ADVANCED WATER PURIFICATION JOINT POWERS AUTHORITY EAST COUNTY ADVANCED WATER PURIFICATION PROJECT DISCHARGES TO LAKE JENNINGS AND SYCAMORE CREEK

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

Table 1. Discharger Information

Discharger	Name of Facility	Facility Address
East County Advanced Water Purification Joint Powers Authority (ECAWP JPA, Discharger)	East County Advanced Water Purification Facility (ECAWP Facility)	12001 North Fanita Parkway, Santee, CA 92071
ECAWP JPA	East County Water Recycling Facility (ECWRF)	12001 North Fanita Parkway, Santee, CA 92071

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Advanced treated recycled water	32º 51' 53" N	116º 53' 16" W	Lake Jennings
002	Advanced treated recycled water, and off-specification advanced treated recycled water	32° 50' 50" N	117° 0' 24" W	Sycamore Creek

This Order was adopted on: **November 12, 2025**
This Order shall become effective on: **June 1, 2026**
This Order shall expire on: **May 31, 2031**

The Discharger must 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 (title 23 CCR), 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.

TENTATIVE

David W. Gibson, Executive Officer

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1. FACILITY INFORMATION

Information describing the new ECWRF and the ECAWP Facility is summarized in Table 1 and in sections 1 and 2 of the Fact Sheet (Attachment F). The ECWRF will produce tertiary treated recycled water for further treatment at the ECAWP Facility.[1] Section 1 of the Fact Sheet also includes information regarding the ECAWP JPA's permit application.

2. FINDINGS

The San Diego Water Board finds:

2.1. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (Water Code) (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge locations 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 to this Order), 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 and requirements in subsections 3.2 and 4.3 are included to implement State of California (State) law only. These provisions and requirements are not required or authorized under the CWA; consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are available for NPDES permit violations.

2.4. California Environmental Quality Act (CEQA) for NPDES Permit

The action to adopt an NPDES permit is exempt from the provisions of CEQA (Public Resources Code Section 21100, et seq.) in accordance with section 13389 of the Water Code.

[1] The ECWRF will also produce tertiary treated disinfected recycled wastewater for non-potable reuse. The production and reuse of tertiary treated disinfected recycled wastewater will be regulated under separate WDRs and water reclamation requirements (WRR).

2.5. **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.

2.6. **Notification of Interested Parties**

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

THEREFORE, IT IS HEREBY ORDERED that Order No. R9-2022-0003, NPDES No. CA0107492, *Waste Discharge Requirements For The Padre Dam Municipal Water District, Ray Stoyer Water Recycling Facility, Discharge To Sycamore Creek San Diego County* (Order No. R9-2022-0003) is rescinded upon the effective date of this Order except for enforcement purposes; and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger must comply with the requirements in this Order. This action in no way prevents the San Diego Water Board from taking enforcement action for violations of the previous Order. The Discharger is hereby authorized to discharge subject to WDRs in this Order at the discharge locations described in Table 2 to Lake Jennings and Sycamore Creek.

3. DISCHARGE PROHIBITIONS

3.1 The discharge of waste not treated by secondary, tertiary, and advanced treatment processes from the ECAWP Facility to Lake Jennings, Santee Lakes, or Sycamore Creek; and not in compliance with the effluent limitations specified in section 4.1 of this Order, or to a location other than described in Table 2 of this Order, unless specifically regulated by this Order or separate WDRs, is prohibited.

3.2. The discharge of waste must comply with Discharge Prohibitions contained in chapter 4 of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan), which is incorporated into this Order by reference.

3.3. The discharge of residual algaecides and aquatic herbicides to Sycamore Creek is prohibited.

3.4. The bypassing of untreated waste is prohibited, except as allowed by federal law as described in Standard Provisions 1.7 or 1.8 of this Order (Attachment D).

4. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

4.1. Effluent Limitations

4.1.1. ECAWP Facility Interior and Discharge Point No. 001 (Lake Jennings)

4.1.1.1. The Discharger must maintain compliance with the following effluent limitations, with compliance measured at Monitoring Location INT-003, as described in the Monitoring and Reporting Program (MRP, Attachment E).

Table 3. Effluent Limitations at Monitoring Location INT-003 (Technology Based Effluent Limitations for Conventional Pollutants)

Parameter	Unit	Average Monthly[1,2]	Average Weekly[1,2]
Biochemical Oxygen Demand 5-day @ 20 degrees Celsius (°C) (BOD_5)	milligram per liter (mg/L)	30	45
BOD_5	% Removal[1]	≥85	--
BOD_5	pounds per day (lbs/day)	4,003	6,005
Flow	million gallons per day (MGD)	16	--
Total Suspended Solids (TSS)	mg/L	30	45
TSS	% Removal[1]	≥85	--
TSS	lbs/day[2]	4,003	6,005

Notes for Table 3:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The Mass Emission Rate (MER) limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECWRF (16 MGD) and C is the concentration (mg/L).

4.1.1.2. The Discharger must maintain compliance with the following effluent limitations, with compliance measured at Monitoring Locations INT-005A through INT-005F or INT-006, as described in the MRP:

4.1.1.2.1. Turbidity shall not exceed 0.2 Nephelometric Turbidity Units (NTU) more than 5% of the time within a 24-hour period; and

4.1.1.2.2. Turbidity shall not exceed 0.5 NTU at any time.

4.1.1.3. The Discharger must ensure that the concentration of total organic carbon (TOC) measured at Monitoring Location INT-010, as described in the MRP, is no greater than 0.25 mg/L TOC in 95% of samples collected during the first 20 weeks of operation, pursuant to title 22 CCR section 60320.302(a)(2).

4.1.1.4. The Discharger shall meet the following Ultraviolet (UV) disinfection criteria with compliance measured at Monitoring Location INT-012A through INT-012C for all discharges to Santee Lakes including water that is “off specification” for discharge to Lake Jennings:

4.1.1.4.1. UV transmittance minimum of 95%.

4.1.1.4.2. UV minimum dose of 160 millijoules per square centimeter (mJ/cm2).

4.1.1.5. The Discharger must maintain compliance with the following effluent limitations, with compliance measured at Monitoring Location EFF-001A, as described in the MRP.

Table 4. Effluent Limitations at Monitoring Location EFF-001A (Technology and Water Quality Based Effluent Limitations)

Parameter	Units	Annual Average	Average Monthly[1,2]	Maximum Daily[1,2]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
Ammonia, Un-ionized (as N)	mg/L	---	---	0.025	---	---
Ammonia, Un-ionized (as N)	lbs/day	---	---	2.61	---	---
Flow[3]	MGD	---	12.5	---	---	---
Nitrogen, Total (as N)	mg/L	---	3.0	---	---	---
Nitrogen, Total (as N)	lbs/day	---	312.8	---	---	---
pH	standard units	---	--	--	6.5	8.5
Phosphorus, Total (as P)	mg/L	---	0.025	---	---	---
Phosphorus, Total (as P)	lbs/day	---	2.61	---	---	---

Notes for Table 4:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).
3. The flow for Discharge Point No. 001 (Lake Jennings) will be monitored at the discharge header for the product water pumps or other locations as authorized by San Diego Water Board.

4.1.1.6. The Discharger must maintain compliance with the following effluent limitations listed in Tables 5 through 9 and 11 based on maximum contaminant levels (MCLs) specified in title 22 of the title 22 CCR. Compliance shall be measured at Monitoring Location EFF-001A, as described in the MRP.

Table 5. Effluent Limitations at Monitoring Location EFF-001A
(Primary MCLs for Inorganic Chemicals)

Parameter	Units	Four-Week Running Average[1]
Aluminum	mg/L	1
Aluminum	lbs/day	104
Antimony	mg/L	0.006
Antimony	lbs/day	0.6
Arsenic	mg/L	0.01
Arsenic	lbs/day	1.0
Asbestos	million fibers per liter	7
Barium	mg/L	1
Barium	lbs/day	104
Beryllium	mg/L	0.004
Beryllium	lbs/day	0.4
Cadmium	mg/L	0.005
Cadmium	lbs/day	0.5
Chromium, Hexavalent	mg/L	0.010
Chromium, Hexavalent	lbs/day	1.04
Chromium, Total	mg/L	0.05
Chromium, Total	lbs/day	5.2
Cyanide	mg/L	0.15
Cyanide	lbs/day	15.64
Fluoride	mg/L	2
Fluoride	lbs/day	209
Mercury	mg/L	0.002
Mercury	lbs/day	0.2
Nickel	mg/L	0.1
Nickel	lbs/day	10.4
Nitrate (as nitrogen)	mg/L	10
Nitrate (as nitrogen)	lbs/day	1042.5
Nitrate+Nitrite (sum as nitrogen)	mg/L	10
Nitrate+Nitrite (sum as nitrogen)	lbs/day	1042.5
Nitrite (as nitrogen)	mg/L	1
Nitrite (as nitrogen)	lbs/day	104
Perchlorate	mg/L	0.006
Perchlorate	lbs/day	0.6
Selenium	mg/L	0.05

Parameter	Units	Four-Week Running Average[1]
Selenium	lbs/day	5.2
Thallium	mg/L	0.002
Thallium	lbs/day	0.2

Notes for Table 5:

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).

Table 6. Effluent Limitations at Monitoring Location EFF-001A[1]
(Primary MCLs for Volatile Organic Chemicals)

Parameter	Units	Four-Week Running Average[2]
Benzene	mg/L	0.001
Benzene	lbs/day	0.1
Carbon Tetrachloride	mg/L	0.0005
Carbon Tetrachloride	lbs/day	0.1
1,2-Dichlorobenzene	mg/L	0.6
1,2-Dichlorobenzene	lbs/day	62.6
1,4-Dichlorobenzene	mg/L	0.005
1,4-Dichlorobenzene	lbs/day	0.5
1,1-Dichloroethane	mg/L	0.005
1,1-Dichloroethane	lbs/day	0.5
1,2-Dichloroethane	mg/L	0.0005
1,2-Dichloroethane	lbs/day	0.1
1,1-Dichloroethylene	mg/L	0.006
1,1-Dichloroethylene	lbs/day	0.6
cis-1,2-Dichloroethylene	mg/L	0.006
cis-1,2-Dichloroethylene	lbs/day	0.6
trans-1,2-Dichloroethylene	mg/L	0.01
trans-1,2-Dichloroethylene	lbs/day	1.0
Dichloromethane	mg/L	0.005
Dichloromethane	lbs/day	0.5
1,2-Dichloropropane	mg/L	0.005
1,2-Dichloropropane	lbs/day	0.5
1,3-Dichloropropene	mg/L	0.0005
1,3-Dichloropropene	lbs/day	0.1
Ethylbenzene	mg/L	0.3
Ethylbenzene	lbs/day	31.3
Methyl-tert-butyl ether (MTBE)	mg/L	0.013

Parameter	Units	Four-Week Running Average[2]
MTBE	lbs/day	1.36
Monochlorobenzene	mg/L	0.07
Monochlorobenzene	lbs/day	7.3
Styrene	mg/L	0.1
Styrene	lbs/day	10.4
1,1,2,2-Tetrachloroethane	mg/L	0.001
1,1,2,2-Tetrachloroethane	lbs/day	0.1
Tetrachloroethylene	mg/L	0.005
Tetrachloroethylene	lbs/day	0.5
Toluene	mg/L	0.15
Toluene	lbs/day	15.6
1,2,4-Tricholorobenezene	mg/L	0.005
1,2,4-Tricholorobenezene	lbs/day	0.5
1,1,1-Tricholoroethane	mg/L	0.2
1,1,1-Tricholoroethane	lbs/day	20.9
1,1,2-Tricholoroethane	mg/L	0.005
1,1,2-Tricholoroethane	lbs/day	0.5
Trichloroethylene	mg/L	0.005
Trichloroethylene	lbs/day	0.5
Trichlorofluoromethane	mg/L	0.15
Trichlorofluoromethane	lbs/day	17.1
1,1,2-Trichloro-1,2,2-Trifluroethane	mg/L	1.2
1,1,2-Trichloro-1,2,2-Trifluroethane	lbs/day	125.1
Vinyl Chloride	mg/L	0.0005
Vinyl Chloride	lbs/day	0.1
Xylenes (m,p)	mg/L	1.750[3]
Xylenes (m,p)	lbs/day	182.4

Notes for Table 6:

1. Effluent limitations based on primary MCLs for volatile organic chemicals specified in Table 64444-A of title 22 CCR.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).
3. The MCL applies to a single isomer (m or p) or the sum of the m and p isomers.

Table 7. Effluent Limitations at Monitoring Location EFF-001A[1]
(Primary MCLs for Synthetic Organic Chemicals)

Parameter	Units	Four-Week Running Average[2]
Alachlor	mg/L	0.002
Alachlor	lbs/day	0.2
Atrazine	mg/L	0.001
Atrazine	lbs/day	0.1
Bentazon	mg/L	0.018
Bentazon	lbs/day	1.9
Benzo(a)pyrene	mg/L	0.0002
Benzo(a)pyrene	lbs/day	0.02
Carbofuran	mg/L	0.018
Carbofuran	lbs/day	1.9
Chlordane	mg/L	0.0001
Chlordane	lbs/day	0.01
2,4,D	mg/L	0.07
2,4,D	lbs/day	8.0
Dalapon	mg/L	0.2
Dalapon	lbs/day	20.9
Dibromochloropropane	mg/L	0.0002
Dibromochloropropane	lbs/day	0.02
Di(2-ethylhexyl)adipate	mg/L	0.4
Di(2-ethylhexyl)adipate	lbs/day	41.7
Di(2-ethylhexyl)phthalate	mg/L	0.004
Di(2-ethylhexyl)phthalate	lbs/day	0.4
Dinoseb	mg/L	0.007
Dinoseb	lbs/day	0.7
Diquat	mg/L	0.02
Diquat	lbs/day	2.1
Endothall	mg/L	0.1
Endothall	lbs/day	11.4
Endrin	mg/L	0.002
Endrin	lbs/day	0.2
Ethylene Dibromide	mg/L	0.00005
Ethylene Dibromide	lbs/day	0.005
Glyphosate	mg/L	0.7
Glyphosate	lbs/day	73.0
Heptachlor	mg/L	0.00001
Heptachlor	lbs/day	0.001

Parameter	Units	Four-Week Running Average[2]
Heptachlor Epoxide	mg/L	0.00001
Heptachlor Epoxide	lbs/day	0.001
Hexachlorobenzene	mg/L	0.001
Hexachlorobenzene	lbs/day	0.1
Hexachlorocyclopentadiene	mg/L	0.05
Hexachlorocyclopentadiene	lbs/day	5.2
Lindane	mg/L	0.0002
Lindane	lbs/day	0.02
Methoxychlor	mg/L	0.03
Methoxychlor	lbs/day	3.1
Molinate	mg/L	0.02
Molinate	lbs/day	2.1
Oxamyl	mg/L	0.05
Oxamyl	lbs/day	5.2
Pentachlorophenol	mg/L	0.001
Pentachlorophenol	lbs/day	0.1
Picloram	mg/L	0.5
Picloram	lbs/day	52.1
Polychlorinated Biphenyls	mg/L	0.0005
Polychlorinated Biphenyls	lbs/day	0.1
Simazine	mg/L	0.004
Simazine	lbs/day	0.4
Thiobencarb	mg/L	0.07
Thiobencarb	lbs/day	7.3
Toxaphene	mg/L	0.003
Toxaphene	lbs/day	0.3
1,2,3-Trichloropropane	mg/L	5E-06[3]
1,2,3-Trichloropropane	lbs/day	5E-04[3]
2,3,7,8-TCDD (Dioxin)	mg/L	3E-08[3]
2,3,7,8-TCDD (Dioxin)	lbs/day	3E-06[3]
2,4,5-TP (Silvex)	mg/L	0.05
2,4,5-TP (Silvex)	lbs/day	5.2

Notes for Table 7:

1. Effluent limitations based on primary MCLs for synthetic organic chemicals specified in Table 64444-A of title 22 CCR.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).

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

Table 8. Effluent Limitations at Monitoring Location EFF-001A[1]
(Primary MCLs for Radionuclides)

Parameter	Units	Four-Week Running Average
Beta/photon emitters	picocuries per liter (pCi/L)	4 millirem/year annual dose equivalent to the total body or any internal organ
Combined Radium 226 and 228	pCi/L	5
Gross Alpha Particle Activity (Excluding Radon and Uranium)	pCi/L	15
Strontium-90	pCi/L	8
Tritium	pCi/L	20,000
Uranium	pCi/L	20

Notes for Table 8:

1. Effluent limitations based on primary MCLs for radionuclides specified in Tables 64442 and 64443 of title 22 CCR.

Table 9. Effluent Limitations at Monitoring Location EFF-001A[1]
(Secondary MCLs)

Parameter	Units	Annual Average[2]
Aluminum	mg/L	0.2
Aluminum	lbs/day	20.9
Color	Color Units	15
Chloride	mg/L	250
Chloride	lbs/day	26,063
Copper	mg/L	1.0
Copper	lbs/day	104.3
Foaming agents (Methylene Blue Activated Substances)	mg/L	0.5
Foaming agents (Methylene Blue Activated Substances)	lbs/day	52.1
Iron	mg/L	0.3
Iron	lbs/day	31.3

Parameter	Units	Annual Average[2]
Manganese	mg/L	0.05
Manganese	lbs/day	5.2
MTBE	mg/L	0.005
MTBE	lbs/day	0.5
Odor – Threshold	Units	3
Silver	mg/L	0.1
Silver	lbs/day	10.4
Sulfate	mg/L	250
Sulfate	lbs/day	26,063
Thiobencarb	mg/L	0.001
Thiobencarb	lbs/day	0.1
Total Dissolved Solids (TDS)	mg/L	1,000
TDS	lbs/day	104,250
Zinc	mg/L	5.0
Zinc	lbs/day	521.3

Notes for Table 9:

1. Effluent limitations based on secondary MCLs specified in Tables 64449-A and B of title 22 CCR.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).

4.1.1.7. The Discharger must maintain compliance with the following effluent limitations, with compliance measured at Monitoring Location EFF-001B:

Table 10. Effluent Limitations at Monitoring Location EFF-001B (Water Quality Based Effluent Limitations)

Parameter	Unit	Average Monthly[1]	Maximum Daily[1]
Total Residual Chlorine	µg/L	9	18
Total Residual Chlorine	lbs/day	0.94	1.88

Note for Table 10:

1. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).

4.1.1.8. The Discharger must comply with the following effluent limitations, with compliance measured at Monitoring Location EFF-001B as described in the MRP.

Table 11. Effluent Limitations at Monitoring Location EFF-001B[1]
(Disinfection Byproducts)

Parameter	Units	Four-Week Running Average[2]
Bromate	mg/L	0.010
Bromate	lbs/day	1.0
Chlorite	mg/L	1.0
Chlorite	lbs/day	104.3
Haloacetic Acids (HAA_5)[3]	mg/L	0.060
HAA_5[3]	lbs/day	6.3
Trihalomethanes, Total [4]	mg/L	0.080
Trihalomethanes, Total [4]	lbs/day	8.34

Notes for Table 11:

1. Effluent limitations based on primary MCLs for disinfection byproducts specified in Tables 64533-A of title 22 CCR.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the ECAWP Facility (12.5 MGD) and C is the concentration (mg/L).
3. The four-week running average effluent limitation applies to HAA_5 which represents the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.
4. The four-week running average effluent limitation applies to total trihalomethanes which represents the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane.

4.1.2. **Discharge Point No. 002 (Santee Lakes and Sycamore Creek)**

4.1.2.1. The Discharger shall meet the total coliform criteria with compliance measured at Monitoring Location EFF-002A for all discharges to Santee Lakes including water that is “off specification” for discharge to Lake Jennings, pursuant to title 22 CCR section 60301.230(b):

4.1.2.1.1. 2.2 Most Probable Number per 100 millimeters (MPN/100 mL) as a 7-day median based upon the last seven days.

4.1.2.1.2. 23 MPN/100 mL more than once in any 30-day period; and

4.1.2.1.3. 240 MPN/100 mL at any time.

4.1.2.2. The Discharger must maintain compliance with the following effluent limitations, with compliance measured at Monitoring Location EFF-002B.

Table 12. Effluent Limitations at Monitoring Location EFF-002B
(Water Quality Based Effluent Limitations)

Parameter	Unit	Average Monthly[1,2]	Maximum Daily[1,2]
Ammonia, Un-ionized (as N)	mg/L	--	0.025

Parameter	Unit	Average Monthly[1,2]	Maximum Daily[1,2]
Ammonia, Un-ionized (as N)	lbs/day	--	0.42
Flow	MGD	2.0	---
Phosphorus, Total (as P)	mg/L	--	0.025
Phosphorus, Total (as P)	lbs/day	--	0.42
Total Residual Chlorine	µg/L	9	18
Total Residual Chlorine	lbs/day	0.15	0.30

Notes for Table 12:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The MER limitations, in lbs/day, were calculated based on the following equation: MER = 8.34 x Q x C, where Q is the permitted flow for the discharge to Santee Lakes and Sycamore Creek (2.0 MGD) and C is the concentration (mg/L).

4.1.3. Action Levels (ALs) and Notification Levels (NLs)

ALs and NLs are health-based advisory levels established by the State Water Resources Control Board, Division of Drinking Water (DDW) for constituents in drinking water without MCLs. The Discharger must monitor the following constituents with ALs and NLs at Monitoring Location EFF-001A as specified in the section 3.3.1 of the MRP. The Discharger must conduct additional monitoring as described in section 3.3.7. of the MRP when an AL is exceeded. The Discharger must conduct additional monitoring as described in section 3.3.7.4. of the MRP when a NL is exceeded. ALs and NLs will not be used for compliance determination at this time, however, chemicals for which ALs and NLs are established may eventually be regulated by MCLs through a formal regulatory process.

Table 13. ALs and NLs at Monitoring Location EFF-001A

Parameter	Units	ALs	NLs
Boron	mg/L	-	1
n-Butylbenzene	mg/L	-	0.26
sec-Butylbenzene	mg/L	-	0.26
tert-Butylbenzene	mg/L	-	0.26
Carbon disulfide	mg/L	-	0.16
Chlorate	mg/L	-	0.8
2-Chlorotoluene	mg/L	-	0.14
4- Chlorotoluene	mg/L	-	0.14
Copper	mg/L	1.3	-
Diazinon	mg/L	-	0.0012
Dichlorodifluoromethane (Freon 12)	mg/L	-	1
1,4-Dioxane	mg/L	-	0.001

Parameter	Units	ALs	NLs
Ethylene glycol	mg/L	-	14
Formaldehyde	mg/L	-	0.1
HMX (Octogen)	mg/L	-	0.35
Isopropylbenzene	mg/L	-	0.77
Lead	mg/L	0.015	-
Manganese	mg/L	-	0.5
Methyl isobutyl ketone (MIBK)	mg/L	-	0.12
Naphthalene	mg/L	-	0.017
N-nitrosodiethylamine (NDEA)	mg/L	-	0.00001
N-nitrosodimethylamine (NDMA)	mg/L	-	0.00001
N-nitrosodi-n-propylamine (NDPA)	mg/L	-	0.00001
Perfluorobutanesulfonic acid (PFBS)	mg/L	-	0.0005
Perfluorohexanesulfonic acid (PFHxS)	mg/L	-	0.000003
Perfluorooctanoic acid (PFOA)	mg/L	-	0.0000051
Perfluorooctanesulfonic Acid (PFOS)	mg/L	-	0.0000065
Propachlor	mg/L	-	0.09
n-Propylbenzene	mg/L	-	0.26
RDX	mg/L	-	0.0003
Tertiary butyl alcohol (TBA)	mg/L	-	0.012
1,2,4-Trimethylbenzene	mg/L	-	0.33
1,3,5-Trimethylbenzene	mg/L	-	0.33
2,4,6 Trinitrotoluene (TNT)	mg/L	-	0.001
Vanadium	mg/L	-	0.05

4.2. Land Discharge Specifications – Not Applicable

4.3. DDW Specifications and Requirements (for Surface Water Source Augmentation Project)

4.3.1. General Requirements

4.3.1.1. The Discharger's Surface Water Source Augmentation Project (SWSAP)[2] must comply with Article 5.3 – Indirect Potable Reuse: Surface Water Augmentation and Article 9 – Indirect Potable Reuse: Surface Water Augmentation of title 22 CCR.

4.3.1.2. The Discharger must submit a Joint Plan to DDW and the San Diego Water Board for review and written approval. The Joint Plan must be signed by the legally responsible officials for the Discharger and Helix Water District, the Surface Water Source Water Augmentation Project Public Water System (Helix

[2] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

WD).[3] The Discharger must implement the actions designated in the Joint Plan. The Discharger must submit revisions of the Joint Plan to DDW and the San Diego Water Board no less than 60 days prior to the effective date of the revised Joint Plan, pursuant to title 22 CCR section 60320.301(a).

4.3.1.3. Pursuant to title 22 CCR section 60320.301(c), the Discharger must do the following prior to augmenting Lake Jennings with advanced treated recycled water:

4.3.1.3.1. Demonstrate to DDW and the San Diego Water Board that all treatment processes are installed and can be operated, as designed, to achieve the intended function presented in the Engineering Report and;

4.3.1.3.2. Demonstrate to DDW and the San Diego Water Board that the alarms and responses are functional and in conformance with the SWSAP Operation Plan required by section 4.3.8. of this Order.

4.3.1.4. The Discharger must obtain written approval from the San Diego Water Board to resume augmentation of Lake Jennings pursuant to title 22 CCR section 60320.301(f) for the following circumstances:

4.3.1.4.1. If the Discharger has been required by Article 5.3 of title 22 CCR to suspend augmentation of Lake Jennings for any reason or;

4.3.1.4.2. If the Discharger has been directed by DDW or the San Diego Water Board to suspend augmentation of Lake Jennings for any reason.

4.3.1.5. The Discharger must follow the process described in title 22 CCR section 60320.330 to propose an alternative to a requirement in Article 5.3. of title 22 CCR.

4.3.1.6. The Discharger must ensure that all treatment processes at ECAWP Facility operated in a manner that provides optimal reduction of all chemicals and contaminants pursuant to title 22 CCR section 60320.322(c).

4.3.2. **Wastewater Source Control**

4.3.2.1. The Discharger must ensure the advanced treated recycled water meets the wastewater source control requirements contained in title 22 CCR section 60320.306. These wastewater source control requirements have been incorporated into the pretreatment requirements in section 5.3.4.8. of this Order.

4.3.3. **Laboratory Analyses and Reporting**

4.3.3.1. The Discharger must ensure all laboratory analyses for any contaminant with a primary or secondary MCL must be conducted pursuant to title 22 CCR section 60320.304. These laboratory analyses requirements have been incorporated into the MRP of this Order.

4.3.3.2. The Discharger must submit analytical results of all sample analyses completed in a calendar month electronically to DDW's database no later than the 10th day

[3] The requirements for determining the legally responsible official for an agency can be found in provision 5.2 of Standard Provisions (Attachment D).

of the following month in which analysis was completed with the following requirements. These reporting requirements have been incorporated into section 7.2 of the MRP.

4.3.3.2.1. The Discharger must use DDW provided Primary Station Codes (PS-codes) to electronically submit the water quality monitoring results. The PS-codes and corresponding monitoring locations are listed in Table E-1 of the MRP.

4.3.3.2.2. Laboratory results required by DDW that cannot be transmitted electronically via PS-codes to California Laboratory Intake Portal (CLIP), such as bacteriological data, must be submitted to DDW in appropriate reports (e.g., monthly, quarterly reports). If there are any required data including from non-CLIP method(s) which cannot be transmitted electronically, the Discharger must provide a justification to DDW.

4.3.3.2.3. Data produced and reports submitted for analysis required by Article 5.3 of title 22 CRR must be generated by a laboratory accredited by the State Water Resource Control Board (State Water Board) Environmental Laboratory Accreditation Program. The laboratory must hold a valid certificate of accreditation for the analytical test methods validated for intended use and approved by DDW. The Discharger may use non ELAP accredited laboratories in limited instances as detailed in section 1.6. of the MRP.

4.3.3.2.4. The Discharger must use the analytical methods described in the SWSAP Operation Plan. The Discharger must notify the San Diego Water Board and DDW of any changes to analytical methods. The Discharger must document the method change in the SWSAP Operation Plan as detailed in section 4.3.8 of the Order. The sampling frequencies and sampling locations listed in the SWSAP Operation Plan must match the requirements of the MRP. The Discharger must not reduce the monitoring frequency for the any chemicals or parameters, without the approval of DDW and subsequent written approval from the San Diego Water Board's Executive Officer modifying the MRP.

4.3.4. **Advanced Treatment Criteria**

4.3.4.1. The Discharger must provide continuous full advanced treatment, of the entire advanced treated recycled water stream prior to discharge to Lake Jennings (full advanced treatment is defined in Article 5.3) pursuant to title 22 CCR section 60320.302. The Discharger must operate the ECAWP Facility in accordance with the Discharger's approved Engineering Report and SWSAP Operation Plan.

4.3.4.2. The Discharger must monitor the reverse osmosis (RO) permeate at least weekly for TOC during the first 20 weeks of operation pursuant to title 22 CCR section 60320.302(a)(2). TOC concentrations must be no greater than 0.25 mg/L in at least ninety-five percent of the samples. This effluent limitation has been incorporated into section 4.1.1.3 of this Order and the corresponding monitoring has been incorporated into section 3.2 of the MRP.

4.3.4.3. The Discharger must conduct testing demonstrating that the oxidation treatment process will provide no less than 0.5-log (69-percent) reduction of 1,4-dioxane pursuant to title 22 CCR section 60320.302(c). The Discharger must submit a

testing protocol for DDW's review and written approval at least 90 days prior to conducting the test. The testing must include challenge or spiking tests, using 1,4-dioxane, to demonstrate the proposed process will achieve the minimum reduction under normal full-scale operating conditions. The Discharger must submit a report to DDW for review, containing the test results. The Discharger must not deliver advanced treated recycled water to Lake Jennings until it has received written approval from DDW. The Discharger must continuously monitor the flow, UV dose, UV transmittance, power, and free chlorine residual as surrogate and operational parameters to indicate whether the minimum reduction criterion is being met. During full scale operation of the process, the Discharger must continuously monitor for the aforementioned parameters or other DDW approved surrogates and operational parameters based on the demonstration testing discussed herein. The details of this monitoring program must be described in the SWSAP Operation Plan.

4.3.4.4. The Discharger must submit a report to DDW and the San Diego Water Board that includes components described in title 22 CCR sections 60320.302(e) and (f), within 60 days of completing the first 12-months of full-scale operation and operational monitoring of the advanced treatment process.

4.3.4.5. The Discharger must perform calculations to document proper on-going performance of the RO and advanced oxidation processes (AOP) and report the results to DDW and the San Diego Water Board quarterly pursuant to title 22 CCR section 60320.302(g). The Discharger must state the percentage of results of the quarter's monitoring conducted pursuant to title 22 CCR sections 60320.302(b) and (d), that did not meet the surrogate or operational parameter limits. The Discharger must also state in the quarterly report if the limits were exceeded by greater than 10%.

4.3.4.6. The Discharger must collect samples representative of the effluent of the advanced treatment process under normal operating conditions and have the samples analyzed for contaminants having MCLs (primary or secondary), ALs, and NLs, each month, pursuant to title 22 CCR section 60320.302(h). The Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency after 12 consecutive months of operation with no results exceeding an MCL, AL, or NL. The reduced monitoring frequency for contaminants with MCLs must be no less than quarterly. The Discharger must follow the procedure in section 1.5. of the MRP to request reductions in monitoring frequency. If an MCL, AL, or NL is exceeded, the Discharger must take the follow-up actions for MCL, AL, or NL exceedances required pursuant to title 22 CCR sections 60320.312 and 60320.320(b). The Discharger must expand monitoring to include any additional MCLs, ALs, or NLs adopted by DDW after the effective date of this Order. The San Diego Water Board and DDW will provide written notification to the Discharger of the new monitoring requirement and specify a frequency. These effluent monitoring requirements have been incorporated into section 3.3. the MRP.

4.3.4.7. The Discharger must have reliability features including alarms as stated in the Engineering Report. Commissioning must validate and confirm the operation

setpoints for the RO process and AOP pursuant to title 22 CCR section 60320.302; and the alarm settings must be specified in the SWSAP Operation Plan required by title 22 CCR section 60320.322.

4.3.4.8. **Pathogenic Microorganism Control**

4.3.4.8.1. The Discharger must operate the treatment process such that the advanced treated recycled water discharged to Lake Jennings reliably achieves reductions of at least 8-$\log_{10}$ for *Cryptosporidium* oocyst, 7-$\log_{10}$ for *Giardia* cyst, and 8-$\log_{10}$ for enteric virus, pursuant to title 22 CCR section 60320.308(a)(1).

4.3.4.8.2. The Discharger must validate each of the treatment processes used to meet the required *Cryptosporidium*, *Giardia,* and virus reductions pursuant to title 22 CCR section 60320.308(b). The Discharger must propose on-going monitoring that verifies the performance of each treatment in achieving its credited log reduction and include this information in the SWSAP Operation Plan.

4.3.4.8.3. Pursuant to title 22 CCR section 60320.308(c), if the Discharger fails to meet the required Cryptosporidium, Giardia, and virus reductions, based on the required on-going monitoring detailed in the SWSAP Operation Plan, then the Discharger must investigate the cause and initiate corrective actions within 24 hours of failing to meet the reduction. If the Discharger fails to meet the pathogen reduction criteria longer than 4 consecutive hours or more than a total of 8 hours in any 7-day period, the Discharger must notify DDW, the San Diego Water Board, and Helix WD staff within 24 hours of its knowledge of such a failure. The Discharger must report failures of shorter duration to DDW and the San Diego Water Board no later than 10 days after the month in which the failure occurred.

4.3.4.8.4. Pursuant to title 22 CCR section 60320.308(d), the Discharger must notify DDW, the San Diego Water Board, and Helix WD staff, within 24 hours of knowledge, and discontinue delivery of the advanced treated wastewater to Lake Jennings if the treatment train cannot achieve the following:

i. Less than 6-$\log_{10}$ reduction for enteric virus;

ii. Less than 5-$\log_{10}$ reduction for Giardia reduction; or

iii. Less than 6-$\log_{10}$ reduction for Cryptosporidium .

4.3.5. **General Compliance Monitoring, Reporting, and Operation**

4.3.5.1. The Discharger must submit an annual report to DDW, the San Diego Water Board, and Helix WD pursuant to title 22 CCR section 60320.328, by July 1st of each year. The annual report details are in section 7.2.2. of the MRP.

4.3.5.2. The Discharger must update the Engineering Report to address any surface water augmentation project changes from the previous Engineering Report and submit the report to DDW and the San Diego Water Board no less frequently than five years from the date the previous Engineering Report was conditionally accepted, pursuant to title 22 CCR section 60320.328 (b).

4.3.6. **ECAWP Facility Monitoring**

4.3.6.1. The Discharger must complete compliance monitoring as required by DDW and the San Diego Water Board. If there are duplications, the Discharger must comply with the frequency and limitations of whichever requirement is more stringent. The monitoring and reporting requirements of this Order must be incorporated into the SWSAP Operation Plan.

4.3.6.2. The Discharger must validate log reductions of each treatment process of the treatment train pursuant to title 22 CCR section 60320.308(b). The Discharger must verify log reduction daily through on-going monitoring conducted in accordance with the approved SWSAP Operation Plan and report the results monthly to the San Diego Water Board and DDW. These reports must be submitted to DDW and the San Diego Water Board by the 10th day of the following month to DDW and the San Diego Water Board. The monthly report requirements are summarized in section 7.2. of the MRP.

4.3.6.3. The Discharger must operate a multi-barrier treatment facility to comply with the Surface Water Augmentation Regulations. Monitoring and reporting requirements must be described in the SWSAP Operation Plan required by title 22 CCR section 60320.322. Monitoring for the purpose of pathogen log reduction calculation and demonstration must be reported to DDW and the San Diego Water Board monthly, as described in section 4.3.6.2 of this Order.

4.3.6.3.1. The Discharger must continuously monitor the ECAWP Facility membrane filtration (MF) effluent at each MF train for turbidity as an indirect integrity test. The turbidity must be measured continuously at least every 15 minutes. The combined filter effluent turbidity must not exceed 0.2 NTU more than 5% of the time within a 24-hour period; and 0.5 NTU at any time pursuant to title 22 CCR section 60301.320.

4.3.6.3.2. The Discharger may monitor individual filter effluent in lieu of the combined filter effluent for the requirements of section 4.3.6.3.1. of this Order. In the SWSAP Operation Plan, the Discharger must describe the MF effluent turbidity criteria for triggering an automatic direct integrity test on the MF train that may have a potential integrity breach (also described in section 4.3.6.3.3. of this Order).

4.3.6.3.3. The Discharger must perform direct membrane integrity testing (MIT) via a pressure decay test (PDT) on each MF train at a minimum frequency of once every 24 hours of operation. A comprehensive membrane integrity verification program must be included in the SWSAP Operation Plan and submitted to DDW for review and approval. The following applies to the MIT.

4.3.6.3.3.1. The Discharger must verify the pathogen log reduction credits for Giardia and Cryptosporidium for each MF train by performing the following:

i. Daily direct integrity testing (PDT); and

ii. Continuous indirect integrity testing by measuring the MF effluent turbidity.

4.3.6.3.3.2. The Discharger must calculate and record the Giardia cysts and Cryptosporidium oocysts log reduction achieved after completion of each MIT for the MF train(s).[4] The log reduction credit for Giardia cysts and Cryptosporidium oocysts shall be as specified in DDW's conditional acceptance letter for the specific MF module. The log reduction achieved shall be based on the PDT's pressure decay rate and subject to not exceeding the established upper control limit (pressure decay rate (PDR) value) of the PDT, which must be described in the SWSAP Operation Plan.

4.3.6.3.3.3. The Discharger must install automatic reliability features that are triggered when turbidity limits specified in sections 4.3.6.3.1. of this Order are exceeded. Each MF train must be equipped to perform an automated PDT for MIT anytime the MF effluent turbidity criteria defined in the SWSAP Operation Plan is exceeded.

4.3.6.3.3.4. The MIT must have a resolution that is responsive to an integrity breach on the order of 3 microns (µm) or less.

4.3.6.3.3.5. Daily calculations of the log reduction achieved must be based on a PDR value with an ending pressure that provides a resolution of 3 µm or less.

4.3.6.3.3.6. The MIT must have a sensitivity to verify the log reduction to be equal to or greater than 4.0. The MIT sensitivity for the specific MF model's module and size installed at the ECAPW Facility shall be documented following the *United States Environmental Protection Agency's (USEPA) Membrane Filtration Guidance Manual* (2005). The Discharger must submit the MIT sensitivity results or value(s) to DDW prior to initiation of discharge to Lake Jennings from the ECAWP Facility operation. The MIT sensitivity results shall also be described in the SWSAP Operation Plan.

4.3.6.3.3.7. The MF system must be designed and constructed with all the equipment to demonstrate the required log reduction using the equations in the USEPA *Membrane Filtration Guidance Manual* (2005).

4.3.6.3.3.8. If the MF train fails the MIT, the MF train must be removed from service, investigated, and repaired if needed, and have acceptable MIT results prior to being placed into service.

4.3.6.3.4. The MF log reduction achieved is the minimum calculated log reduction of any online individual MF train for a 24-hour period.

4.3.6.3.5. The MF units must be operated at or below the maximum flux rate and transmembrane pressure[5] specified by the conditional acceptance of the specific MF model's module installed at ECAWP Facility.

4.3.6.4. The Discharger proposes a tiered monitoring approach for the RO system to demonstrate pathogen log reduction. The proposed tiered approach may be

[4] The Giardia cysts and Cryptosporidium oocysts log reduction credit is anticipated to be 4.0 or greater and no log reduction credit is being requested for virus.
[5] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

used and must be reported for the calculated surrogate reduction values from all tiers and by indicating which tier is used for reporting pathogen log reduction.

4.3.6.4.1. Tier 1: Daily (5 days/week) strontium grab samples for Primary RO (PRO) (at monitoring location INT-006) and closed-circuit Secondary RO (SRO) feed streams (at monitoring locations INT-008) and by a validated online strontium analyzer for each operating PRO and SRO train permeate stream taking alternating measurements (at monitoring locations INT-007A through E and INT-009A through D). The operating train(s) PRO permeate, and SRO permeate measurement by the strontium analyzer must be performed at a frequency of at least once every 12 hours. Each operating PRO permeate, and SRO permeate strontium analyzer measurement must be verified by a grab sample analyzed using an approved USEPA test method performed by a certified laboratory. The verification sampling can be performed on a weekly rotating schedule with one PRO train permeate and one SRO train permeate, each being verified per week, which must be described in the SWSAP Operation Plan. The RO log reduction value achieved must be calculated daily for all the RO trains in operation. The RO log reduction credit to be given is based on the reduction in strontium concentration demonstrated by the lowest log reduction value achieved from any individual operating RO train. When RO permeate online strontium analyzer measurement is not available within every 24 hours of RO train operation or the analyzer measurement does not verify with the laboratory analysis, the strontium log reduction credit shall not be given, and RO log reduction credit must be determined using Tier 2. The Discharger must use the lowest feed strontium concentration, based on the most recent 2 weeks of PRO and SRO feed strontium monitoring data, for calculating the daily strontium log reduction achieved. The SWSAP Operation Plan shall describe the basis of selecting the RO feed strontium concentration and the approach used for determining the daily strontium log reduction achieved. A summary of the entire demonstration test data shall be described in the SWSAP Operation Plan addressing the RO feed and RO permeate (PRO and SRO) strontium concentrations and showing the minimum, maximum, median, average, and percentile values and corresponding log reduction value(s) achieved, including interpretation of the changes noted in strontium concentrations and corresponding log reduction values. The SWSAP Operation Plan shall define the strontium log reduction performance range and threshold limits at which point confirmation samples, investigation, or additional action is taken to verify a suspect RO integrity breach or taking train offline or switch to Tier 2 (TOC log reduction) is made.

4.3.6.4.2. Tier 2: Continuous TOC monitoring (at least once every 15-minutes) of the RO treatment trains must be performed at: (1) the combined PRO feed stream (at monitoring location INT-006) and (2) combined stream consisting of PRO permeate and SRO permeate (at monitoring location INT-010) and results of which must be used to calculate a daily average TOC reduction by the RO. Daily Tier 2 pathogen log reduction achieved must be calculated as the daily average TOC $\log_{10}$ reduction achieved by the RO treatment. If the TOC

analyzer fails or is unavailable, the RO log reduction credit must be determined by Tier 3.

4.3.6.4.3. Tier 3: Continuous electrical conductivity (EC) monitoring (at least once every 15-minutes) must be performed for PRO and SRO feed streams (at monitoring locations INT-006 and INT-008) and PRO and SRO permeate of each operating RO train (at monitoring locations INT-007A through E and INT-009A through D). The RO log reduction credit for a PRO train would be calculated as the $\log_{10}$ reduction between the PRO feed and the PRO permeate for that train. The RO log reduction credit for SRO train would be calculated as the $\log_{10}$ reduction between the SRO feed and the SRO permeate for that train. The RO log reduction credit must be calculated based on the minimum daily EC reduction of the operating trains. The Tier 3 log reduction credit is to be used when the Tier 1 (strontium monitoring) and Tier 2 (TOC monitoring) are not available.

4.3.6.4.4. The Discharger must conduct weekly grab sampling, routine RO pressure vessel conductivity profiling, and continuous monitoring of EC on the feed streams to PRO and SRO trains (at monitoring locations INT-006 and INT-008) and on the permeate of each PRO and SRO train (at monitoring locations INT-007A through E and INT-009A through D), as described in SWSAP Operation Plan and pursuant to title 22 CCR section 60320.302(b). At a minimum, the description of the overall RO monitoring program in the SWSAP Operation Plan must include the following elements:

4.3.6.4.4.1. A description of how on-going performance monitoring will be conducted to indicate when the integrity of the RO process has been compromised. Provide a baseline of integrity test values for intact membranes during commissioning of the ECAWP Facility.

4.3.6.4.4.2. The minimum and average EC removal achieved by each RO train must be calculated and recorded continuously, based on readings taken at least every 15 minutes.

4.3.6.4.4.3. A description of the RO pressure vessel conductivity profiling, including the full standard operating procedures (SOPs) used by the ECAWP Facility staff and a schedule for vessel EC probing (i.e., vessel integrity). The conductivity of each vessel must be measured at least quarterly and recorded in an electronic logbook to establish a historical dataset and profile on vessel performance and integrity. The description shall include how the Discharger will prioritize vessels to be inspected. The Discharger must provide a rationale if it will not use a prioritization scheme. The description must also include the vessel sampling plan and breach response proposal.

4.3.6.4.4.4. A description of how baseline integrity test values will be determined for surrogates (e.g., EC) and on-going performance monitoring metrics (e.g., results from pressure vessel conductivity profiling) during the first 12 months of operations of the ECAWP Facility and updated as needed.

4.3.6.4.4.5. A description of how lower and upper control limits will be established for surrogates (e.g., EC) and on-going performance monitoring metrics (e.g., results from pressure vessel conductivity profiling) to be used for integrity testing using a statistical methodology. Perform surrogate mass balance calculations for the RO treatment system to provide the basis for lower and upper control limit values and submit with SWSAP Operation Plan.

4.3.6.4.4.6. A description of responses for exceedances of established lower and upper control limits for the surrogates (e.g., EC) and on-going performance monitoring metrics (e.g., results from pressure vessel conductivity profiling).

4.3.6.4.5. The SWSAP Operation Plan must include a description of log reduction crediting approach including determination and assignment of credits for the PRO and SRO treatment trains and using of the lowest log reduction value achieved from any individual online train calculated by supervisory control and data acquisition to determine the tier credits daily.

4.3.6.5. The Discharger must operate the UV advance oxidation process (UVAOP) with online monitoring and built-in automatic reliability features that must trigger automatic corrective action (such as switching of online trains) and possibly automatic diversion of the effluent (when critical alarm set points are exceeded), if any of the following conditions and critical alarm setpoints are reached (see sections 4.3.6.5.1. – 4.3.6.5.5. of this Order) for any online train. The time delay of 15 minutes must be inclusive of the time needed for the system to adjust for completing the corrective action.

4.3.6.5.1. For UVAOP train, complete UV reactor failure, which is not limited to train power or train communication loss.

4.3.6.5.2. For UVAOP train, instantaneous flow rate exceeding the design flow rate of 6.85 MGD per train or another setpoint approved by DDW.

4.3.6.5.3. For UVAOP train, common header influent UV transmittance (UVT) less than 95% for more than 15 minutes or another setpoint approved by DDW.

4.3.6.5.4. For UVAOP train, delivered UV dose of less than 1,200 mJ/cm^2 for more than 15 minutes or another setpoint approved by DDW after the UVAOP commissioning.

4.3.6.5.5. For UVAOP train, a measured free chlorine residual less than 1.0 mg/L entering the UV system for more than 15 minutes or another setpoint approved by DDW. The hydraulic retention time in the line to chlorine analyzer and holding time in the analyzer shall be designed to conservatively provide free chlorine residual measurement at least as high as that measured entering the UV reactor.

4.3.6.5.6. The Discharger must provide continuous monitoring of calculated UV dose, UV intensity (UVI), free chlorine residual, pH, flowrate, power, and UVT always as surrogate and/or operational parameters to indicate whether the minimum chemical reduction criterion is being met at the respective UV system critical control points. All instrumentation used to measure these parameters must be calibrated according to the manufacturer’s recommendations.

4.3.6.5.7. At least weekly, the UVT meters must be inspected and checked against a reference unit to document accuracy (i.e., instrumentation verification). Tolerance and response actions (e.g., calibration if tolerance is greater than 2%) must be included in the SWSAP Operation Plan.

4.3.6.5.8. The duty UVI sensors must be checked against calibrated UVI sensors monthly and if readings vary by more than 20%, the duty UVI sensors must be replaced and calibrated.

4.3.6.5.9. The Discharger may use the UVAOP model predicted 1,4-dioxane log reduction as a substitute for setpoints (sections 4.3.6.5.1. – 4.3.6.5.6. of this Order), provided the UVAOP model is validated during the startup and commissioning and receives approval from the DDW.

4.3.6.5.10. The Discharger must submit to DDW the calculated or model predicted 1,4-dioxane log reduction for each day along with any parameters used to calculate the value in the monthly reports, as specified in the SWSAP Operation Plan.

4.3.6.5.11. If directed by DDW, the Discharger must monitor and/or calculate the radical scavenging demand, specified in the SWSAP Operations Plan, and monitoring results to be included in the quarterly reports. The dose setpoint or UVAOP model predicted dose set points must be updated to incorporate radical scavenging demand.

4.3.6.6. The free chlorine disinfection log reduction credits for the advanced treated recycled water delivered in the pipeline from the ECAWP Facility's purified water pump station to Lake Jennings (prior to dechlorination for discharge) is subject to the following conditions:

4.3.6.6.1. All the respective pipeline critical control points must always have the following: continuous monitoring for free chlorine residual, flowrate, temperature, and pH of the advanced treated recycled water in the pipeline (upstream of the discharge to Lake Jennings before the dechlorination point).

4.3.6.6.2. The log reduction achieved must be determined using free chlorine contact time (CT) as explained in the Engineering Report. The log reduction achieved must be determined based on a minimum daily calculated free chlorine CT. A virus log reduction credit of 6-log will be achieved if the minimum daily calculated free chlorine CT is greater than 9 milligrams-minutes per liter (mg-min/L). If the minimum daily free chlorine calculated CT is less than 9 mg-min/L, the method for the determination of virus log reduction and the maximum virus log reduction shall be described in the SWSAP Operation Plan. The Giardia log reduction achieved shall be determined based on the approach described in the *USEPA Guidance Manual on Disinfection Profiling and Benchmarking* (2020) and the maximum Giardia log reduction credited shall not exceed 2-logs.

4.3.6.6.3. Online flow meters and instrumentation must be properly maintained and calibrated.

4.3.6.6.4. The SWSAP Operation Plan must have a description of the free chlorine CT determination method for achieving the Virus and Giardia log reduction, including the contact time (T_{10}) and baffling factor used. Reliability features including the alarm set points (e.g., high, high-high, low, low-low) for CT parameters (free chlorine residual, flow rate and CT disinfection value) must be described. The recording and reporting of the daily CT parameters and how the daily minimum CT is achieved and the criteria for when log reduction achieved in the pipeline will apply or not apply to the overall ECAWP log reduction shall be described in the SWSAP Operation Plan.

4.3.6.7. The Discharger must demonstrate the monitoring and reliability features, including automatic diversion for re-treatment at the ECAWP Facility, and shutdown capability, to DDW prior to discharging advanced treated recycled water to Lake Jennings and at any time requested by DDW or the San Diego Water Board.

4.3.6.8. The Discharger must submit reports to DDW providing a summary of monthly operational parameters for UV dose, AOP free chlorine and pipeline free chlorine CT disinfection for the ECAWP Facility. The reports must be submitted with the monthly report required by section 4.3.6.2. of this Order.

4.3.6.9. The Discharger must report the total log reductions achieved for each pathogen and whether the necessary log reductions (8-log enteric virus, 7-log *Giardia* cyst, and 8-log *Cryptosporidium* oocyst) have been achieved. The log reductions must be based on the calculations of log reductions achieved daily by the entire ECAWP Facility. The total pathogen log reduction requirement is subject to Helix WD's withdrawal of the volume of water from the augmented reservoir that contains no more than one percent, by volume, of the advanced treated recycled water that was delivered to Lake Jennings during any 24-hour period pursuant to title 22 CCR section 64668.30 (c)(1). The format of the monthly reporting form must be included in the SWSAP Operation Plan for approval by DDW.

4.3.6.10. The Discharger must sample the advanced treated water delivered to Lake Jennings quarterly for primary drinking water MCLs (Tables 66431-A, 64442, 64443, 64444-A and 64533-A of title 22 CCR), and for lead and copper pursuant to title 22 CCR section 60320.312(a). The results must be reported to DDW, the San Diego Water Board, and to Helix WD. Samples may be grab or 24-hour composite. Monitoring for contaminants with secondary MCLs (Tables 64449-A and B of title 22 CCR) must be conducted annually in the same quarter as specified by DDW pursuant to title 22 CCR section 60320.312(b). Monthly monitoring of the effluent of the advanced treatment process, conducted pursuant to title 22 CCR section 60320.302(h), can be used to satisfy monitoring requirements pursuant to title 22 CCR sections 60320.312(a) and (b), except for monitoring for disinfection byproducts pursuant to Table 64533-A of title 22 CCR. The Discharger must collect paired disinfection byproduct samples quarterly from the ECAWP Facility effluent at its purified water pump station (monitoring location EFF-001A) and from the dechlorination facility effluent (monitoring location EFF-001B) until at least 12 months of operation with no results exceeding the disinfection byproduct MCLs and must be described in

SWSAP Operation Plan. Paired sample collection times must be adjusted for the hydraulic retention time between the two sample sites, such that sampling at ECAWP Facility's effluent water pump station and the dechlorination facility are representative of the same element of water moving through the treatment process. The Discharger is subject to subsequent sampling and notification requirements for exceedances, which can result in suspension of delivery of the advanced treated recycled water to Lake Jennings.

4.3.6.11. The Discharger must sample and analyze advanced treated recycled water delivered to Lake Jennings for priority toxic pollutants (chemicals listed in title 40 Code of Federal Regulations (40 CFR) section 131.38, "*Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California*, as may be amended) each quarter pursuant to title 22 CCR section 60320.320. The Discharger must sample and analyze any additional chemicals specified by DDW based on the results of both the augmented reservoir monitoring conducted pursuant to title 22 CCR section 60320.326 and the results of the assessment performed pursuant to title 22 CCR section 60320.306(b)(1). The Discharger must submit the results of the advanced treated recycled water monitoring conducted pursuant to title 22 CCR section 60320.326 and the results of the assessment performed pursuant to title 22 CCR section 60320.306(b)(1) upon completion to DDW and the San Diego Water Board. These monitoring requirements have been included in section 3.3. of the MRP.

4.3.6.12. The Discharger must collect samples each month representative of the advanced treatment process effluent under normal operating conditions and analyze the samples for contaminants having NLs. After 12 consecutive months of monitoring with no results exceeding the NL, the Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency pursuant to title 22 CCR section 60320.302(h). The Discharger must follow the procedure in section 1.5 of the MRP for requesting reductions in monitoring frequency. The reduced monitoring for contaminants with NLs shall be for no less than pursuant to title 22 CCR section 60320.320(b) that requires the advanced treated recycled water delivered to the augmented reservoir to be monitored for contaminants with NLs quarterly. The Discharger is subject to additional sampling and notification requirements as stated in title 22 CCR section 60320.320(b), if a contaminant's NL is exceeded. These monitoring requirements have been included in section 3.3 of the MRP.

4.3.6.13. Pursuant to title 22 CCR section 60320.320(d), the Discharger must monitor the advanced treated recycled water delivered to Lake Jennings annually for the following indicator compounds: Nitrosomorpholine (NMOR), acetone, sucralose and Iohexol. These monitoring requirements have been included in section 3.3. of the MRP. DDW may specify future additional indicator compounds monitoring based on the following:

4.3.6.13.1. Review of the Discharger's Engineering Report;

4.3.6.13.2. Inventory developed pursuant to Discharger's collaboration with the City of San Diego's (City) expanded local limits study or source control evaluations;

4.3.6.13.3. Indicator compound's ability to characterize the performance of the treatment processes for removal of chemicals, and

4.3.6.13.4. Availability of an analytical test method for a chemical.

4.3.6.14. The Discharger must report the results of monitoring conducted pursuant to title 22 CCR section 60320.320, to DDW and San Diego Water Board in accordance with the reporting schedule in the MRP. These monitoring requirements have been included in section 3.3. of the MRP.

4.3.6.15. The Discharger must conduct paired sampling for the performance indicator constituents of emerging concern (CECs) stated in the State Water Resources Control Board's *Water Quality Control Policy for Recycled Water* (Recycled Water Policy) for the RO treatment process both prior to RO and after RO prior to AOP. A reduction in CEC monitoring requirements in accordance with the Recycled Water Policy is separate from indicator compound monitoring required by title 22 CCR section 60320.320(d). These monitoring requirements have been included in section 3.4. of the MRP.

4.3.7. **Augmented Reservoir Monitoring**

4.3.7.1. The Discharger, in coordination with Helix WD, must ensure the Lake Jennings monitoring locations are representative of the augmented lake's volume impacted by the SWSAP pursuant to title 22 CCR section 60320.326(a). The SWSAP Operation Plan must describe the Lake Jennings monitoring locations and representation with respect to the horizontal extent of the reservoir, water column, and depths from where water is drawn by Helix WD, and the reservoir's epilimnion and hypolimnion conditions. The SWSAP Operation Plan shall describe the constituents to be monitored, the monitoring frequency, and analytical methods to be used. DDW and the San Diego Water Board must be notified of any changes made to the augmented reservoir monitoring prior to implementation.

4.3.7.2. The Discharger, in coordination with Helix WD, must ensure delivery of advanced treated recycled water to Lake Jennings is in accordance with the minimum retention time required in the lake pursuant to title 22 CCR section 64668.30, and the minimum dilution (1:100) for the lake. The retention time must take into consideration the water surface elevation level, volume of advanced treated recycled water delivered, limnology of the lake, and shall be verified by Lake Jennings tracer study validated hydrodynamic model.

4.3.7.3. The Discharger, in coordination with Helix WD, must collect monthly samples for no less than 24 consecutive months, from the representative monitoring locations including the Lake Jennings profile sampling depths and the depths from where Helix WD draws water for the R.M. Levy DWTP prior to augmentation of Lake Jennings with advanced treated recycled water. The Discharger, in coordination with Helix WD, must resume sampling one month prior to commencing discharge of advanced treated recycled water to Lake Jennings. The sampling shall be conducted pursuant to title 22 CCR section 60320.326 (b). The samples must be analyzed for the secondary MCLs, TOC, total nitrogen, *E.coli*, total coliform bacteria, temperature, dissolved oxygen, chlorophyll a, total and dissolved

phosphorus, and other DDW and San Diego Water Board specified chemicals and contaminants (described in section 4.3.7.6.1. of this Order). These monitoring requirements have been included in section 4.1.1. of the MRP.

4.3.7.4. The Discharger, in coordination with Helix WD, must continue to conduct monthly monitoring required by title 22 CCR section 60320.326 (b), for no less than the initial 24 months from when Discharger starts delivering the advanced treated recycled water to Lake Jennings pursuant to title 22 CCR section 60320.326 (c). All monitoring performed pursuant to title 22 CCR sections 60320.326(b) and 60320.326(c), as well as monitoring performed for other DDW and San Diego Water Board specified chemicals and contaminants (described in section 4.3.7.6.1. of this Order), shall be described in the SWSAP Operation Plan.

4.3.7.5. The Discharger, in coordination with Helix WD, may request for reduced monitoring in writing pursuant to title 22 CCR section 60320.326 (d), after completion of the 24 months of augmented reservoir monthly monitoring required by title 22 CCR section 60320.326(c). The Discharger must submit the written request to DDW and the San Diego Water Board and receive written approval prior to the implementation of reduced monitoring. The reduced monitoring frequency may not be less than once every 12 months. These monitoring requirements have been included in section 4.1.1. of the MRP.

4.3.7.6. Pursuant to title 22 CCR sections 60320.326 (b) and 60320.326(c), the Discharger, in coordination with Helix WD, must monitor at representative monitoring locations in Lake Jennings for other specified DDW chemicals and contaminants. The Discharger must conduct contingent monitoring in Lake Jennings when the ECAWP Facility effluent exceeds MCLs (primary or secondary), ALs, or NLs. This monitoring shall be conducted as follows:

4.3.7.6.1. The Discharger, in coordination with Helix WD, must monitor for NDMA, 1,4-dioxane, formaldehyde and any other chemicals and contaminants specified by DDW. The Discharger must describe the lake augmentation monitoring in the SWSAP Operation Plan. These monitoring requirements have been included in section 4.1.1. of the MRP.

4.3.7.6.2. When the ECAWP Facility discharges effluent to Lake Jennings that exceeds MCLs or NLs, the Discharger, in coordination with Helix WD, must monitor the Lake Jennings for the specific chemicals or contaminants that exceeded those limits.[6] The monitoring shall be performed from the augmented lake's representative monitoring location(s) and the sampling time shall be adjusted in accordance with the retention time in the lake, from point of discharge to the augmented lake representative monitoring location(s), which shall be described in the SWSAP Operation Plan.

[6] An MCL or NL exceedance is determined using the average results of an initial and confirmation sample taken within 72-hours of initial exceedance in accordance with section 3.3 of the MRP.

4.3.8. **SWSAP Operation Plan**

4.3.8.1. The Discharger must submit and receive written approval for the SWSAP Operation Plan from DDW and the San Diego Water Board pursuant to title 22 CCR section 60320.322(a), prior to operation. At a minimum, the SWSAP Operation Plan must identify and describe the operations, maintenance, analytical methods, and monitoring necessary to meet Article 5.3 of title 22 CCR. The SWSAP Operation Plan must include the frequency of reporting monitoring results to DDW and the San Diego Water Board. The Discharger must implement the SWSAP Operation Plan and update it to ensure it is always representative of current operations, maintenance, and monitoring for the project. The Discharger must verify with DDW if proposed changes to the SWSAP Operation Plan require written approval prior to implementing.

4.3.8.2. The SWSAP Operation Plan must include a staffing plan for manned and unmanned operations including information on operator staffing hours, shifts, and certification classes. The Discharger must staff the ECAWP Facility with operators that have obtained or are working to obtain an Advanced Water Treatment Operator Certification. The ECAWP Facility shall be supervised and operated by staff possessing certificates of the appropriate grade . The Discharger must track the expiration dates for all certified operators to ensure valid certifications are maintained. In addition, the Discharger must staff the ECAWP Facility with operators that possess valid California-Nevada Section of the American Water Works Association/California Water Environment Association, Advanced Water Treatment Operator certifications as follows:

4.3.8.2.1. Upon commencement of discharge to Lake Jennings, the Discharger must staff the ECAWP Facility with at least one advanced water treatment 3 (AWT3™) certified Chief Plant Operator and with at least one AWT3™ or higher certified operator. A AWT3™ certified Chief Plant Operator or at least one AWT3™ or higher certified operator shall always be available for on-call support for each operating shift.

4.3.8.2.2. Within 36 months of discharge to Lake Jennings, the Discharger must staff the ECAWP Facility with at least one advanced water treatment 5 (AWT5™) certified Chief Plant Operator and with at least one AWT3™ or higher certified operator. A AWT5™ certified Chief Plant Operator or at least one AWT3™ or higher certified operator shall always be available for on-call support for each operating shift.

4.3.8.3. Pursuant to title 22 CCR section 60320.322(b), prior to operation, the Discharger must, at a minimum, demonstrate to DDW and the San Diego Water Board that the personnel operating and overseeing the operations have received training in the following:

4.3.8.3.1. The proper operation of all treatment processes utilized to achieve pathogen and chemical reduction;

4.3.8.3.2. Maintenance, calibration, and verification of instrumentation and analyzers;

4.3.8.3.3. Control systems, data trending, and the control strategy of plant systems.

4.3.8.3.4. Incident response and investigation;

4.3.8.3.5. Hazard Analysis Critical Control Point systems approach;

4.3.8.3.6. Implementation of California Safe Drinking Water Act regulations; and

4.3.8.3.7. The potential adverse health effects associated with the consumption of drinking water that does not meet California drinking water standards.

4.3.8.4. The Discharger must include a system integration plan for ECAWP Facility's process control management system that documents the process operation in accordance with the control strategy in the SWSAP Operation Plan.

4.3.8.5. The Discharger must include the standard operating procedure (SOP) for UV disinfection "off specification water"[7] discharged to Santee Lakes in the SWSAP Operation Plan. The SOP must be representative of all operating conditions. The SOP must describe the reliability features addressing the following: (i) UV disinfection of "off specification water" that is diverted to Santee Lakes that meets tertiary recycled water requirements and (ii) diversion of "off specification water" for Santee Lakes to ECWRF headworks or Metropolitan sewer system and (iii) total coliform monitoring performed must be representative of the discharge to Santee Lakes.

4.3.8.6. The Discharger must update the SWSAP Operation Plan within six months following the first year of optimizing treatment processes and anytime thereafter when operations are optimized that result in a change in operation, to include the changes in operational procedures, or monitoring. The Discharger must submit the plan to DDW and the San Diego Water Board for review and written approval prior to implementation pursuant to title 22 CCR section 60320.322(d).

4.3.9. **Cross Connection Control Program**

4.3.9.1. The ECAWP Facility must have no undesired or unintended reversal of flow of water or other liquids, gases, or other substances into the ECAWP Facility's product water lines. Any such undesired or unintended reversal of flow must be reported to DDW and to the San Diego Water Board within 24 hours of the knowledge of the incident.

4.3.9.2. The ECAWP Facility must be designed to prevent any inadvertent or improper cross-connections between the potable water, industrial water, wastewater, recycled water, chemical, or other waste or non-potable systems. Prior to operation, a backflow hazard analysis must be performed identifying the potential points of vulnerability between the potable water, industrial water, wastewater, recycled water, chemical, and other on-site waste, or non-potable piping systems. The backflow hazard analysis findings and corrective measures must be submitted to DDW for review.

[7] "Off specification water" refers to water that does not meet the requirements for discharge to Lake Jennings however it does meet the requirements for discharge to Santee Lakes.

4.3.9.3. The Discharger must submit a comprehensive cross-connection control program report for the ECAWP Facility to DDW and the San Diego Water Board. The comprehensive cross-connection control program report must be submitted as a standalone document, separate from the SWSAP Operation Plan. The following also apply to the cross-connection control program/report:

4.3.9.3.1. The cross-connection control program report must be submitted at the start-up of operation and subsequently every year. The cross-connection control program report must describe the backflow hazard analysis findings and the method(s) employed for mitigating the identified backflow hazard(s). The cross-connection control program report must include procedures for routine inspection of these potential points of vulnerability, as well as reporting procedures if inadvertent or improperly designed cross-connections are discovered.

4.3.9.3.2. The Discharger must implement its cross-connection control program and update the cross-connection control program report to ensure that the program is always representative of the current cross-connection control practices at the ECAWP Facility. At a minimum, the cross-connection control program report must be updated yearly with the results of the annual cross-connection site inspections and all applicable corrective actions and subsequently submitted to DDW and the San Diego Water Board no later than 60 days after the end of each calendar year.

4.3.9.3.3. Revisions to the cross-connection control program for any reason, including changes resulting from inspections, must be done in consultation with an individual with a valid and current Cross-Connection Control program Specialist certification issued by the California-Nevada section of the American Water Works Association or equivalent American National Standards Institute (ANSI)-accredited program.

4.3.9.4. The Discharger must inspect the ECAWP Facility for possible cross-connections of potable water, wastewater, recycled water, chemicals, and other waste or non-potable piping systems prior to operation ECAWP Facility, and once every year thereafter. Piping systems must be inspected for possible cross-connections after making any modification to the ECAWP Facility plumbing system. The ECAWP Facility must have internal protection from cross-connections. The cross-connection inspections shall be conducted as follows, but not limited to:

4.3.9.4.1. The cross-connection inspections must be performed by an individual with a valid and current Cross-Connection Program Specialist certification issued by the California-Nevada section of the American Water Works Association or equivalent ANSI-accredited program.

4.3.9.4.2. The Discharger must submit a written report documenting the result of the initial inspection with the program submitted to DDW. Subsequent inspection results must be included in the annual reports.

5. PROVISIONS

5.1. Standard Provisions

5.1.1. Federal Standard Provisions

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

5.1.2. San Diego Water Board Standard Provisions

The Discharger must 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.

5.1.2.1. The Facilities[8] shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to title 23 CCR, division 3, chapter 26. The Facilities shall be staffed 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.

5.1.2.2. The expiration date of this Order is contained on page 1 of this Order. After the expiration date, the terms and conditions of this Order are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES permit regulations in 40 CFR section 122.6 and the State's regulations at title 23 CCR, division 3, chapter 9, article 3, section 2235.4, regarding the continuation of expired permits and WDRs are met.

5.1.2.3. The Discharger must maintain a copy of this Order for access in hard copy at a prominent on-site location at the ECWRF and at the ECAWP Facility or for access in electronic format. The Order shall be available for access by site personnel, San Diego Water Board, State Water Board, and USEPA or their authorized representative at all times. Electronic access to the Order through a device that provides on-line access on the premises of the ECWRF and at the ECAWP Facility shall be considered equivalent to on-site access.

5.2. Monitoring and Reporting Program Requirements

5.2.1. The Discharger must comply with the MRP, and future revisions thereto.

5.2.2. 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

[8] Facilities include: The ECWRF, the ECAWP Facility, Solids Handling Facility, pipeline transporting advanced treated recycled water from the ECAWP Facility to Lake Jennings, and the Lake Jennings Dechlorination Facility. There are additional operator requirements for the ECAWP Facility listed in section 4.3.8.2. of this Order.

5.3. Special Provisions

5.3.1. Reopener Provisions

5.3.1.1. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity[9], monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data. (State Implementation Policy)

5.3.1.2. 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 any water quality standard contained in the Basin Plan, or otherwise promulgated by USEPA through the National Toxics Rule (NTR)[10] or the California Toxics Rule (CTR), [11] or any drinking water criterion or health advisory level (such as an MCL, NL, or AL).

5.3.1.3. This Order may be reopened for modification of the monitoring and reporting requirements and/or special studies requirements, at the discretion of the San Diego Water Board. Such modification(s) may include, but is (are) not limited to, revision(s) (i) to implement recommendations from Southern California Coastal Water Research Project (SCCWRP); (ii) to develop, refine, implement, and/or coordinate a regional monitoring program; (iii) to develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9 2012-0069, *Resolution in Support of a Regional Monitoring Framework*; and/or (iv) to add provisions to require the Discharger to evaluate and provide information on cost and values of the MRP.

5.3.1.4. 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:

5.3.1.4.1. Violation of any terms or conditions of this Order. (Water Code section 13381(a));

5.3.1.4.2. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts. (Water Code section 13381(b)); and

5.3.1.4.3. A change in any condition, that requires either a temporary or permanent reduction or elimination of the authorized discharge. (Water Code section 13381(c)).

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[9] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[10] The NTR was promulgated by USEPA on December 22, 1992, and amended on May 4, 1995 (See 40 CFR 131.36).
[11] See 65 Fed. Register 31682-31719 (May 18, 2000), adding Section 131.38 to 40 CFR.

5.3.1.5. The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes, or anticipated noncompliance with this Order does not stay any condition of this Order. (40 CFR section 122.41(f))

5.3.1.6. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA section 307(a) for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue this Order to conform to the toxic effluent standard or prohibition. (40 CFR section 122.44(b)(1))

5.3.1.7. 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))

5.3.1.8. This Order may be reopened and modified to revise effluent limitations as a result of future 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))

5.3.1.9. 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.

5.3.1.10. This Order may be modified to incorporate water quality-based effluent limitations, in accordance with the requirements set forth at 40 CFR sections 122.62 and 124.5.

5.3.1.11. This Order may be reopened to add additional algaecide and aquatic herbicide active ingredients if new active ingredients are registered by USEPA and the California Department of Pesticides Regulation.

5.3.1.12. This Order may be reopened to add numeric effluent limitations for the residual algaecide and aquatic herbicides exceeding the triggers if the additional investigation results show that to be necessary. The algaecide trigger levels are listed in section 5.3.3.1. of this Order.

5.3.1.13. If USEPA develops biological opinions regarding algaecides and aquatic herbicides included in this Order, this Order may be re-opened to add or modify effluent limitations / monitoring requirements / monitoring triggers for aquatic herbicides and algaecides and their residues of concern, if necessary.

5.3.1.14. This Order will be reopened and modified to revise any and all of the chronic toxicity testing provisions and effluent limitations, to the extent necessary, to be consistent with any Toxicity Plan that is subsequently adopted by the State Water Board promptly after USEPA-approval of such Plan.

5.3.2. **Special Studies, Technical Reports, and Additional Monitoring Requirements**

5.3.2.1. **Spill Prevention and Response Plans**

5.3.2.1.1. For purposes of this section of the Order, a spill is a discharge that occurs at or downstream of the Facilities 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.

5.3.2.1.2. The Discharger must 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 Discharger must 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 Discharger must submit the SPP/SRP and any amendments thereto to the San Diego Water Board upon request of the San Diego Water Board. The Discharger must 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.

5.3.2.2. **Spill Reporting Requirements**

The Discharger must report spills, as defined in section 5.3.2.1.1 above, in accordance with the following procedures:

5.3.2.2.1. 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 Discharger must:

5.3.2.2.1.1. Report the spill to the San Diego Water Board by email at SanDiego@waterboards.ca.gov within 24 hours from the time the Discharger 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 Discharger 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.

5.3.2.2.1.2. Submit a written report by email to 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 Discharger become aware of the spill. The written report must be signed and certified as required by section 5.2. of the Standards Provisions (Attachment D).

5.3.2.2.1.3. 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.

5.3.2.2.2. 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 Discharger is not required to notify the San Diego Water Board within 24 hours or provide a 5-day written report.

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

5.3.2.2.3.1. Notify the San Diego Water Board by email at SanDiego@waterboards.ca.gov within 24 hours from the time the Discharger 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 Discharger 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.

5.3.2.2.3.2. 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 5.2 of Attachment D of this Order (Standard Provisions).

5.3.2.2.3.3. 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.

5.3.2.2.4. For all spills, the Discharger must 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 Discharger must report no spills in the monthly SMR for that calendar month.

5.3.2.2.5. The spill reporting requirements contained in this Order do not relieve the Discharger of responsibilities to report spills to other agencies, such as the California Office of Emergency Services and the County of San Diego Department of Environmental Health.

5.3.2.3. **Reservoir Nutrient Management Plan**

The Discharger, in coordination with Helix WD, must prepare and submit a reservoir nutrient management plan to the San Diego Water Board within 180 days of the effective date of this Order. The reservoir nutrient management plan must include preventive and corrective actions that the Discharger will implement to ensure that the discharge of advanced treated recycled water containing nutrients to Lake Jennings will not stimulate algae and emergent plant growth to the extent that it causes nuisance conditions or adversely affects beneficial uses of the reservoir. The preventive and corrective actions must be demonstrated to be sufficient to ensure that the nutrients in the discharge will not adversely affect any of the beneficial uses of the reservoir. Preventive and corrective actions may include but are not limited to the following: additional treatment, aeration of Lake Jennings, existing and additional monitoring, notification of the public and regulatory agencies, management of vegetation within Lake Jennings, and decoupling Lake Jennings from the R.M. Levy DWTP.

5.3.3. **Best Management Practices and Pollution Prevention**

5.3.3.1. **Pesticide Application to Storage Ponds and/or Santee Lakes**

If the following monitoring triggers below are exceeded at Discharge Point No. 002, as monitored at Monitoring Location EFF-002B, the Discharger must perform the following actions: (1) initiate additional investigations for the cause of the exceedance; (2) implement additional BMPs to reduce the algaecide and aquatic herbicide residue concentration to be below the monitoring triggers in future applications; and (3) evaluate the appropriateness of using alternative products.

Table 14. Pesticide Monitoring Trigger Levels

Ingredient	Unit	Instantaneous Maximum Monitoring Trigger	Basis
Imazapyr	mg/L	11.2	USEPA Office of Pesticides *Ecotoxicity Database*
Triclopyr Triethylamine	mg/L	13.0	USEPA Office of Pesticides *Ecotoxicity Database*
Flumioxazin	mg/L	0.23	USEPA Office of Pesticides *Ecotoxicity Database*

5.3.3.1.1. The Discharger must provide a phone number or other specific contact information to all persons who request the Discharger's pesticide application schedule. The Discharger must provide the requester with the most current pesticide application schedule and inform the requester if the schedule is

subject to change. Information may be made available by electronic means, including posting prominently on a well-known website.

5.3.3.1.2. Every calendar year, at least 15 days prior to the first application of algaecide or aquatic herbicide, the Discharger must notify potentially affected public agencies. The Discharger must post the notification on its website if available. The notification shall include the following information:

5.3.3.1.2.1. A statement of the Discharger's intent to apply algaecide or aquatic herbicide(s);

5.3.3.1.2.2. Name of algaecide and aquatic herbicide(s);

5.3.3.1.2.3. Purpose of use;

5.3.3.1.2.4. General time period and locations of expected use;

5.3.3.1.2.5. Any water use restrictions or precautions during treatment; and

5.3.3.1.2.6. A phone number that interested persons may call to obtain additional information from the Discharger.

5.3.3.1.3. The Discharger must submit an Aquatic Pesticides Application Plan (APAP) at least 90 days before the expected day of pesticide discharge. The APAP shall contain, but not be limited to, the following elements sufficient to address each proposed treatment area:

5.3.3.1.3.1. Description of the water system to which algaecides and aquatic herbicides are being applied;

5.3.3.1.3.2. Description of the treatment area in the water system;

5.3.3.1.3.3. Description of the types of weed(s) and algae that are being controlled and why;

5.3.3.1.3.4. Algaecide and aquatic herbicide products or types of algaecides and aquatic herbicides expected to be used and if known their degradation byproducts, the method in which they are applied, and if applicable, the adjuvants and surfactants used;

5.3.3.1.3.5. Discussion of the factors influencing the decision to select algaecide and aquatic herbicide applications for algae and weed control;

5.3.3.1.3.6. If applicable, list the gates or control structures to be used to control the extent of receiving waters potentially affected by algaecide and aquatic herbicide application and provide an inspection schedule of those gates or control structures to ensure they are not leaking;

5.3.3.1.3.7. Description of the monitoring program;

5.3.3.1.3.8. Description of procedures used to prevent sample contamination from persons, equipment, and vehicles associated with algaecide and aquatic herbicide application;

5.3.3.1.3.9. Description of the BMPs to be implemented. The BMPs shall include, at the minimum:

i. Measures to prevent algaecide and aquatic herbicide spills and for spill containment during the event of a spill;

ii. Measures to ensure that only an appropriate rate of application consistent with product label requirements is applied for the targeted weeds or algae;

iii. The Discharger's plan in educating its staff and algaecide and aquatic herbicide applicators on how to avoid any potential adverse effects from the algaecide and aquatic herbicide applications;

iv. Discussion on planning and coordination with nearby farmers and agencies with water rights diversion so that beneficial uses of the water (irrigation, drinking water supply, domestic stock water, etc.) are not impacted during the treatment period; and

v. A description of measures that will be used for preventing fish kills when algaecides and aquatic herbicides are used for algae and aquatic weed control.

5.3.3.1.3.10. **Examination of Possible Alternatives**

The Discharger should examine the alternatives to algaecide and aquatic herbicide use to reduce the need for applying algaecides and herbicides. Such methods include:

i. Evaluating the following management options, in which the impact to water quality, impact to non-target organisms including plants, algaecide and aquatic herbicide resistance, feasibility, and cost effectiveness should be considered:

- No action;
- Prevention;
- Mechanical or physical methods;
- Cultural methods;
- Biological control agents; and
- Algaecides and aquatic herbicides.

ii. If there are no alternatives to algaecides and aquatic herbicides, the Discharger must use the minimum amount of algaecides and aquatic herbicides that is necessary to have an effective control program and is consistent with the algaecide and aquatic herbicide product label requirements.

iii. Using the least intrusive method of algaecide and aquatic herbicide application; and

iv. Applying a decision matrix concept to the choice of the most appropriate formulation.

5.3.3.1.3.11. The Discharger must submit the APAP and any amendments thereto to the San Diego Water Board upon request of the San Diego Water Board. The Discharger must ensure that the up-to-date APAP is readily available to the

ECWRF personnel at all times and that the ECWRF personnel are familiar with it.

5.3.3.1.3.12. The Discharger must maintain a log for each algaecide and aquatic herbicide application. The application log shall contain, at a minimum, the following information:

i. Date of application;
ii. Location of application;
iii. Name of applicator;
iv. Type and amount of algaecide and aquatic herbicide used;
v. Application details, such as flow and level of water body, time application started and stopped, algaecide and aquatic herbicide application rate and concentration;
vi. Visual monitoring assessment; and
vii. Certification that applicator(s) followed the APAP.

5.3.3.2. **Pollution Minimization Program[12]**

The Discharger must develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ)[13] when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

5.3.3.2.1. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or

5.3.3.2.2. A sample result is reported as “Not-Detected” (ND), and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in section 7.3.3. of the MRP.

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

5.3.3.2.3.1. 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;

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

[12] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[13] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

5.3.3.2.3.3. 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;

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

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

5.3.3.2.4.1. All PMP monitoring results for the previous year;

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

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

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

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

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.

5.3.4.1. The Discharger must 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. The certification report shall:

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

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

5.3.4.1.3. 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.

5.3.4.2. The Discharger must not initiate a discharge from a treatment facility at a daily flow rate in excess of its previously approved design capacity until:

5.3.4.2.1. The certification report is received by the San Diego Water Board and;

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

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

5.3.4.4. 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.

5.3.4.5. 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 asset management plan, which is required to be submitted within two years of the effective date of this Order pursuant to section 5.3.4.12. of this Order.

5.3.4.6. The Discharger must 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 be periodically tested.

5.3.4.7. **Operation and Maintenance Manual**

The Discharger must maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facilities. The Discharger must update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facilities. The Discharger must operate and maintain the Facilities in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to site personnel, San Diego Water Board, State Water Board, and USEPA or their authorized representative at all times. The O&M Manual shall include the following.

5.3.4.7.1. Description of the Facilities' organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facilities so as to achieve the required level of treatment at all times.

5.3.4.7.1.1. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

5.3.4.7.1.2. Description of laboratory and quality assurance procedures.

5.3.4.7.1.3. Inspection and essential maintenance schedules for all processes and equipment.

5.3.4.7.1.4. Description of safeguards to ensure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.

5.3.4.7.1.5. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5.3.4.8. **Pretreatment/Wastewater Source Control Program**

The Discharger must coordinate with the City to implement the City's industrial pretreatment and expanded wastewater source control according to the following requirements for the Discharger's sewershed pursuant to title 22 CCR section 60320.306:

5.3.4.8.1. An assessment and fate of DDW and San Diego Water Board specified chemicals or MCLs. The assessment shall address the presence of the specified chemicals in the wastewater and advanced treated wastewater with an estimate of removal. The Discharger may include this assessment as part of the local limits study required by section 6.3.4.8.5. of this Order.

5.3.4.8.2. Chemical and contaminant source investigations and monitoring, that focus on DDW specified chemicals and contaminants.

5.3.4.8.3. An outreach program to industrial, commercial, and residential communities within the Discharger's sewershed for the purpose of managing and minimizing the discharge of chemicals and contaminants at the source.

5.3.4.8.4. A current inventory of chemicals and contaminants identified and evaluated including new chemicals and contaminants resulting from new sources or changes to existing sources that may be discharged into the sewershed. The inventory of chemicals and contaminants shall be updated annually and included in the annual pretreatment report required by section 7.5. of this MRP.

5.3.4.8.5. The Discharger must coordinate with the City in developing an expanded local limits study for the ECAWP sewershed and submit an expanded local limits study report to DDW and the San Diego Water Board **within one year of the initiating discharge**. The Discharger's expanded local limits study/report, where appropriate can rely on information from the City's expanded local limits study developed pursuant to Order No. R9-2020-0001 as amended by Order No. R9-2020-0183, NPDES No. CA 0109398, *Waste Discharge Requirements for the City of San Diego North City Water Reclamation Plant and Pure Water Facility, Indirect Potable Reuse Reservoir Water Augmentation Discharge to Miramar Reservoir San Diego County*. The expanded local limits study report must at a minimum include the following:

5.3.4.8.5.1. A description of how items identified in sections 5.3.4.8.1. to 5.3.4.8.4. of this Order will be implemented for the Discharger's sewershed.

5.3.4.8.5.2. An assessment of whether the interjurisdictional pretreatment agreements[14] (IPAs), or any successor agreements, between the City, ECAWP JPA, and member agencies of the ECAWP JPA at a minimum contain all the elements listed in Table 2 of *EPA's Multijurisdictional Pretreatment Programs Guidance Manual*, including any proposed updates or changes to IPAs.

5.3.4.8.5.3. A process for reviewing the IPAs, or any successor agreements, between or among the City and member agencies of the ECAWP JPA every five years and updating the IPAs as necessary.

5.3.4.8.5.4. An assessment of the Discharger's and the ECAWP JPA member agencies pretreatment program legal authority documents, such as ordinances, rules and regulations, enforcement response plans, etc.; to ensure the legal authority documents have the necessary source control enhancements to ensure protection of public health and the environment. The expanded local limits report must identify any proposed changes or enhancements to the Discharger's or any of the member agencies' pretreatment program legal authority documents.

5.3.4.8.5.5. A process for expanding existing industrial waste surveys to identify new or unpermitted industrial users within the Discharger's sewershed with the potential to discharge chemicals of concern at levels that may adversely affect the ECWRF, ECAWPF, or quality of advanced treated recycled water discharged to Lake Jennings. This process may be performed by, or in conjunction with, the City's industrial wastewater control program.

5.3.4.8.5.6. A sampling program approved by DDW and the San Diego Water Board to assess the need for modified or expanded local limits. The sampling program for the expanded local limits study must include appropriate pollutants with drinking water criteria based on MCLs and NLs and unregulated CECs from the EPA Drinking Water Contaminant Candidate List.

5.3.4.8.5.7. A description of existing local limits implemented within the Discharger's sewershed and a technical evaluation of the need to revise local limits under 40 CFR section 403.5 (c) (1) following permit issuance or reissuance (40 CFR section 122.44 (j) (2) (ii)). The Discharger's expanded local limits study and sampling program are to be reviewed and/or updated at least once every five years.

5.3.4.8.6. The Discharger must submit an annual pretreatment/wastewater source control report to the San Diego Water Board and the State Water Board by September 1 of each year. The annual pretreatment/wastewater source control report requirements are summarized in section 7.5. of the MRP.

[14] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

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

5.3.4.9.1. **General Requirements**

5.3.4.9.1.1. All biosolids generated by the Discharger 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 part 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 application or disposal of biosolids in the State of California will require the submittal of a separate report of waste discharge and issuance of waste discharge requirements for the reuse/disposal site.

The Discharger must take all reasonable steps to ensure that all biosolids produced at ECWRF are used or disposed of in accordance with these rules, whether the Discharger uses or disposes of the biosolids itself or transfers their biosolids to another party for further treatment, use, or disposal. The Discharger is responsible for informing subsequent preparers, appliers, and disposers of requirements they must meet under these rules.

5.3.4.9.1.2. The Discharger must 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.

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

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

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

5.3.4.9.1.6. The Discharger must 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 as Class A with respect to pathogens, pursuant to 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 classified as Class A shall be tarped. All haulers must have and implement spill clean-up procedures. Trucks hauling biosolids that are not

classified as Class A shall not be used for hauling food or feed crops after unloading the biosolids unless the Discharger submits a hauling description, to be approved by USEPA, describing how trucks will be thoroughly cleaned prior to adding food or feed.

5.3.4.9.1.7. If biosolids are stored for over two years from the time they are generated, the Discharger 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. The Discharger must ensure that adequate procedures are taken to restrict access by the public and domestic animals, during storage of any length for non-Class A biosolids, whether on the ECAWP Facility site or offsite.

5.3.4.9.1.8. 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 San Diego County FCD.

5.3.4.9.1.9. If the biosolids are land applied, there shall be adequate screening at the ECWRF headworks and/or at the biosolids treatment units to ensure that all pieces of metal, plastic, glass, and other inert objects are removed.

5.3.4.9.2. **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 Discharger directly, or through contractual arrangements with their biosolids management contractors, to:

5.3.4.9.2.1. Enter upon all premises where biosolids produced by the Discharger is treated, stored, used, or disposed of, by either the Discharger or another party to whom the Discharger transfers biosolids for further treatment, storage, use, or disposal;

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

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

5.3.4.9.3. **Monitoring**

The biosolids monitoring requirements are summarized in section 3.7. of the MRP.

5.3.4.9.4. **Pathogen and Vector Control**

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

5.3.4.9.4.2. Prior to disposal on a surface disposal site, the Discharger must 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 Discharger must 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.

5.3.4.9.4.3. For biosolids that are land applied or placed on a surface disposal site, the Discharger must track and keep records of the operational parameters used to achieve the vector attraction reduction requirements under 40 CFR section 503.33(b).

5.3.4.9.5. **Out of State 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. Surface disposal of biosolids in the State of California will require the submittal of a separate report of waste discharge and issuance of waste discharge requirements for the surface disposal site.

5.3.4.9.6. **Landfill Disposal**

Biosolids placed in a municipal landfill inside of California shall be tested in accordance with the monitoring requirements of the landfill’s waste discharge requirements order.

Biosolids placed in a municipal landfill outside of California 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.

5.3.4.9.7. **Notifications**

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

5.3.4.9.7.1. **Notification of Noncompliance**

The Discharger must notify USEPA, the State Water Board, and the San Diego Water Board (for both Discharger and use or disposal site) of any noncompliance with the biosolids within 24 hours if the noncompliance may endanger human health or the environment. For other instances of noncompliance with the biosolids, the Discharger must 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 Discharger must 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.

5.3.4.9.7.2. **Interstate Notification**

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

5.3.4.9.7.3. **Out of State Land Application Notification**

The Discharger must notify USEPA, the State Water Board, and the San Diego Water Board prior to using any biosolids from the ECWRF (other than composted biosolids) at a new or previously unreported site. 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 Discharger (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 Discharger must 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 Discharger must 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. Land application of biosolids in the State of California will require the submittal of a separate report of waste discharge and issuance of waste discharge requirements for the land application site.

5.3.4.9.7.4. **Out of State Surface Disposal Notification**

Prior to disposal at a new or previously unreported site, the Discharger must 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. Surface disposal of biosolids in the State of California will require the submittal of a separate report of waste discharge and issuance of waste discharge requirements for the surface disposal site.

5.3.4.9.8. **Reporting**

The biosolids reporting requirements are summarized in section 7.6. of the MRP.

5.3.4.10. **Sewage Collection System**

The Discharger is subject to the requirements of, and must comply with, State Water Board Order WQ 2022-0103-DWQ, *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems* (Statewide General Order, and any subsequent amendment/reissuance Order. The Discharger is 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 Order), and any subsequent amendment/reissuance Order.

The Discharger must report any noncompliance pursuant to 40 CFR sections 122.41(l)(6) and (7), properly operate and maintain its collection system pursuant to 40 CFR section 122.41(e), and mitigate or prevent any discharge from the collection system in violation of this Order pursuant to 40 CFR section 122.41(d).

5.3.4.11. **Resource Recovery from Anaerobically Digestible Material[15]**

If the Discharger plans to receive hauled-in anaerobically digestible material for injection into an anaerobic digester, the Discharger must notify the San Diego Water Board and develop and implement SOPs for this activity. The SOPs must 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[16], pass through, or upset of the

[15] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[16] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

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 Discharger must train its staff on the SOPs and shall maintain records for a minimum of three years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger must maintain records for a minimum of three years for the disposition, location, and quantity of cumulative pre-digestion-segregated solid waste hauled offsite.

5.3.4.12. **Asset Management Plan**

The Discharger must develop and submit an Asset Management Plan (AMP) to the San Diego Water Board within two years of the effective date of this Order to ensure proper operation and maintenance of the ECWRF and ECAWP Facilities. The Discharger may rely on existing documents to develop the AMP. The AMP must include the following elements:

5.3.4.12.1. **Rehabilitation and Replacement Plan**

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

5.3.4.12.2. **Maintenance Plan**

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

5.3.4.12.3. **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 must incorporate assets from the asset management inventory. The map must be color-coded to identify maintenance and rehabilitation priorities.

5.3.4.12.4. **Funding**

The AMP must 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.

5.3.4.12.5. **System Projections**

The AMP must evaluate growth projections of population and service over the next 30 years.

5.3.4.12.6. **Asset Resiliency Plan**

The asset resiliency plan shall identify steps being taken or planned to address the following:

- Greenhouse gas emissions attributable to wastewater treatment plants, solids handling, and effluent discharge processes;
- Flooding (from both larger storms and rising seas);
- Sea level rise;
- Wildfire risks;
- Volatile rain period impacts (both dry and wet weather);
- Erosion;
- 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;
- Potential need to adjust NPDES permit conditions, the Discharger's pollution control program, and system operations, maintenance and siting;
- Financing needed to pay for planned actions;
- Schedules to update the asset resiliency plan as more information on climate change and its effects become more available; and
- Scheduled risk assessments and/or mitigation measures that will be implemented to maintain compliance.

5.3.4.12.7. **Asset Management Software**

The AMP must 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 must include:

- Name and identification number
- Location (Global Positioning System coordinate or equivalent identifier)
- Current performance/condition
- Purchase and installation date
- Purchase price
- Replacement cost
- Quantitative consequence of failure
- Quantitative likelihood of failure

5.3.4.12.8 The Discharger must 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.

5.3.4.12.9. The Discharger must reevaluate and update the AMP as needed at least 180 days prior to the expiration date of this Order. The Discharger must provide each updated or revised AMP to the San Diego Water Board in a timely manner.

6. COMPLIANCE

6.1. Compliance Determinations

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

6.1.1 Compliance with Average Monthly Effluent Limitation (AMEL)

If the average of daily discharges[17] over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for 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 Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

6.1.2. Compliance with Average Weekly Effluent Limitation (AWEL)

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

6.1.3. Compliance with Maximum Daily Effluent Limitation (MDEL)[18]

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

[17] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[18] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

6.1.4. **Compliance with Instantaneous Minimum Effluent Limitation[19]**

The instantaneous minimum effluent concentration limitation must apply to grab sample determinations. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, an alleged violation will be flagged, and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation).

6.1.5. **Compliance with Instantaneous Maximum Effluent Limitation[20]**

The instantaneous maximum effluent concentration limitation must apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, an alleged violation will be flagged, and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of noncompliance with the instantaneous maximum effluent limitation).

6.1.6. **Compliance with Six-Month Median Effluent Limitation**

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

6.1.7. **Mass and Concentration Limitations**

Compliance with mass and concentration effluent limitations for the same parameter must 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 must also be reported as “ND” or “DNQ.”

[19] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[20] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

6.1.8 **Percent Removal[21]**

Compliance with percent removal requirements for average monthly percent removal of BOD_5 and TSS must be determined for the ECWRF. The monthly average percent removal must 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.

6.1.9. **Compliance with Single-Constituent Effluent Limitations**

The Discharger must 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.

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

The Discharger is out of compliance with an effluent limitation that applies to the sum of a group of chemicals (e.g., polychlorinated biphenyls) 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.

6.1.11. **Multiple Sample Data Reduction**

The Discharger may estimate the concentration of the pollutant in the effluent 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 must be the median (middle) value of the multiple samples. The data set must be ranked from lowest to highest, 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. 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.

6.1.12. **Mass Emission Rate (MER)**

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

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

In which Q is the flow rate in MGD, C the constituent concentration in mg/L, and 8.34 is a conversion factor (pounds/gallon of water). If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the

[21] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

average flow rate occurring during the period over which the samples are composited.

6.1.13. **Bacterial Standards and Analysis**

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

6.1.13.2. Sample dilutions for fecal coliform bacterial analyses should be performed so the range of values extends from 2 to 16,000 MPN. Sample dilutions for enterococci bacterial analyses must range from 1 to 10,000 MPN/100 mL. The detection methods used for each analysis must be reported with the results of the analysis. Detection methods used for fecal coliform must 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 must 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.

6.1.14. **Single Operational Upset (SOU)**

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

6.1.14.1. 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.

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

6.1.14.3. 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 the Discharger to assert the SOU limitation of liability, and the manner of counting violations, must be in accordance with the *USEPA Memorandum Issuance of Guidance Interpreting Single Operational Upset* (September 27, 1989).

6.1.14.4. 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 the Discharger to assert the SOU limitation of liability, and the manner of counting violations must be in accordance with Water Code section 13385(f)(2).

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
AAEL*	Average Annual Effluent Limitation
AMEL*	Average Monthly Effluent Limitation
AWEL*	Average Weekly Effluent Limitation
AMP	Asset Management Plan
AOP	Advanced Oxidation Processes
AWEL*	Average Weekly Effluent Limitation
AWP	Advanced Water Purification
AWT3™	Advanced Water Treatment 3
AWT5™	Advanced Water Treatment 5
B	Maximum Ambient Background Concentration
Basin Plan	*Water Quality Control Plan for the San Diego Basin*
BOD_5	Biochemical Oxygen Demand (5-Day @ 20°C)
°C	Degrees Celsius
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFU	Colony Forming Units
CIWQS	California Integrated Water Quality System
CO_2	Carbon Dioxide
CWA	Clean Water Act
DDT*	Dichlorodiphenyltrichloroethane
DDW	State Water Board, Division of Drinking Water
Discharger	East County Advanced Water Purification Joint Powers Authority
DMR*	Discharge Monitoring Report
DNQ*	Detected, But Not Quantified
DWTP	Drinking Water Treatment Plant
ECWRF	East County Water Recycling Facility
EC_{25}	Effects Concentration at 25 Percent
ECAWP	East County Advanced Water Purification
ECAWP Facility	East County Advanced Water Purification Facility
ECAWP JPA	East County Advanced Water Purification Joint Powers Authority
ELAP	Environmental Laboratory Accreditation Program
eSMR	Electronic Self-Monitoring Reports
°F	Degrees Fahrenheit
FCD	Flood Control District
GPS	Global Positioning System

Abbreviation	Definition
HA	Hydrologic Area
HAA_5	Haloacetic Acids
IND	Industrial Service Supply
IPA	Interjurisdictional Pretreatment Agreements
IWC*	"In-Stream" Waste Concentration
lbs/day	Pounds per Day
LC	Lethal Concentration
LC_{50}	Percent Waste Giving 50 Percent Survival of Test Organisms
MDEL*	Maximum Daily Effluent Limitation
MDL*	Method Detection Limit
MEC	Maximum Effluent Concentration
MER	Mass Emission Rate
MF	Membrane Filtration
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MGD	Million Gallons per Day
ML*	Minimum Level
ml	Milliliter
ml/L	Milliliter per Liter
MIT	Membrane Integrity Testing
mmhos/cm	Millimhos per Centimeter
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
ND*	Not Detected
ng/kg	Nanogram per Kilogram
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
PAHs*	Polynuclear Aromatic Hydrocarbons
PCBs*	Polychlorinated Biphenyls
pCi/L	Picocuries per Liter
PDT	Pressure Decay Test
PMP*	Pollutant Minimization Program
POTWs	Publicly-Owned Treatment Works
ppt	Parts per Thousand
PRO	Primary Reverse Osmosis
psi	Pounds per Square Inch
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
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 Order	Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region*

Abbreviation	Definition
RL	Reporting Level
RO	Reverse Osmosis
ROWD	Report of Waste Discharge
RPA	Reasonable Potential Analysis
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SCCWRP	Southern California Coastal Water Research Project
SIC	Standard Industrial Classification
State Implementation Policy	*Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*
SIUs	Significant Industrial Users
SMR	Self-Monitoring Report
SOPs	Standard Operating Procedures
SOU	Single Operational Upset
SPP	Spill Prevention Plan
SRP	Spill Response Plan
SRO	Secondary Reverse Osmosis
SSO*	Sanitary Sewer Overflow
State Water Board	State Water Resources Control Board
Statewide General Order	State Water Board Order WQ 2022-0103-DWQ, *Statewide General Waste Discharge Requirements General Order for Sanitary Sewer Systems*
SWSAP	Surface Water Source Augmentation Project
SWSAP PWS	Surface Water Source Augmentation Project Public Water System
SWSAP WRA	Surface Water Augmentation Project Water Recycling Agency
TBELs	Technology-Based Effluent Limitations
TCDD*	Tetrachlorodibenzodioxin
TIE*	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRE*	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
UF	Ultrafiltration
µg	Microgram
µg/kg	Microgram per Kilogram
µg/L	Microgram per Liter
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
UV	Ultraviolet
UV_{min}	Minimum Ultraviolet Dose
UVT	Ultraviolet Transmittance
Water Code	California Water Code

Abbreviation	Definition
WDRs	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WILD	Wildlife Habitat
WQBELs	Water Quality-Based Effluent Limitations

*See Part 2 of Attachment A (Definitions) for further definition.

Part 2. – Definitions

Advanced Treated Recycled Water (or Recycled Municipal Wastewater in title 22 CCR)

Advanced treated recycled water refers to final effluent produced from the ECAWP AWP Facility which is discharged to Lake Jennings.

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).

Average Annual Effluent Limitation (AAEL)

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

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.

Bioassay

A test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism.

Brine

Brine or reverse osmosis concentrate is the byproduct of reverse osmosis treatment at the ECAWP Facility.

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. Chronic toxicity monitoring must be conducted as described in section 3.3 of the MRP, and in accordance with the Test of Significant Toxicity statistical approach.

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.

Conventional Pollutants

Pollutants typical of municipal sewage, and for which municipal secondary treatment plants are typically designed; defined at 40 CFR 401.16 as Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), fecal coliform bacteria, oil and grease, and pH.

Daily Discharge

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

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

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

Detected, But Not Quantified (DNQ)

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

Dichlorobenzenes

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

Dichlorodiphenyltrichloroethane (DDT)

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

Discharge 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.

Endosulfan

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

Facilities

The East County Water Recycling Facility, the East County Advanced Water Purification Facility, Solids Handling Facility, pipeline transporting advanced treated recycled water from the AWP Facility to Lake Jennings, and the Lake Jennings Dechlorination Facility.

Hexachlorocyclohexane

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

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

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 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.

Interjurisdictional Pretreatment Agreements (IPA)

An agreement between municipal entities that allows a control authority to enforce pretreatment standards and requirements against industrial users outside of its legal jurisdiction. Referred to as Multijurisdictional Pretreatment Agreements in the code of federal regulations.

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.

Not Detected (ND)

Those sample results less than the laboratory's MDL.

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

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 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 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 Discharger for reporting and compliance determination from the MLs included in the Order, including an additional factor if applicable as discussed herein. The MLs included in the Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board from Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy) in accordance with section 2.4.3 of the State Implementation Policy. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Sanitary Sewer Overflow (SSO)

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.

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.

Surface Water Source Augmentation Project (SWSAP)

A SWSAP is defined in title 22 CCR section 60301.851, as a project involving the planned placement of advanced treated recycled water into a surface water reservoir that is used as a source of domestic drinking water supply, for the purpose of supplementing the source of domestic drinking water supply.

Surface Water Source Augmentation Project Public Water System (SWSAP PWS)

A SWSAP PWS is defined in title 22 CCR section 60301.852 as a public water system that plans to utilize or is utilizing an augmented reservoir as a source of drinking water and is responsible for complying with the requirements of Chapter 17 of title 22 CCR and the applicable requirements of Chapter 3 of title 22 CCR. In the Order the SWSAP PWS is Helix Water District.

Surface Water Source Augmentation Project Operation Plan (SWSAP Operation Plan)

An operation plan that is representative of a current operation, maintenance, and monitoring of the SWSAP. Requirements for the preparation of and the minimum content of the SWSAP Operation Plan is described in title 22 CCR section 60320.322.

Surface Water Augmentation Project Water Recycling Agency (SWSAP WRA)

A SWSAP WRA is defined in title 22 CCR section 60301.853, as an agency that is subject to a Regional Board's water recycling requirements applicable to a SWSAP and is, in whole or part, responsible for applying to the Regional Board for a permit, obtaining a permit, the operation of the SWSAP, and complying with the terms and conditions of the Regional Board permit and the requirements of Chapter 3 of title 22 CCR.

TCDD Equivalents

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

TCDD Equivalents = $\sum C_x \times TEF_x \times BEF_x$

where:

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

Table A-1. Summary of Information Related to TCDD Equivalents

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

Table Note for A-1:

1. Bioaccumulation is defined above.

Technology-Based Effluent Limitation (TBELs)

A permit limitation for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration.

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.

Transmembrane Pressure

The pressure difference across a membrane that drives the movement of fluid (like water) through the membrane during the filtration process.

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 the Order, the relevant term is used depending on the statutory scheme.

Water Recycling

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

Whole Effluent Toxicity (WET)

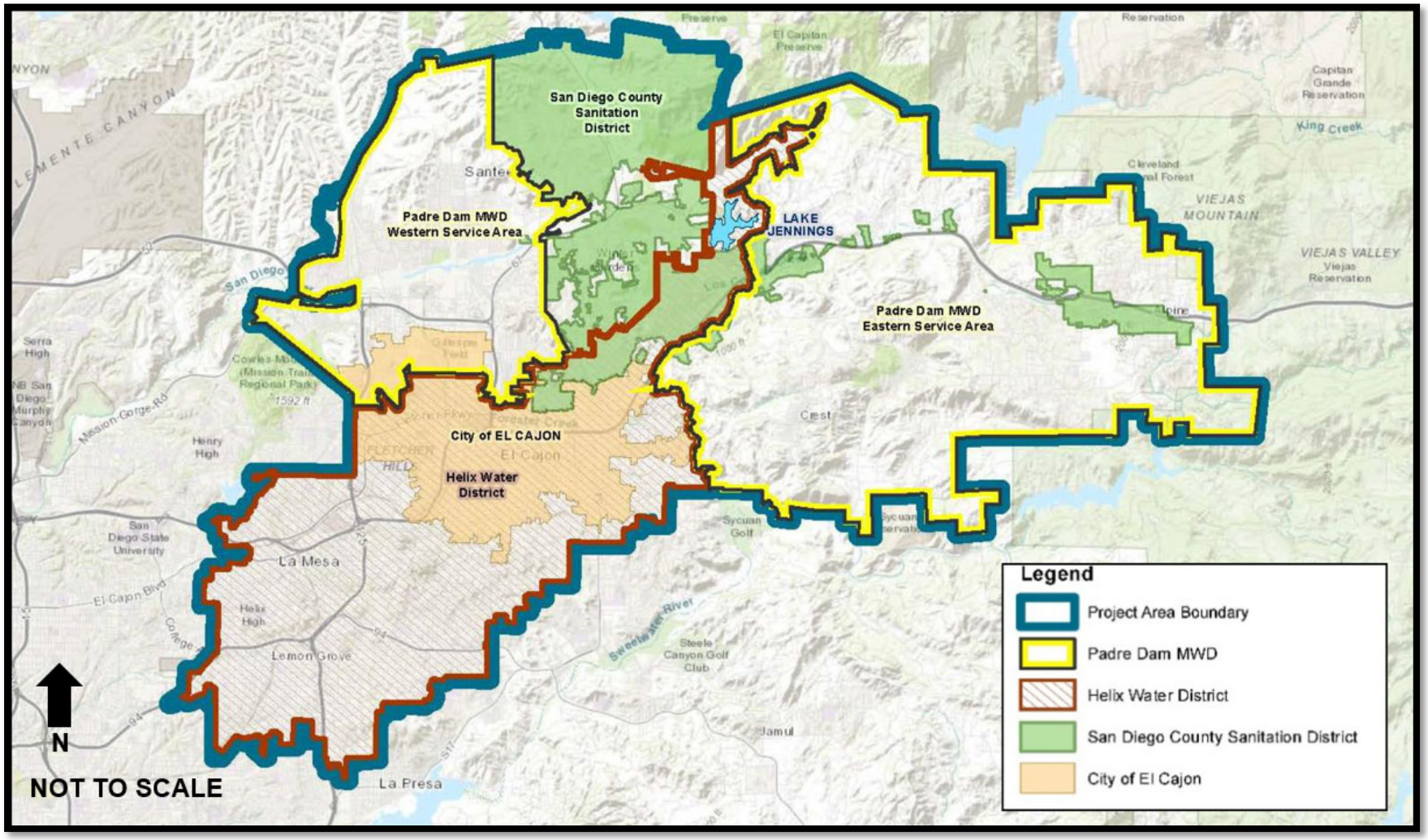
The aggregate toxic effect of an effluent measured directly with a toxicity test.

ATTACHMENT B – MAPS

Map 1 – East County Advanced Water Purification Project Map and Schematic

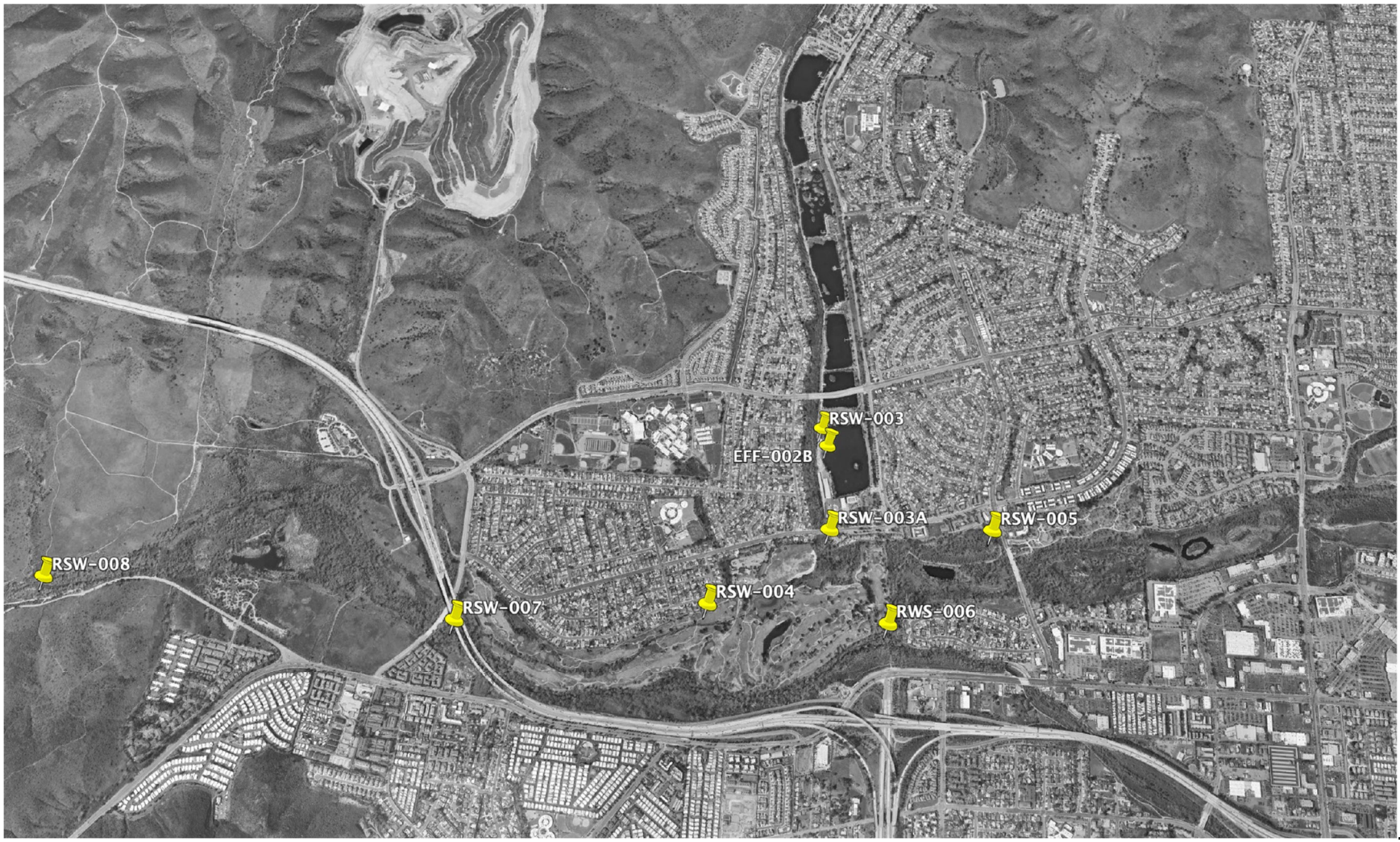
This project map and schematic is from *Title 22 Engineering Report East County Advanced Water Purification* dated November 2022.

Map 2 – East County Advanced Water Purification Agency Service Areas Map



This service area map is from *Title 22 Engineering Report East County Advanced Water Purification* dated November 2022

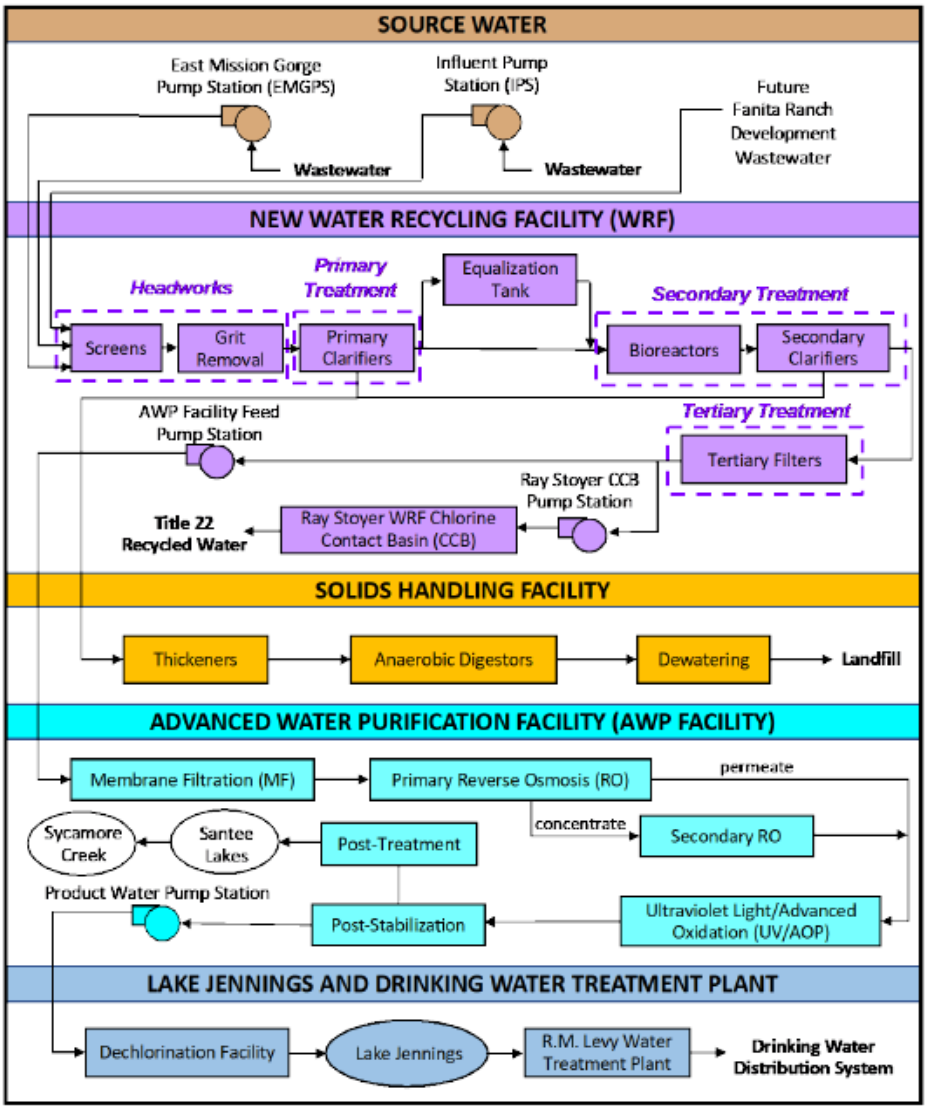
Map 3 - Receiving Water Monitoring Location in Santee Lakes and Sycamore Creek



The map of receiving water monitoring locations was provided by the Discharger via email on June 26, 2025.

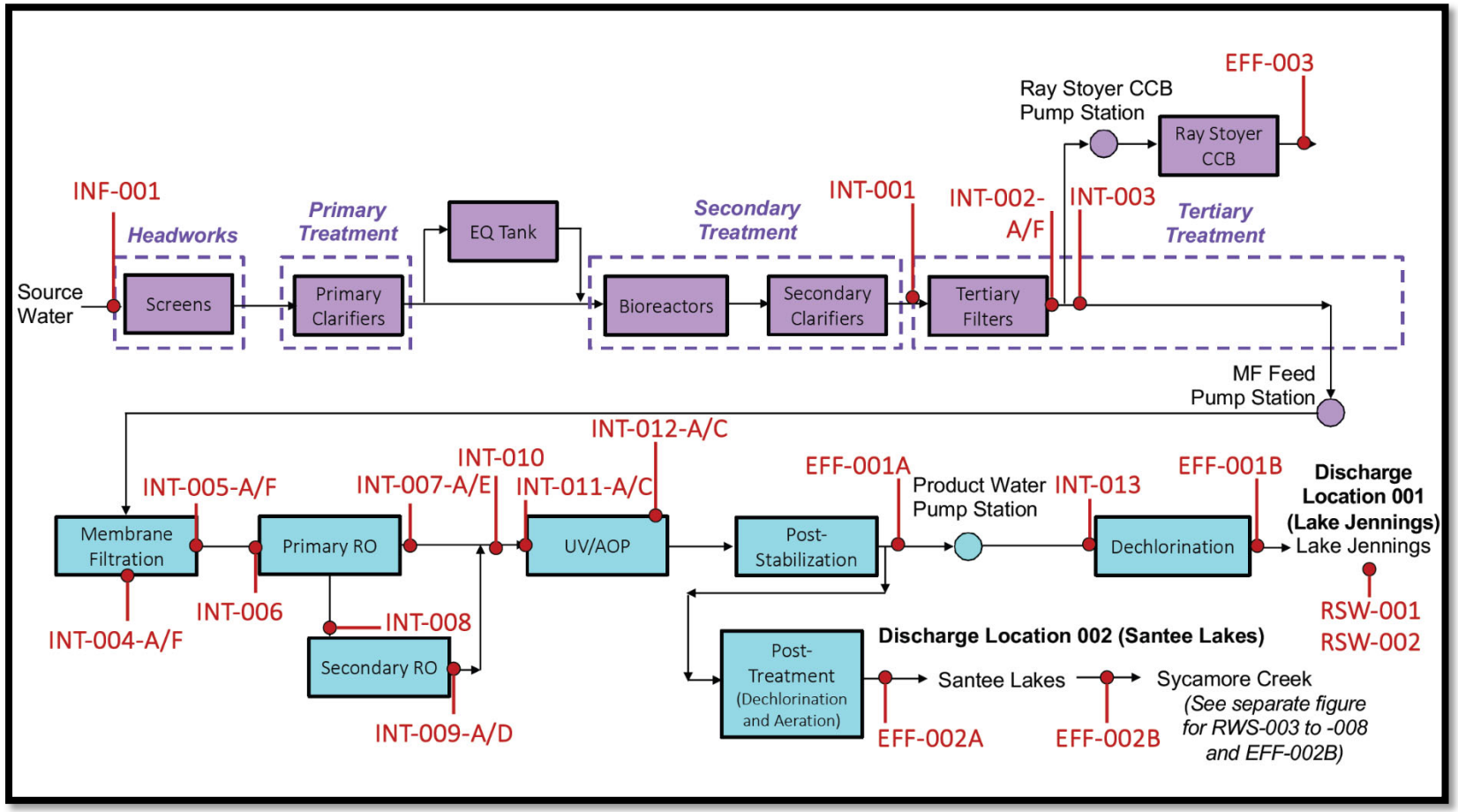
ATTACHMENT C – FLOW SCHEMATICS

East County Advanced Water Purification Process Flow Schematic



Process flow schematic is from *Title 22 Engineering Report East County Advanced Water Purification* dated November 2022.

East County Advanced Water Purification Process Flow with Monitoring Locations



Process flow schematic with monitoring locations is from *East County Advanced Water Purification Monitoring and Reporting Plan* dated October 2023. An updated flow schematic with monitoring locations was provided by the Discharger via email on June 26, 2025.

ATTACHMENT D – STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

1.1.1. The East County Advanced Water Purification Joint Powers Authority (Discharger) must comply with all of the terms, requirements, and conditions of Order No. R9-2025-003 NPDES No. CA 9000001, *Waste Discharge Requirements for the East County Advanced Water Purification Joint Powers Authority East County Advanced Water Purification Project Discharge to Lake Jennings and Sycamore Creek* (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, and 13385.)

1.1.2. The Discharger must comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the 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 Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Order. (40 CFR section 122.41(c).)

1.3. Duty to Mitigate

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

1.4. Proper Operation and Maintenance

The Discharger must 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 the 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 Discharger only when necessary to achieve compliance with the conditions of the Order. (40 CFR section 122.41(e).)

1.5. Property Rights

1.5.1. The 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 the Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations. (40 CFR section 122.5(c).)

1.6. **Inspection and Entry**

The Discharger must allow the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), State Water Resources Control Board (State Water Board), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (United State Code, Title 33 (33 U.S.C.) section 1318(a)(4)(b); 40 CFR section 122.41(i); Water Code, sections 13267 and 13383):

1.6.1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of the Order (33 U.S.C. section 1318(a)(4)(b)(i); 40 CFR section 122.41(i)(1); Water Code, sections 13267 and 13383);

1.6.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the Order (33 U.S.C. section 1318(a)(4)(b)(ii); 40 CFR section 122.41(i)(2); Water Code, sections 13267 and 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 the Order (33 U.S.C. section 1318(a)(4)(b)(ii); 40 CFR section 122.41(i)(3); Water Code, sections 13267 and 13383); and

1.6.4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. section 1318(a)(4)(b); 40 CFR section 122.41(i)(4); Water Code, sections 13267 and 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 Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance 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 Discharger 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 Discharger knows 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 must be sent to the San Diego Water Board. As of December 2023, a notice must also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 below. Notices must 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 Discharger must submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice must be sent to the San Diego Water Board. As of December 2023, a notice must also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 below. Notices must 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 Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR section 122.41(n)(1).)

1.8.1. **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 Discharger who wishes to establish the affirmative defense of upset must 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 Discharger 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 Discharger 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 Discharger 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 Discharger 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

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

2.2. Duty to Reapply

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

2.3. Transfers

The 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 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 must 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)[22] 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 the Order for such pollutants or pollutant parameters. (40 CFR sections 122.21(e)(3),122.41(j)(4), and 122.44(i)(1)(iv).)

4. STANDARD PROVISIONS – RECORDS

4.1. The Discharger must 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 the Order, and records of all data used to complete the application for the 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 must include:

4.2.1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));

[22] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

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 Discharger must 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 the Order or to determine compliance with the Order. Upon request, the Discharger must also furnish to the San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by the Order. (40 CFR section 122.41(h); Water Code, sections 13267 and 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 must 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 must 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 the Order and other information requested by the San Diego Water Board, State Water Board, or USEPA must 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 must 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 must meet all relevant requirements of Standard Provisions – Reporting 5.2 and must ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (National Pollutant Discharge Elimination System (NPDES) permit Electronic Reporting Requirements) are met for that submission. (40 CFR section 122.22(e).)

5.3. **Monitoring Reports**

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

5.3.2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(l)(4)(i).)

5.3.3. If the Discharger monitors any pollutant more frequently than required by the 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 the 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 the 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 Discharger must report any noncompliance which may endanger health or the environment to the San Diego Water Board. A summary of the noncompliance shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows (SSOs), 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, SSOs, 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, SSOs, 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 Discharger to electronically submit reports not related to combined sewer overflows, SSOs, 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 the Order. (40 CFR section 122.41(l)(6)(ii)(A).)

5.5.2.2. Any upset that exceeds any effluent limitation in the 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 Discharger must 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 the 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 the 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 Discharger must 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 the Order's requirements. (40 CFR section 122.41(l)(2).)

5.8. **Other Noncompliance**

The Discharger must 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 to the San Diego Water Board. The reports shall contain the information listed in Standard Provision – Reporting 5.5 above. For noncompliance events related to combined sewer overflows, SSOs, 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, SSOs, or bypass events under this section. (40 CFR section 122.41(l)(7).)

5.9. **Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any

report to the San Diego Water Board, State Water Board, or USEPA, the 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 permit 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 permit 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 REQUIREMENTS

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 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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) section 13383 also authorizes the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Pursuant to this authority, this monitoring and reporting program (MRP) establishes conditions for the East County Advanced Water Purification Joint Powers Authority (ECAWP JPA or Discharger) to conduct routine or episodic self-monitoring of the discharges regulated under Order No. R9-2025-003 NPDES No. CA 9000001, *Waste Discharge Requirements for the East County Advanced Water Purification Joint Powers Authority East County Advanced Water Purification Project Discharge to Lake Jennings and Sycamore Creek* (Order) at specified effluent and receiving water monitoring locations. This MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status with the Order. 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 this MRP may range from $2,200,000 to $2,800,000 per year. The San Diego Water Board has assessed this MRP to reduce and eliminate unnecessary or overlapping monitoring and reporting requirements where appropriate. This MRP is reasonable given the needs and benefits of the reports.

The purpose of this MRP is to determine and ensure compliance with effluent limitations and other requirements established in the Order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. This 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 the Order.

The framework for this MRP 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 limitations 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 this 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 of this MRP, 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 of and the approval of the San Diego Water Board.

1.2. All monitoring instruments and devices used by the Discharger to fulfill this MRP 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. This provision applies to monitoring conducted at locations INT-001 through INT-013, EFF-001A, EFF-001B, RSW-001, and RSW-002. The Discharger must conduct monitoring for any contaminants and parameters that have a primary or secondary maximum contaminant levels (MCL) using drinking water methods approved (as defined be section 1.6 of this MRP) by the State Water Resources Control Board, Division of Drinking Water (DDW) for the contaminant pursuant to title 22 California Code of Regulations (title 22) section 60320.304. For analysis of chemicals with action levels (ALs), notification levels (NLs), and other DDW specified chemicals[23] that do not have primary or secondary maximum contaminant levels (MCLs), the Discharger must first consider using an approved drinking water method for the analyte. If an approved drinking water method is not available for the analyte, the Discharger may consider using an analytical method specified in 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the CWA as amended* (40 CFR part 136) or a differing method subject to review and approval by DDW. Differing methods

[23] The list of DDW specified chemicals currently includes nitrosomorpholine (NMOR), acetone, sucralose and Iohexol and is subject to change based on written notification from DDW to the Discharger.

must be described in the approved Surface Water Source Augmentation Project (SWSAP) Operation Plan.[24]

1.4. The Discharger must conduct monitoring in accordance with the United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136 for the following: (1) Technology Based or Water Quality Based Effluent Limitations[25] (2) California Toxics Rule (CTR) parameters that do not have drinking water criteria. The Discharger may use an alternative test procedure approved by USEPA, or by the San Diego Water Board when there are no methods specified for a pollutant at 40 CFR part 136.[26]

1.5. This provision applies to monitoring conducted at locations INT-001 through INT-013, EFF-001A, EFF-001B, RSW-001, and RSW-002. The Discharger must use the analytical methods described in the SWSAP Operation Plan and ensure the methods comply with sections 1.3 and 1.4 of this MRP for monitoring conducted at monitoring locations INT-001 through INT-013, EFF-001A, EFF-001B, RSW-001, and RSW-002. The Discharger must notify the San Diego Water Board and DDW of any changes to analytical methods from those described in the SWSAP Operation Plan. The Discharger must document the method change in the SWSAP Operation Plan as detailed in sections 4.3.8.1 and 4.3.8.6 of the Order. The sampling frequencies and sampling locations listed in the SWSAP Operation Plan must match the requirements of this MRP. The Discharger must not reduce the monitoring frequency for any chemicals or parameters, without the approval of DDW and subsequent written approval from the San Diego Water Board's Executive Officer modifying this MRP in accordance with section 2.5 of the Order.

1.6. All analyses required by this MRP shall be performed in a laboratory accredited under the State Water Resource Control Board's Environmental Laboratory Accreditation Program (ELAP) to ensure the quality of analytical data used for regulatory purposes to meet the requirements of the Order.[27] Data generated using field tests is exempt from this ELAP requirement pursuant to Water Code section 13176. The Discharger may propose using methods that are not ELAP certified on a case-by-case basis for analysis of samples collected at monitoring locations INT-001 through INT-013, EFF-001A, EFF-001B, RSW-001, and RSW-002. The use of the method must be justified and approved through the submission of the SWSAP Operation Plan for monitoring

[24] The monitoring requirements listed in Standard Provisions (Attachment D) section 3 do not apply to monitoring for any contaminants and parameters listed in monitoring provision 1.3 of this MRP.
[25] Contaminants and parameters that have technology based or water quality-based effluent limitations include biochemical oxygen demand, total suspended solids, un-ionized ammonia, total nitrogen, total phosphorus, and total residual chlorine.
[26] The analytical method requirements for constituents of emerging concern (CEC) monitoring are contained in section 3.4. of this MRP.
[27] Additional information on ELAP can be accessed at: https://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml

conducted at monitoring locations INT-001 through INT-013, EFF-001A, EFF-001B, RSW-001, and RSW-002.

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

1.8. The Discharger must 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 Discharger should have a success rate equal or greater than 80 percent. The Discharger must follow ELAP QA requirements if they differ from this provision.

1.9. When the USEPA or the San Diego Water Board requests it, the Discharger will participate in the NPDES Discharge Monitoring Report QA (DMR-QA) performance study. If the USEPA or the San Diego Water Board do not request the DMR-QA, the Discharger shall submit the most recent Water Pollution Performance Evaluation Study. The Discharger shall submit the results of either the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study annually by December 31 to the State Water Resources Control Board (State Water Board) via electronic mail (email) at OIMA-QualityAssurance@Waterboards.ca.gov.

Refer to section 7.4 of this MRP for more information on DMR reporting requirements.

1.10. The Discharger must conduct the analysis for toxic pollutants, with effluent limitations based on water quality objectives and criteria of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) and CTR in accordance with procedures described in the Basin Plan, the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy), and this MRP.

1.11. The Discharger must ensure that analytical procedures used to evaluate compliance with effluent limitations established in the Order use minimum levels (ML) no greater than the applicable effluent limitations and are consistent with the requirements of 40 CFR part 136 or drinking water methods approved by DDW 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 40 CFR part 136 or drinking water methods approved by DDW as described in section 1.3 for this MRP.

2. MONITORING LOCATIONS

The Discharger must establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in the 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	Monitoring Location(s)	Primary Station Code (PS-Code)	Monitoring Location Description[1]
---	INF-001	---	A location where all influent flow to East County Water Recycling Facility (ECWRF) is accounted for in monitoring events; upstream of any in-plant return flows, and where a representative sample of the influent can be obtained. Latitude: 32.8830° Longitude: -116.9974°
---	INT-001	---	Tertiary filter influent. Latitude: 32.88097° Longitude: -116.9992°
---	INT-002A INT-002B INT-002C INT-002D INT-002E INT-002F	---	Tertiary filter effluent (at each of the 6 filter units) - A point where effluent from each of the tertiary filters at the ECWRF can be monitored prior to membrane filtration (MF).
---	INT-003	---	Tertiary effluent (combined). A point where the combined effluent from the tertiary filters at the ECWRF can be monitored prior to MF.
---	INT-004A INT-004B INT-004C INT-004D INT-004E INT-004F	---	MF unit - A point corresponding to each of the 6 MF units.
---	INT-005A INT-005B INT-005C INT-005D INT-005E INT-005F	---	MF filtrate (at each of the 6 MF units) - A point where effluent from each MF unit can be monitored prior to the RO feed tank.
---	INT-006	CA3790037_103_103	Primary RO feed (combined) - A point where effluent from the MF units can be monitored prior to the RO system.

Discharge Point	Monitoring Location(s)	Primary Station Code (PS-Code)	Monitoring Location Description[1]
---	INT-007A INT-007B INT-007C INT-007D INT-007E	CA3790037_104_104 CA3790037_105_105 CA3790037_106_106 CA3790037_107_107 CA3790037_108_108	Primary RO permeate (at each of the 5 primary RO trains) - A point where effluent from each RO train can be monitored prior to blending with other RO permeate.
---	INT-008	CA3790037_109_109	Secondary RO feed (combined) - A point where concentrate from the primary RO system (combined) can be monitored prior to the secondary RO system.
---	INT-009A INT-009B INT-009C INT-009D	CA3790037_110_110 CA3790037_111_111 CA3790037_112_112 CA3790037_113_113	Secondary RO permeate (at each of the 4 secondary RO trains) - A point where effluent from each RO train can be monitored prior to blending with other RO permeate
---	INT-010	CA3790037_114_114	RO permeate (combined) - A point where effluent from the RO system (combined) can be monitored prior to the ultraviolet light (UV)/advanced oxidation process (AOP).
---	INT-011A INT-011B INT-011C	---	UV reactor influent (at each of the 3 UV reactors)- A point where influent to each UV reactor can be monitored.
---	INT-012A INT-012B INT-012C	---	UV reactor interior (in each of the 3 UV reactors)
---	INT-013	---	A point in the ECAWP Facility pipeline downstream of EFF-001A and upstream of EFF-001B where effluent can be monitored for free chlorine contact time compliance.
---	EFF-001A	CA3790037_101_101	Downstream of any in-plant return flow at the ECAWP Facility where represented samples of effluent treated at the ECAWP Facility can be collected, after free chlorine disinfection, but prior to dechlorination. Latitude: 32.8793° Longitude: -117.0003°

Discharge Point	Monitoring Location(s)	Primary Station Code (PS-Code)	Monitoring Location Description[1]
001	EFF-001B	CA3790037_102_002	A point in the ECAWP Facility after dechlorination, but prior to discharge to Lake Jennings. Latitude: 32.8565° Longitude: -116.8939°
---	EFF-002A	---	Discharge from post stabilization prior to Pond C or Lake No. 7 at Santee Lakes
002	EFF-002B[1]	---	Discharge from Santee Lakes (Lake No. 1) to Sycamore Creek Latitude: 32.8472° Longitude: -117.0067°
---	RSW-001	[PS-Code to be determined]	Lake Jennings, at a location near the east end of the reservoir near the inlet/outlet tower. Latitude: 32.8565° Longitude: -116.8911°
---	RSW-002[2]	[PS-Code to be determined]	Lake Jennings, at a location near the middle of the reservoir. Latitude: 32.8573° Longitude: -116.8880°
---	RSW-003	---	Sycamore Creek (upstream reference station) Latitude: 32.8478° Longitude: -117.0069°
---	RSW-003A	---	Approximately 400 to 1,000 yards downstream from Discharge Point No. 001 to Sycamore Creek
---	RSW-004	---	Sycamore Creek, upstream of the confluence with the San Diego River, at exit from Carlton Oaks Golf Course
---	RSW-005	---	San Diego River at Carlton Hills Boulevard in Santee (upstream reference station)
---	RSW-006	---	Forrester Creek 50 feet upstream of confluence with the San Diego River
---	RSW-007	---	San Diego River at Mast Boulevard
---	RSW-008	---	San Diego River at the pond just downstream of Old Mission Dam

Notes for Table E-1:

1. The Discharger must monitor flow at EFF-002B. The Discharger must also monitor for pesticides at EFF-002B if the Discharger applies pesticides in accordance with section 5.3.3.1. of the Order.
2. The Discharger may apply to DDW and the San Diego Water Board to eliminate RSW-002 upon completion of 12 consecutive months of monitoring post-augmentation.

3. CORE MONITORING REQUIREMENTS

3.1. Influent Monitoring Requirements

3.1.1. The Discharger must monitor the influent to the ECWRF at Monitoring Location INF-001 as follows and use the required analytical test methods specified in 40 CFR part 136:

Table E-2. Influent Monitoring at Monitoring Location INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	million gallons per day (MGD)	Recorder/ Totalizer	Continuous
Biological Oxygen Demand (5-day @ 20°C) (BOD_5)[1]	milligram per liter (mg/L)	24-hour Composite[1] (24-hr Comp)	1 time per week (1/Week)
Total Suspended Solids (TSS)[1]	mg/L	24-hr Comp	1/Week
Nitrogen, Total (as N)	mg/L	24-hr Comp	1 time per month (1/Month)

Notes for Table E-2:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.

3.2. Treatment Reliability and Process Control Monitoring Requirements

3.2.1. The Discharger must conduct internal monitoring as follows:

Table E-3. Internal Monitoring Requirements[1]

Parameter	Units	Monitoring Location/Station[2]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD_5	mg/L[3]	INT-003	24-hr Comp	1/Week	[4]
TSS	mg/L[3]	INT-003	24-hr Comp	1/Week	[4]

Parameter	Units	Monitoring Location/Station[2]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	INT-003 and INT-005A through E, and INT-006	Recorder	Continuous	---
Total Organic Carbon (TOC)	mg/L	INT-006 and INT-010	Recorder	Continuous	---
Pressure Decay Rate	Pounds per square inch per minute	INT-004A through F	Calculate	1 time per day (1/Day)	---
Strontium	mg/L	INT-006 and INT-008	Grab	1/Day	[5,6]
Strontium	mg/L	INT-007A through E and INT-009A through D	Recorder	1 time per 12 hours	[5,6]
Electrical Conductivity	millimhos per centimeter (mmhos/cm) or deciSiemens per meter (dS/m)	INT-006, INT-007A through E, INT-008, and INT-009A through D	Recorder	Continuous	---
TOC	mg/L	INT-010	24-hr Comp, Grab, or Recorder	1 time per week (1/Week)[7]	[5]
UV Transmittance	%	INT-010	Recorder	Continuous	---
UV Intensity	milliwatts per square centimeter (mW/cm2)	INT-012A through C	Recorder	Continuous	---
UV Dose	millijoules per square centimeter (mJ/cm2)	INT-012A through C	Calculated	Continuous	---
Flowrate	MGD	INT-011A through C and INT-013[8]	Recorder/Totalizer	Continuous	---
pH	standard units	INT-003 and INT-013	Recorder	Continuous	
Free Chlorine Residual	mg/L	INT-011A through C and INT-013	Recorder	Continuous	---

Notes for Table E-3:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. See Table E-1 of this MRP for description of the monitoring locations.
3. The Discharger must calculate and report the Mass Emission Rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12 of the Order.
4. Samples shall be analyzed using methods specified in 40 CFR part 136.
5. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
6. As described in the section 4.3.6.4.1 of this Order, strontium will be measured as follows for calculation of the Tier 1 reverse osmosis (RO) log reduction value (LRV):

- Grab samples will be collected daily (Monday-Friday) at monitoring locations, INT-006 and INT-008. The grab samples must be analyzed at a laboratory certified by ELAP using an approved USEPA method.
- Strontium concentrations will be measured at monitoring locations, INT-007A through E and INT-009A through D, for trains online, using an online strontium analyzer, such that the LRV will be calculated for each individual online train.

7. The Discharger must monitor TOC concentrations weekly for the first 20 weeks of full-scale operation pursuant to title 22 CCR section 60320.302(a)(2) and section 4.3.4.2 of this Order.
8. The Discharger may use flowrate measure at EFF-01A to satisfy this requirement.

3.3. Effluent Monitoring Requirements

3.3.1. The Discharger must monitor the effluent at Monitoring Location EFF-001A as described in Tables E-4 through E-12:

Table E-4. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Flow and Basin Plan Parameters)

Parameter	Units	Sample Type	Minimum Sample Frequency
Ammonia, Un-ionized (as Nitrogen)[3]	mg/L[2]	24-hr Comp or Grab	1/Month
BOD_5[3]	mg/L	24-hr Comp or Grab	1/Month
Dissolved Oxygen[3]	mg/L	Grab	1/Month
Enterococci[3]	Most probable number per 100 milliliters (MPN/100 mL)	Grab	1/Week
Escherichia coli (E. coli)[3]	MPN/100 mL	Grab	1/Week

Parameter	Units	Sample Type	Minimum Sample Frequency
Flow	MGD	Recorder/ Totalizer	Continuous
Nitrogen, Total (as Nitrogen)[3]	mg/L[2]	24-hr Comp or Grab	1/Month
Oil and Grease[3]	mg/L	24-hr Comp or Grab	1/Month
Percent Sodium	%	24-hr Comp or Grab	1/Month
Phosphorus, Total (as P)[3]	mg/L[2]	24-hr Comp or Grab	1/Month
pH	Standard units	Grab	1/Week
Settleable Solids[3]	milliliter per liter (ml/L)	24-hr Comp or Grab	1/Month
Temperature[3]	°F	Grab	1/Month
TOC[3]	mg/L	24-hr Comp or Grab	1/Month
Total Coliform[3]	MPN/100 mL	Grab	1/Week
Total Hardness (as CaCO3)[3]	mg/L	24-hr Comp or Grab	1 time per quarter (1/Quarter)
TSS[3]	mg/L	24-hr Comp or Grab	1/Month
Turbidity	NTU	Meter	Continuous

Notes for Table E-4:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12. of the Order.
3. Samples shall be analyzed using methods specified in 40 CFR part 136.

Table E-5. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Primary MCLs for Inorganic Chemicals)

Parameter[2,3]	Units[4]	Sample Type	Minimum Sample Frequency[5]
Aluminum	mg/L	24-hr Comp or Grab	1/Month
Antimony	mg/L	24-hr Comp or Grab	1/Month
Arsenic	mg/L	24-hr Comp or Grab	1/Month
Asbestos[6]	million fibers per liter	24-hr Comp or Grab	1/Quarter
Barium	mg/L	24-hr Comp or Grab	1/Month
Beryllium	mg/L	24-hr Comp or Grab	1/Month
Cadmium	mg/L	24-hr Comp or Grab	1/Month
Chromium, Total	mg/L	24-hr Comp or Grab	1/Month
Cyanide	mg/L	24-hr Comp or Grab	1/Month
Fluoride	mg/L	24-hr Comp or Grab	1/Month

Parameter[2,3]	Units[4]	Sample Type	Minimum Sample Frequency[5]
Mercury	mg/L	24-hr Comp or Grab	1/Month
Nickel	mg/L	24-hr Comp or Grab	1/Month
Nitrate (as nitrogen)	mg/L	24-hr Comp or Grab	1/Month
Nitrate+Nitrite (sum as nitrogen)	mg/L	24-hr Comp or Grab	1/Month
Nitrite (as nitrogen)	mg/L	24-hr Comp or Grab	1/Month
Perchlorate	mg/L	24-hr Comp or Grab	1/Month
Selenium	mg/L	24-hr Comp or Grab	1/Month
Thallium	mg/L	24-hr Comp or Grab	1/Month

Notes for Table E-5:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to section 60320.304 and in accordance with section 1.3. of this MRP.
3. If a primary MCL (listed in Tables 5 through 8 and 11 of the Order) is exceeded, the Discharger must take the follow-up actions for MCL exceedances described in section 3.3.7. of this MRP.
4. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12 of the Order.
5. The Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency after 12 months of no exceedances at full-scale operation. Refer to section 3.3.5. of this MRP for more details.
6. If four consecutive quarterly results for asbestos are below the detection limit in Table 64432-A of title 22 CCR for asbestos, monitoring for asbestos may be automatically reduced to one sample every three years. Quarterly monitoring shall resume if asbestos is detected.

Table E-6. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Primary MCLs for Volatile Organic Chemicals)

Parameter[2,3]	Units[4]	Sample Type	Minimum Sample Frequency[5]
Benzene	mg/L	Grab	1/Month
Carbon Tetrachloride	mg/L	Grab	1/Month
1,2-Dichlorobenzene	mg/L	Grab	1/Month
1,4-Dichlorobenzene	mg/L	Grab	1/Month
1,1-Dichloroethane	mg/L	Grab	1/Month
1,2-Dichloroethane	mg/L	Grab	1/Month

Parameter[2,3]	Units[4]	Sample Type	Minimum Sample Frequency[5]
1,1-Dichloroethylene	mg/L	Grab	1/Month
cis-1,2-Dichloroethylene	mg/L	Grab	1/Month
trans-1,2-Dichloroethylene	mg/L	Grab	1/Month
Dichloromethane	mg/L	Grab	1/Month
1,2-Dichloropropane	mg/L	Grab	1/Month
1,3-Dichloropropene	mg/L	Grab	1/Month
Ethylbenzene	mg/L	Grab	1/Month
Methyl-tert-butyl ether (MTBE)	mg/L	Grab	1/Month
Monochlorobenzene	mg/L	Grab	1/Month
Styrene	mg/L	Grab	1/Month
1,1,2,2-Tetrachloroethane	mg/L	Grab	1/Month
Tetrachloroethylene	mg/L	Grab	1/Month
Toluene	mg/L	Grab	1/Month
1,2,4-Tricholorobenezene	mg/L	Grab	1/Month
1,1,1-Tricholoroethane	mg/L	Grab	1/Month
1,1,2-Tricholoroethane	mg/L	Grab	1/Month
Trichloroethylene	mg/L	Grab	1/Month
Trichlorofluoromethane	mg/L	Grab	1/Month
1,1,2-Trichloro-1,2,2-Trifluroethane	mg/L	Grab	1/Month
Vinyl Chloride	mg/L	Grab	1/Month
Xylenes (m,p)	mg/L	Grab	1/Month

Notes for Table E-6:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
3. If a primary MCL (listed in Tables 5 through 8 and 11 of the Order) is exceeded, the Discharger must take the follow-up actions for primary MCL exceedances described in section 3.3.7. of this MRP.
4. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12 of the Order.
5. The Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency after 12 months of no exceedances at full-scale operation. Refer to section 3.3.5. of this MRP for more details.

Table E-7. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Primary MCLs for Synthetic Organic Chemicals)

Parameter[2,3]	Units[4]	Sample Type	Minimum Sample Frequency[5]
Alachlor	mg/L	24-hr Comp or Grab	1/Month
Atrazine	mg/L	24-hr Comp or Grab	1/Month
Bentazon	mg/L	24-hr Comp or Grab	1/Month
Benzo(a)pyrene	mg/L	24-hr Comp or Grab	1/Month
Carbofuran	mg/L	24-hr Comp or Grab	1/Month
Chlordane	mg/L	24-hr Comp or Grab	1/Month
2,4,D	mg/L	24-hr Comp or Grab	1/Month
Dalapon	mg/L	24-hr Comp or Grab	1/Month
Dibromochloropropane	mg/L	24-hr Comp or Grab	1/Month
Di(2-ethylhexyl)adipate	mg/L	24-hr Comp or Grab	1/Month
Di(2-ethylhexyl)phthalate	mg/L	24-hr Comp or Grab	1/Month
Dinoseb	mg/L	24-hr Comp or Grab	1/Month
Diquat	mg/L	24-hr Comp or Grab	1/Month
Endothall	mg/L	24-hr Comp or Grab	1/Month
Endrin	mg/L	24-hr Comp or Grab	1/Month
Ethylene Dibromide	mg/L	24-hr Comp or Grab	1/Month
Glyphosate	mg/L	24-hr Comp or Grab	1/Month
Heptachlor	mg/L	24-hr Comp or Grab	1/Month
Heptachlor Epoxide	mg/L	24-hr Comp or Grab	1/Month
Hexachlorobenzene	mg/L	24-hr Comp or Grab	1/Month
Hexachlorocyclopentadiene	mg/L	24-hr Comp or Grab	1/Month
Lindane	mg/L	24-hr Comp or Grab	1/Month
Methoxychlor	mg/L	24-hr Comp or Grab	1/Month
Molinate	mg/L	24-hr Comp or Grab	1/Month
Oxamyl	mg/L	24-hr Comp or Grab	1/Month
Pentachlorophenol	mg/L	24-hr Comp or Grab	1/Month
Picloram	mg/L	24-hr Comp or Grab	1/Month
Polychlorinated Biphenyls (PCBs)	mg/L	24-hr Comp or Grab	1/Month
Simazine	mg/L	24-hr Comp or Grab	1/Month
Thiobencarb	mg/L	24-hr Comp or Grab	1/Month
Toxaphene	mg/L	24-hr Comp or Grab	1/Month
1,2,3-Trichloropropane	mg/L	24-hr Comp or Grab	1/Month
2,3,7,8-TCDD (Dioxin)	mg/L	24-hr Comp or Grab	1/Month
2,4,5-TP (Silvex)	mg/L	24-hr Comp or Grab	1/Month

Notes for Table E-7:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
3. If a primary MCL (listed in Tables 5 through 8 and 11 of the Order) is exceeded, the Discharger must take the follow-up actions for primary MCL exceedances described in section 3.3.7. of this MRP.
4. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12 of the Order.
5. The Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency after 12 months of no exceedances at full-scale operation. Refer to section 3.3.5. of this MRP for more details.

Table E-8. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Primary MCLs for Radionuclides)

Parameter[2,3]	Units	Sample Type	Minimum Sample Frequency[4]
Beta/photon emitters	picocuries per liter (pCi/L)	24-hr Comp or Grab	1/Month
Combined Radium 226 and 228[5]	pCi/L	24-hr Comp or Grab	1/Month
Gross Alpha Particle Activity (Excluding Radon and Uranium)	pCi/L	24-hr Comp or Grab	1/Month
Strontium-90	pCi/L	24-hr Comp or Grab	1/Month
Tritium	pCi/L	24-hr Comp or Grab	1/Month
Uranium	pCi/L	24-hr Comp or Grab	1/Month

Notes for Table E-8:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
3. If a primary MCL (listed in Tables 5 through 8 and 11 of the Order) is exceeded, the Discharger must take the follow-up actions for primary MCL exceedances described in section 3.3.7. of this MRP.

4. The Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency after 12 months of no exceedances at full-scale operation. Refer to section 3.3.5. of this MRP for more details.
5. The Discharger must monitor for each radionuclide parameter (Radium-226 and Radium 228) and report the results as a combined value for compliance with the MCL.

Table E-9. Effluent Monitoring at Monitoring Location EFF-001A (Secondary MCLs)

Parameter[1,2,3]	Units	Sample Type	Minimum Sample Frequency
Color	Color Units	24-hr Comp or Grab	1/Month
Chloride	mg/L[4]	24-hr Comp or Grab	1/Month
Methylene Blue Activated Substances (MBAS)	mg/L[4]	24-hr Comp or Grab	1/Month
Iron	mg/L[4]	24-hr Comp or Grab	1/Month
MTBE	mg/L[4]	24-hr Comp or Grab	1/Month
Odor – Threshold	Units	24-hr Comp or Grab	1/Month
Silver	mg/L[4]	24-hr Comp or Grab	1/Month
Sulfate	mg/L[4]	24-hr Comp or Grab	1/Month
Thiobencarb	mg/L[4]	24-hr Comp or Grab	1/Month
Total Dissolved Solids (TDS)	mg/L[4]	24-hr Comp or Grab	1/Month
Turbidity	NTU	24-hr Comp or Grab	1/Month
Zinc	mg/L[4]	24-hr Comp or Grab	1/Month

Notes for Table E-9:

1. MTBE has both a primary and secondary MCL and is listed in table E-6. Primary MCLs for Volatile Organic Chemicals. Copper and manganese have both a notification level and a secondary MCL and are listed in table E-11. Action and Notification Levels.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
3. If a secondary MCL (listed in Table 9 of the Order) is exceeded, the Discharger must take the follow-up actions for secondary MCL exceedances described in section 3.3.7.3. of this MRP.
4. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12 of the Order.

Table E-10. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Disinfection Byproducts and Indicator Compounds)

Parameter[2]	Units	Sample Type	Minimum Sample Frequency
Trihalomethanes, Total[3,5]	mg/L[4]	Grab	1/Month
Haloacetic Acids[3,5]	mg/L[4]	Grab	1/Month
Bromate[3,5]	mg/L[4]	24-hr Comp or Grab	1/Month
Chlorite[3,5]	mg/L[4]	24-hr Comp or Grab	1/Month
Bromoform[3,5]	mg/L[4]	Grab	1/Month
Chloroform[3,5]	mg/L[4]	Grab	1/Month
Dichlorobromomethane[3,5]	mg/L[4]	Grab	1/Month
Chlorodibromomethane[3,5]	mg/L[4]	Grab	1/Month
Acetone	mg/L	Grab	1 time per year (1/Year)
Sucralose	mg/L	Grab	1/Year
Iohexol	mg/L	Grab	1/Year
Nitrosomorpholine (NMOR)	mg/L	Grab	1/Year

Notes for Table E-10:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
3. If a disinfection byproduct (listed in Table 11 of the Order) is exceeded, the Discharger must take the follow-up actions for disinfection byproduct exceedances described in section 3.3.7. of this MRP.
4. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12 of the Order.
5. The Discharger must collect paired disinfection byproduct samples quarterly from the East County Advanced Water Purification Facility (ECAWP Facility) effluent (EFF-001A) and after dechlorination (EFF-001B). Paired sample collection time must be adjusted for the hydraulic retention time between the two sample sites, such that sampling at EFF-001A and EFF-001B are representative of the same element of water moving through the treatment process.

Table E-11. Effluent Monitoring at Monitoring Location EFF-001A[1]
(Action and Notification Levels)

Parameter[2]	Units	Sample Type	Minimum Sample Frequency[5]
Boron[4]	mg/L	24-hr Comp or Grab	1/Month
n-Butylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
sec-Butylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
tert-Butylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
Carbon disulfide[4]	mg/L	24-hr Comp or Grab	1/Month
Chlorate[4]	mg/L	24-hr Comp or Grab	1/Month
2-Chlorotoluene[4]	mg/L	24-hr Comp or Grab	1/Month
4- Chlorotoluene[4]	mg/L	24-hr Comp or Grab	1/Month
Copper[3]	mg/L	24-hr Comp or Grab	1/Month
Diazinon[4]	mg/L	24-hr Comp or Grab	1/Month
Dichlorodifluoromethane (Freon 12)[4]	mg/L	24-hr Comp or Grab	1/Month
1,4-Dioxane[4]	mg/L	24-hr Comp or Grab	1/Month
Ethylene glycol[4]	mg/L	24-hr Comp or Grab	1/Month
Formaldehyde[4]	mg/L	24-hr Comp or Grab	1/Month
HMX (Octogen)[4]	mg/L	24-hr Comp or Grab	1/Month
Isopropylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
Lead[3]	mg/L	24-hr Comp or Grab	1/Month
Manganese[4]	mg/L	24-hr Comp or Grab	1/Month
Methyl isobutyl ketone (MIBK)[4]	mg/L	24-hr Comp or Grab	1/Month
Naphthalene[4]	mg/L	24-hr Comp or Grab	1/Month
N-nitrosodiethylamine (NDEA)[4]	mg/L	24-hr Comp or Grab	1/Month
N-nitrosodimethylamine (NDMA)[4]	mg/L	24-hr Comp or Grab	1/Month
N-nitrosodi-n-propylamine (NDPA)[4]	mg/L	24-hr Comp or Grab	1/Month
Perfluorobutanesulfonic acid (PFBS)[4]	mg/L	24-hr Comp or Grab	1/Month
Perfluorohexanesulfonic acid (PFHxS)[4]	mg/L	24-hr Comp or Grab	1/Month
Perfluorooctanoic acid (PFOA)[4]	mg/L	24-hr Comp or Grab	1/Month
Perfluorooctanesulfonic Acid (PFOS)[4]	mg/L	24-hr Comp or Grab	1/Month

Parameter[2]	Units	Sample Type	Minimum Sample Frequency[5]
Propachlor[4]	mg/L	24-hr Comp or Grab	1/Month
n-Propylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
RDX[4]	mg/L	24-hr Comp or Grab	1/Month
Tertiary butyl alcohol (TBA)[4]	mg/L	24-hr Comp or Grab	1/Month
1,2,4-Trimethylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
1,3,5-Trimethylbenzene[4]	mg/L	24-hr Comp or Grab	1/Month
2,4,6 Trinitrotoluene (TNT)[4]	mg/L	24-hr Comp or Grab	1/Month
Vanadium[4]	mg/L	24-hr Comp or Grab	1/Month

Notes for Table E-11:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and in accordance with section 1.3. of this MRP.
3. If an AL (listed in Table 13 of the Order) is exceeded, the Discharger must take the follow-up actions for AL exceedances described in section 3.3.7.1. of this MRP.
4. If a NL (listed in Table 13 of the Order) is exceeded, the Discharger must take the follow-up actions for NL exceedances described in section 3.3.7.4. of this MRP.
5. The Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency after 12 months of no exceedances at full flow. Refer to section 3.3.5. of this MRP for more details.

Table E-12. Effluent Monitoring at Monitoring Location EFF-001A[1] (Remaining CTR Parameters)

Parameter[2]	Units	Sample Type	Minimum Sample Frequency
1,2-Diphenylhydrazine	Microgram per liter (µg/L)	24-hr Comp or Grab	1/Quarter
1,3-Dichlorobenzene	µg/L	24-hr Comp or Grab	1/Quarter
2,4,6-Trichlorophenol	µg/L	24-hr Comp or Grab	1/Quarter
2,4-Dichlorophenol	µg/L	24-hr Comp or Grab	1/Quarter
2,4-Dimethylphenol	µg/L	24-hr Comp or Grab	1/Quarter
2,4-Dinitrophenol	µg/L	24-hr Comp or Grab	1/Quarter
2,4-Dinitrotoluene	µg/L	24-hr Comp or Grab	1/Quarter

Parameter[2]	Units	Sample Type	Minimum Sample Frequency
2,6-Dinitrotoluene	µg/L	24-hr Comp or Grab	1/Quarter
2-Chloroethyl Vinyl Ether	µg/L	Grab	1/Quarter
2-Chloronaphthalene	µg/L	24-hr Comp or Grab	1/Quarter
2-Chlorophenol	µg/L	24-hr Comp or Grab	1/Quarter
2-Nitrophenol	µg/L	24-hr Comp or Grab	1/Quarter
3,3'-Dichlorobenzidine	µg/L	24-hr Comp or Grab	1/Quarter
4,4'-DDD	µg/L	24-hr Comp or Grab	1/Quarter
4,4'-DDE	µg/L	24-hr Comp or Grab	1/Quarter
4,4'-DDT	µg/L	24-hr Comp or Grab	1/Quarter
4,6-Dinitro-2-Methylphenol	µg/L	24-hr Comp or Grab	1/Quarter
4-Bromophenyl Phenyl Ether	µg/L	24-hr Comp or Grab	1/Quarter
4-Chloro 3-methylphenol	µg/L	24-hr Comp or Grab	1/Quarter
4-chlorophenyl phenyl ether	µg/L	24-hr Comp or Grab	1/Quarter
4-Nitrophenol	µg/L	24-hr Comp or Grab	1/Quarter
Acenaphthene	µg/L	24-hr Comp or Grab	1/Quarter
Acenaphthylene	µg/L	24-hr Comp or Grab	1/Quarter
Acrolein	µg/L	Grab	1/Quarter
Acrylonitrile	µg/L	Grab	1/Quarter
Aldrin	µg/L	24-hr Comp or Grab	1/Quarter
alpha Endosulfan	µg/L	24-hr Comp or Grab	1/Quarter
alpha-BHC	µg/L	24-hr Comp or Grab	1/Quarter
Anthracene	µg/L	24-hr Comp or Grab	1/Quarter
Benzidine	µg/L	24-hr Comp or Grab	1/Quarter
Benzo(a)Anthracene	µg/L	24-hr Comp or Grab	1/Quarter
Benzo(b)Fluoranthene	µg/L	24-hr Comp or Grab	1/Quarter
Benzo(ghi)perylene	µg/L	24-hr Comp or Grab	1/Quarter
Benzo(k)Fluoranthene	µg/L	24-hr Comp or Grab	1/Quarter
beta Endosulfan	µg/L	24-hr Comp or Grab	1/Quarter
beta-BHC	µg/L	24-hr Comp or Grab	1/Quarter
Bis(2-chloroethoxy)methane	µg/L	24-hr Comp or Grab	1/Quarter
Bis(2-chloroethyl) Ether	µg/L	24-hr Comp or Grab	1/Quarter
Bis(2-chloroisopropyl)ether	µg/L	24-hr Comp or Grab	1/Quarter

Parameter[2]	Units	Sample Type	Minimum Sample Frequency
Butyl benzyl phthalate	µg/L	24-hr Comp or Grab	1/Quarter
Chloroethane	µg/L	Grab	1/Quarter
Chromium III, Total Recoverable	µg/L	24-hr Comp or Grab	1/Month
Chromium VI, Total Recoverable	µg/L	24-hr Comp or Grab	1/Month
Chrysene	µg/L	24-hr Comp or Grab	1/Quarter
delta-BHC	µg/L	24-hr Comp or Grab	1/Quarter
Dibenzo(a,h)anthracene	µg/L	24-hr Comp or Grab	1/Quarter
Dieldrin	µg/L	24-hr Comp or Grab	1/Quarter
Diethyl Phthalate	µg/L	24-hr Comp or Grab	1/Quarter
Dimethyl Phthalate	µg/L	24-hr Comp or Grab	1/Quarter
Di-n-butyl Phthalate	µg/L	24-hr Comp or Grab	1/Quarter
Di-n-octyl Phthalate	µg/L	24-hr Comp or Grab	1/Quarter
Endosulfan Sulfate	µg/L	24-hr Comp or Grab	1/Quarter
Endrin Aldehyde	µg/L	24-hr Comp or Grab	1/Quarter
Fluoranthene	µg/L	24-hr Comp or Grab	1/Quarter
Fluorene	µg/L	24-hr Comp or Grab	1/Quarter
Hexachloroethane	µg/L	24-hr Comp or Grab	1/Quarter
Indeno(1,2,3-cd) Pyrene	µg/L	24-hr Comp or Grab	1/Quarter
Isophorone	µg/L	24-hr Comp or Grab	1/Quarter
Methyl chloride	µg/L	Grab	1/Quarter
Nitrobenzene	µg/L	24-hr Comp or Grab	1/Quarter
N-nitrosodiphenylamine	µg/L	24-hr Comp or Grab	1/Quarter
Phenanthrene	µg/L	24-hr Comp or Grab	1/Quarter
Phenol	µg/L	24-hr Comp or Grab	1/Quarter
Pyrene	µg/L	24-hr Comp or Grab	1/Quarter

Notes for Table E-12:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using methods specified in 40 CFR part 136.

3.3.2. The Discharger must monitor the effluent at Monitoring Location EFF-001B (Discharge Point No. 001) as described in Table E-13:

Table E-13. Effluent Monitoring at Monitoring Location EFF-001B

Parameter[2]	Units	Sample Type	Minimum Sampling Frequency
Bromate[4,5,7]	mg/L	24-hr Comp or Grab	1/Month
Bromoform[4,5,7]	mg/L	Grab	1/Month
Chlorite[4,5,7]	mg/L	24-hr Comp or Grab	1/Month
Chlorodibromomethane[4,5,7]	µg/L	Grab	1/Month
Chloroform[4,5,7]	µg/L	Grab	1/Month
Chronic Toxicity[1,6]	Pass/ Fail; % Effect	24-hr Comp or Grab	1/Quarter
Dichlorobromomethane[4,5,7]	µg/L	Grab	1/Month
Haloacetic Acids[4,5,7]	mg/L	Grab	1/Month
Total Residual Chlorine[3,5]	µg/L	Recorder	Continuous
Trihalomethanes, Total[4,5,7]	mg/L	Grab	1/Month

Notes for Table E-13:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The Discharger only needs to monitor flow at EFF-001A. There is no flow meter at EFF-001B as flows do not change between the two monitoring locations.
3. Samples shall be analyzed using methods specified in 40 CFR 136.
4. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 of the California Code of Regulations (title 22 CCR) section 60320.304 and in accordance with section 1.3. of this MRP.
5. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12. of the Order.
6. Samples shall be analyzed as specified in section 3.5. of this MRP.
7. The Discharger must collect paired disinfection byproduct samples quarterly from the ECAWP Facility effluent (EFF-001A) and after dechlorination (EFF-001B). Paired sample collection time must be adjusted for the hydraulic retention time between the two sample sites, such that sampling at EFF-001A and EFF-001B are representative of the same element of water moving through the treatment process.

3.3.3. The Discharger must monitor the effluent at Monitoring Location EFF-002A as described in Table E-14:

Table E-14. Effluent Monitoring at Monitoring Location EFF-002A

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Residual Chlorine[1,2]	µg/L	Grab	Daily
Total Coliform[3]	MPN/100 mL	Grab	Daily

Notes for Table E-14:

1. Samples shall be analyzed using methods specified in 40 CFR 136.
2. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12. of the Order.
3. The Discharger must only monitor for total coliform when effluent is “off specification” for discharge to Lake Jennings and is discharged to Santee Lakes.

3.3.4. The Discharger must monitor the effluent at Monitoring Location EFF-002B as described in Table E-15 when there is flow at Discharge Point 002:

Table E-15. Effluent Monitoring at Monitoring Location EFF-002B

Parameter	Units	Sample Type	Minimum Sampling Frequency
Chronic Toxicity[1,4]	Pass/ Fail; % Effect	24-hr Comp or Grab	1/Quarter
Flow	MGD	Recorder/Totalizer	Continuous
Dissolved Oxygen[2]	mg/L	Grab	1/Month
Nitrogen, Total (as N)	mg/L	24-hr Comp or Grab	1/Month
Phosphorus, Total (as P)	mg/L	24-hr Comp or Grab	1/Month
Total Residual Chlorine[2,3]	µg/L	Grab	Daily

Notes for Table E-15:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Samples shall be analyzed using methods specified in 40 CFR 136.
3. The Discharger must calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section 6.1.12. of the Order.
4. Samples shall be analyzed as specified in section 3.5. of this MRP.

3.3.5. The Discharger must collect samples representative of the effluent of the advanced treatment process under normal operating conditions and have the samples analyzed

monthly for constituents having primary and secondary MCLs, ALs, and NLs pursuant to title 22 CCR section 60302.302 (h) (as required by Tables E-5 through E-11 and E-13 of this MRP). After 12 months of operation at full-scale with no results exceeding the primary and secondary MCLs, ALs, or NLs (as listed in Tables 5 through 9 and 11 of the Order), the Discharger may apply to DDW and the San Diego Water Board for a reduced monitoring frequency. The reduced monitoring frequency for contaminants with primary or secondary MCLs must be no less than quarterly. If a primary or secondary MCL (listed in Tables 5 through 9 and 11 of the Order) is exceeded, the Discharger must take the follow-up actions for primary and secondary MCL exceedances described in section 3.3.7. of this MRP and required pursuant to title 22 CCR section 60320.312.

3.3.6. Pursuant to title 22 CCR section 60320.312(e), if four consecutive quarterly results for asbestos are below the detection limit in Table 64432-A of title 22 CCR for asbestos, monitoring for asbestos may be reduced to one sample every three years. Quarterly monitoring shall resume if asbestos is detected.

3.3.7. The Discharger must perform additional monitoring as described below for constituents listed in Tables E-5 through E-11 and E-13 of this MRP in the event of an exceedance of the following:

3.3.7.1. If a constituent's primary MCL or AL- for lead and copper is exceeded, the Discharger must collect another sample within 72 hours of notification of the result and have it analyzed for the constituents as confirmation. For a constituent whose compliance with its primary MCL or AL is not based on a running annual average, if the average of the initial and confirmation sample exceeds the constituent's MCL or AL, or the confirmation sample is not collected and analyzed pursuant to this subsection, the Discharger must notify the DDW and San Diego Water Board within 24 hours and initiate weekly monitoring until four consecutive weekly results are below the constituent's MCL or AL. If at any time a result causes, or would cause, a running four-week average of weekly results to exceed the constituent's MCL or AL, the Discharger must notify the DDW, Helix Water District utilizing the augmented reservoir, and the San Diego Water Board within 24 hours and immediately suspend delivery of the advanced treated recycled water to the augmented reservoir.

3.3.7.2. Pursuant to title 22 CCR section 60320.312(c)(2), for a constituent whose compliance with its primary MCL is based on a running four-week average if the average of the initial and confirmation sample exceeds the constituent's primary MCL, or a confirmation sample is not collected and analyzed pursuant to this subsection, the Discharger must initiate weekly monitoring for the contaminant until the running four-week average of results no longer exceeds the constituent's primary MCL.

3.3.7.2.1. If the running four-week average exceeds the constituent's primary MCL, the Discharger must describe the reason(s) for the exceedance and provide a schedule for completion of corrective actions in a report submitted to the DDW

and San Diego Water Board no later than 45 days following the quarter in which the exceedance occurred.

3.3.7.2.2. If the running four-week average exceeds the constituent's primary MCL for sixteen consecutive weeks, the Discharger must notify the DDW, San Diego Water Board, and Helix Water District within 48 hours of knowledge of the exceedance and, if directed by the DDW or San Diego Water Board, suspend delivery of the advanced treated recycled water to the augmented reservoir.

3.3.7.3. Pursuant to title 22 CCR section 60320.312(d), if the annual average concentration exceeds a constituent's secondary MCL in Table 64449-A of title 22 CCR (see table 9 of the Order) or the upper limit in Table 64449-B of title 22 CCR, the Discharger must initiate quarterly monitoring of the advanced treated recycled water for the constituent and, if the running annual average of quarterly-averaged results exceeds a contaminant's secondary MCL or upper limit, the Discharger must describe the reason(s) for the exceedance and any corrective actions taken in a report submitted to the San Diego Water Board and DDW no later than 45 days following the quarter in which the exceedance occurred. Annual monitoring may resume if the running annual average of quarterly results does not exceed a constituent's secondary MCL or upper limit.

3.3.7.4. Pursuant to title 22 CCR section 60320.320(b), if a result exceeds a NL (see Table 13 of Order), within 72 hours of notification of the result the Discharger must collect another sample and have it analyzed for the constituent as confirmation. If the average of the initial and confirmation sample exceeds the contaminant's NL, or a confirmation sample is not collected and analyzed pursuant to this subsection, the Discharger must initiate weekly monitoring for the contaminant until the running four-week average of results does not exceed the NL and the DDW and San Diego Water Board determine weekly monitoring may cease.

3.3.7.4.1. If a running four-week average exceeds the constituent's NL, the Discharger must describe the reason(s) for the exceedance and provide a schedule for completion of corrective actions in a report submitted to the San Diego Water Board no later than 45 days following the quarter in which the exceedance occurred, with a copy concurrently provided to the State Water Board.

3.3.7.4.2. If a running four-week average exceeds the constituent's NL for sixteen consecutive weeks, the Discharger must notify the DDW, San Diego Water Board, and each SWSAP Public Water System utilizing the augmented reservoir within 48 hours of knowledge of the exceedance.

3.4. Constituents of Emerging Concern Monitoring Requirements

The monitoring requirements for CECs, surrogates, and bioanalytical screening tools are separated into three phases: 1) initial assessment monitoring phase, 2) baseline monitoring phase, 3) standard operation monitoring phase. The purpose of phased monitoring is to allow monitoring requirements for health-based CECs, performance indicator CECs, surrogates, and bioanalytical screening tools to be refined based on the monitoring results and findings of the previous phase.

3.4.1. Initial Assessment Monitoring Phase

The purpose of the initial assessment phase is to: (1) identify the occurrence of health-based CECs, performance indicator CECs, and surrogates in recycled water for groundwater recharge or reservoir water augmentation; (2) determine treatment effectiveness; (3) define the project-specific performance indicator CECs and surrogates to monitor during the baseline monitoring phase; (4) specify the expected removal percentages for performance indicator CECs and surrogates; and (5) gather bioactivity data for Estrogen receptor-α (ER-α) and Aryl hydrocarbon receptor (AhR) bioanalytical screening tools to determine the range of responses for the bioassays[28] for standardized water quality monitoring. After each sampling event, the Discharger must evaluate the monitoring data as described in section 3.4.4 of this MRP. The Discharger must implement the appropriate response actions described in Table E-22 for health-based CECs bason on monitoring at EFF-001A. The Discharger may elect to follow the response actions for bioanalytical screening tools described in Table E-24, but implementation of the response actions during the initial assessment monitoring phase is not required, unless directed by the San Diego Water Board.

3.4.1.1. Health-Based CEC, Performance Indicator CEC, and Surrogate Monitoring Requirements

The Discharger must conduct health-based CEC, performance indicator CEC, surrogate monitoring at monitoring location INT-006, INT-010 and/or EFF-001A for a period of one year, as described in Table E-16. Analytical chemistry methods for laboratory analysis of CECs shall be selected in the following hierarchical order: 1) USEPA-approved methods, 2) Standard Methods, 3) methods required by the State Water Board for state-only drinking water standards or for identifying chemicals having NLs, 4) methods from scientific literature. The proposed method shall be included in the approved quality assurance project plan approved by the San Diego Water Board or State Water Board prior to monitoring. See section 3.4.5. of this MRP below for more information about the quality assurance project plan.

Table E-16. Initial Assessment Phase Monitoring Requirements for CECs and Surrogates[1]

Parameter	Unit	Relevance/ Indicator Type/ Surrogate	Sample Type	Minimum Test Frequency	Required Reporting Limit (µg/L)[2]	Monitoring Location
1,4-Dioxane	µg/L	Health	Grab	1/Quarter[3,4]	0.1	EFF-001A
NDMA	µg/L	Health and Performance	Grab	1/Quarter[3,4]	0.002	INT-006, INT-010, and EFF-001A

[28] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

Parameter	Unit	Relevance/ Indicator Type/ Surrogate	Sample Type	Minimum Test Frequency	Required Reporting Limit (µg/L)[2]	Monitoring Location
NMOR	µg/L	Health	Grab	1/Quarter[3,4]	0.002	EFF-001A
PFOS	µg/L	Health	Grab	1/Quarter[3,4]	0.0065	EFF-001A
PFOA	µg/L	Health	Grab	1/Quarter[3,4]	0.007	EFF-001A
Sucralose	µg/L	Performance	Grab	1/Quarter	0.1	INT-006,INT-010, and EFF-001A
Sulfamethoxazole	µg/L	Performance	Grab	1/Quarter	0.01	INT-006, INT-010, and EFF-001A
Electrical Conductivity	mmhos/cm or dS/m	Surrogate	Grab	1/Quarter	--	INT-006 and EFF-001A
Dissolved Organic Carbon (DOC)	µg/L	Surrogate	Grab	1/Quarter	--	INT-006 and EFF-001A
Ultraviolet Light Absorbance	%	Surrogate	Grab	1/Quarter	--	INT-006 and EFF-001A

Notes for Table E-16:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The San Diego Water Board may approve higher reporting limits if the San Diego Water Board determines these reporting limits cannot be practicably met in recycled water matrices, as long as the ratio between the reporting limit and the monitoring trigger limit is no less than 2.0 µg/L.
3. More frequent monitoring may be required by the San Diego Water Board or to respond to concerns stated in section 3.4.4. of this MRP.
4. If at any time during the first year the results to Health Based CEC show detections, the monitoring frequency automatically increases to once per month.

3.4.1.2. **Bioanalytical Screening Monitoring Requirements**

The Discharger must conduct bioanalytical monitoring on 24-hr Comp samples for a period of three years at the monitoring location EFF-001A, as described in Table E-17. Bioanalytical screening tool methods shall be selected in the following hierarchical order using 1) standard operating procedures developed

by the State Water Board bioanalytical implementation advisory group, 2) USEPA methods, or 3) in consultation with the San Diego Water Board and State Water Board.

Table E-17. Initial Assessment and Baseline Monitoring Phase Monitoring Requirements for Bioanalytical Screening Tools[1]

End Point Activity	Relevant CECs	Adverse Effect	Sample Type	Minimum Test Frequency[2]	Required Reporting Limit (ng/L)
ER-α	Estradiol, Bisphenol A, Nonylphenol	Cancer, Feminization, Impaired Reproduction	Grab	1/Quarter	0.5
AhR	Dioxin-like chemicals, polycyclic aromatic hydrocarbons, pesticides	Cancer, Impaired Reproduction	Grab	1/Quarter	0.5

Notes for Table E-17:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The San Diego Water Board may require additional monitoring to respond to a concern as described in section 3.4.4. of this MRP.

3.4.2. **Baseline CEC Monitoring Requirements**

The Discharger must initiate the baseline monitoring phase upon completion of the initial assessment phase. The purpose of the baseline monitoring phase is to: (1) gather occurrence data for health-based CECs; (2) evaluate performance indicator CECs and surrogates and determine treatment effectiveness; (3) gather bioactivity data for ER-α and AhR bioanalytical screening tools and pilot test the framework for response actions; and (4) assess the list of health-based CECs, performance indicator CECs, surrogates, and bioanalytical screening tools and identify an appropriate list of constituents to monitor the removal of CECs and treatment system performance in the standard operation monitoring phase of the ECAWP Facility. If a performance indicator CEC listed in Table E-17 is not a good indicator of CEC removal, the Discharger must propose an alternative performance indicator CEC to monitoring that is representative of the constituent group. This performance indicator CEC shall be subject to approval of the San Diego Water Board in consultation with the State Water Board. Following each sampling event, the Discharger must evaluate monitoring results and implement corrective actions consistent with Tables E-22 and E-24 of this MRP.

3.4.2.1. **Health Based CEC, Performance Indicator CEC, and Surrogate Monitoring Requirements**

The Discharger must conduct the baseline monitoring phase for a period of three years for health-based CECs, performance-based CECs and surrogates, as described in Table E-18. Analytical chemistry methods for laboratory analysis of CECs shall be selected in the following hierarchical order using: 1) USEPA-approved methods, 2) Standard Methods, 3) methods required by the State Water Board for state-only drinking water standards or for identifying chemicals having NLs, 4) methods from scientific literature.

Table E-18. Baseline Monitoring Phase Requirements for CECs and Surrogates[1]

Parameter[2]	Unit	Relevance/ Indicator Type/ Surrogate	Sample Type	Minimum Test Frequency	Required Reporting Limit (µg/L)	Monitoring Location
1,4-Dioxane	µg/L	Health	Grab	1/6-Months[3]	0.1	EFF-001A
NDMA	µg/L	Health and Performance	Grab	1/6-Months[3]	0.002	INT-006, INT-010, and EFF-001A
NMOR	µg/L	Health	Grab	1/6-Months[3]	0.002	EFF-001A
PFOS	µg/L	Health	Grab	1/6-Months[3]	0.0065	EFF-001A
PFOA	µg/L	Health	Grab	1/6-Months[3]	0.007	EFF-001A
Sucralose	µg/L	Performance	Grab	1/6-Months	0.1	INT-006, INT-010, and EFF-001A
Sulfamethoxazole	µg/L	Performance	Grab	1/6-Months	0.01	INT-006, INT-010, and EFF-001A
Electrical Conductivity	mmhos/cm or dS/m	Surrogate	Grab	[4]	--	INT-006 and EFF-001A
Dissolved Organic Carbon (DOC)	µg/L	Surrogate	Grab	[4]	--	INT-006 and EFF-001A
Ultraviolet Light Absorbance	%	Surrogate	Grab	[4]	--	INT-006 and EFF-001A

Notes for Table E-18:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.

2. The San Diego Water Board may remove or add parameters based on the findings of the initial assessment phase.
3. More frequent monitoring may be required if a threshold described in Table E-22 of this MRP is exceeded.
4. Based off the findings of the initial assessment phase.

3.4.2.2. Bioanalytical Screening Monitoring Requirements

The Discharger must conduct the baseline monitoring phase for bioanalytical screening tools on 24-hr Comp samples at monitoring location EFF-001A for a period of one year as described in Table E-17.

3.4.3. Standard Operation Monitoring Phase

The Discharger must initiate the standard operation monitoring phase upon completion of the baseline monitoring phase or upon receiving approval from the San Diego Water Board to proceed with this phase given the existing data for the ECAWP Facility. The purpose of the standard operation monitoring phase is to monitor CECs under standard operating conditions at a water recycling facility. In this phase, the San Diego Water Board in consultation with the State Water Board will identify a list of health-based CECs, performance-based CECs, surrogates, and bioanalytical screening tools to monitor based on the ECAWP Facility's data from the first two monitoring phases. Performance indicator CECs and surrogates that exhibited reduction by a unit process and/or provided an indication or operational performance shall be selected for monitoring during the standard operation monitoring phase. Following each sampling event, the Discharger must evaluate monitoring results and implement response actions consistent with section 3.4.4. of this MRP.

3.4.3.1. Health-Based CEC, Performance Indicator CEC, and Surrogate Monitoring Requirements

The Discharger must conduct the standard operation monitoring for health-based CECs, performance indicator CECs, and surrogates, as described in Table E-19. Analytical chemistry methods for laboratory analysis of CECs shall be selected in the following hierarchical order using: 1) USEPA-approved methods, 2) Standard Methods3) methods required by the State Water Board for state-only drinking water standards or for identifying chemicals having NLs, 4) methods from scientific literature.

Table E-19. Standard Operation Monitoring Phase Requirements for CECs and Surrogates[1]

Parameter[2]	Unit	Relevance/ Indicator Type/ Surrogate	Sample Type	Minimum Test Frequency	Required Reporting Limit (µg/L)	Monitoring Location
1,4-Dioxane	µg/L	Health	Grab	1/6-Months[3]	0.1	EFF-001A

Parameter[2]	Unit	Relevance/ Indicator Type/ Surrogate	Sample Type	Minimum Test Frequency	Required Reporting Limit (µg/L)	Monitoring Location
NDMA	µg/L	Health and Performance	Grab	1/6-Months[3]	0.002	INT-006, INT-010, and EFF-001A
NMOR	µg/L	Health	Grab	1/6-Months[3]	0.002	EFF-001A
PFOS	µg/	Health	Grab	1/6-Months[3]	0.0065	EFF-001A
PFOA	µg/L	Health	Grab	1/6-Months[3]	0.007	EFF-001A
Sucralose	µg/L	Performance	Grab	1/6-Months	0.1	INT-006, INT-010, and EFF-001A
Sulfamethoxazole	µg/L	Performance	Grab	1/6-Months	0.01	INT-006, INT-010, and EFF-001A
Electrical Conductivity	mmhos/cm or dS/m	Surrogate	Grab	[4]	--	INT-006 and EFF-001A
DOC	µg/L	Surrogate	Grab	[4]	--	INT-006 and EFF-001A
UV Light Absorbance	%	Surrogate	Grab	[4]	--	INT-006 and EFF-001A

Notes for Table E-19:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The San Diego Water Board may remove or add parameters based on the findings of the baseline monitoring phase.
3. More frequent monitoring may be required if a threshold described in of this MRP is exceeded.
4. Based off the findings of the baseline monitoring phase.

3.4.3.2. **Bioanalytical Screening Monitoring Requirements**

The Discharger must conduct standard operation monitoring for bioanalytical screening tools on 24-hr Comp samples at monitoring location EFF-001A, as described in Table E-20. Bioanalytical screening tool methods shall be selected in the following hierarchical order using 1) standard operating procedures developed by the State Water Board bioanalytical implementation advisory group, 2) USEPA methods, or 3) in consultation with the San Diego Water Board and State Water Board.

Table E-20. Standard Operation Monitoring Phase Requirements for Bioanalytical Screening Tools

End Point Activity[1]	Relevant CECs	Adverse Effect	Sample Type	Minimum Test Frequency	Required Reporting Limit (ng/L)
ER-α	Estradiol, Bisphenol A, Nonylphenol	Cancer, Feminization, Impaired Reproduction	Grab	1/6-Months[2,3]	0.5
AhR	Dioxin-like chemicals, polycyclic aromatic hydrocarbons, pesticides	Cancer, Impaired Reproduction	Grab	1/6-Months[2,3]	0.5

Notes for Table E-20:

1. The San Diego Water Board may remove a bioanalytical screening tool based on the findings of the baseline monitoring phase.
2. More frequent monitoring may be required if a threshold described in Table E-24 of this MRP is exceeded.
3. If the Discharger can demonstrate consistency in treatment effectiveness in removal of CECs, treatment operational performance, and appropriate recycled water quality, the monitoring frequency for bioanalytical screening tools may be reduced to once per year, upon approval by the San Diego Water Board.

3.4.4. **Evaluation of Monitoring Results**

Following each sampling event, monitoring results of health-based CECs, performance indicator CECs, surrogates, and bioanalytical screening tools shall be used to evaluate the operational performance of a treatment process and the effectiveness of a treatment process in removing CECs. The Discharger must conduct the following evaluations:

3.4.4.1. **Performance Indicator CECs and Surrogates**

3.4.4.1.1. The Discharger must determine the percent removal of performance indicator CECs and surrogates using the following equation:

Percent Removal = $([X_{in} – X_{out}] / X_{in})(100)$

Where X_{in} is the concentration of Performance Indicators and/or Surrogates at monitoring location INT-006; and

X_{out} is the concentration of the Performance Indicators and/or Surrogates at monitoring location EFF-001A.

3.4.4.1.2. After the initial assessment and baseline monitoring phase, the Discharger must evaluate data from performance indicator CECs and surrogates and prepare an updated Table E-20 with the expected (rather than example) removal percentages for the ECAWP Facility and submit to the San Diego Water Board with the initial assessment and baseline monitoring phase monitoring data.

3.4.4.1.3. If the results from the initial assessment and baseline monitoring phase suggest a performance indicator CEC is not a good indicator, the Discharger must propose an alternative performance indicator CEC representative of the constituent group to monitor. This performance indicator CEC shall be subject to approval by the San Diego Water Board in consultation with the State Water Board.

3.4.4.2. **Health-Based CECs**

The Discharger must compare measured environmental concentrations (MECs) from monitoring conducted at EFF-001A as required by section 3.4.2, 3.4.2, or 3.4.3 of this MRP to their respective monitoring trigger levels (MTLs) listed in Table E-21 to determine MEC/MTL ratios. The MEC/MTL ratios shall be compared to the thresholds specified in Table E-22 and implement the response action corresponding to the threshold.

Table E-21. CEC and Surrogate Monitoring Trigger Levels and Example Removal Percentages

Parameter	Relevance/Indicator Type/ Surrogate	Units	Monitoring Trigger Level (MTL)[1]	Example Removal Percentages[2]
1,4-Dioxane	Health	µg/L	1	--
NDMA	Heath and Performance	µg/L	0.010	>80%
NMOR	Health	µg/L	0.012	--
PFOS	Health	µg/L	0.013	--
PFOA	Health	µg/L	0.014	--
Sucralose	Performance	µg/L	--	>90%
Sulfamethoxazole	Performance	µg/L	--	>90%

Parameter	Relevance/Indicator Type/ Surrogate	Units	Monitoring Trigger Level (MTL)[1]	Example Removal Percentages[2]
Electrical Conductivity	Surrogate	mmhos/cm or dS/m	--	>90%
DOC	Surrogate	µg/L	--	>90%
UV Light Absorbance	Surrogate	%	--	>50%

Notes for Table E-21:

1. Recommended monitoring trigger levels for groundwater recharge and reservoir water augmentation applications were established in *Monitoring Strategies for Constituents of Emerging Concern (CECs) in Recycled Water – Recommendations of a Science Advisory Panel,* dated April 2018.
2. The removal percentages are from Drewes et al. (2008) and provide an example of performance for that specific research. Project-specific removal percentages will be developed for each project during the initial and baseline monitoring phases.

Table E-22. MEC/MTL Thresholds and Response Actions for Health-based CECs

MEC/MTL Threshold	Response Action[1]
If greater than 75 percent of the MEC/MTL ratio results for a CEC are less than or equal to 0.1 during the baseline monitoring phase and/or subsequent monitoring	After completion of the baseline monitoring phase, consider requesting removal of the CEC from the monitoring program.
If MEC/MTL ratio is greater than 0.1 and less than or equal to 1	Continue to monitor.
If MEC/MTL ratio is greater than 1 and less than or equal to 10	Check data and continue to monitor
If MEC/MTL ratio is greater than 10 and less than or equal to 100	Check the data, resample within 72 hours of notification of the result and analyze to confirm CEC result. Continue to monitor.
If MEC/MTL ratio is greater than 100	Check the data, resample within 72 hours of notification of the result and analyze to confirm CEC result. Continue to monitor. Contact the San Diego Water Board and the State Water Board to discuss additional actions. Additional actions may include, but are not limited to, additional monitoring, toxicological studies, engineering removal studies, modification of facility operation, implementation of a source identification program, and monitoring at additional locations.

Note for Table E-22:

1. If a CEC also has a NL, additional follow-up monitoring may be required by the State Water Board or the San Diego Water Board pursuant to requirements in title 22 of the CCR.

3.4.4.3. **Bioanalytical Screening Tools**

During the baseline and standard operation monitoring phase, the Discharger must compare bioanalytical equivalent concentrations (BEQs) to their respective MTLs listed in Table E-23 to determine BEQ/MTL ratios. The Discharger must compare the calculated BEQ/MTL ratios to the thresholds present in Table E-24 and shall implement the response actions corresponding to the threshold.

Table E-23. Required Equivalency Agonists and Monitoring Trigger Levels for Bioanalytical Screening Tools

Parameter	Equivalency Agonist	Monitoring Trigger Level (ng/L)[1]
ER-α	17-beta-estradiol	3.5
AhR	2,3,7,8-TCDD (Dioxin)	0.5

Note for Table E-23:

1. The MTL for ER-α represents a health-based MTL. The MTL for AhR represents a level which may or may not be indicative of a health-based effect due to the wide variation in health-based predicted no effect concentrations of agonists.

Table E-24. BEQ/MTL Thresholds and Response Actions for Bioanalytical Screening Tools

BEQ/MTL Threshold	Response Action
If BEQ/MTL ratio is consistently less than or equal to 0.15 for ER-α or 1.0 for AhR	After completion of the baseline monitoring phase, consider decreasing monitoring frequency or requesting removal of the endpoint from the monitoring program.
If BEQ/MTL ratio is greater than 0.15 and less than or equal to 10 for ER-α or greater than 1.0 and less than or equal to 10 for AhR	Continue to monitor
If BEQ/MTL ratio is greater than 10 and less than or equal to 1000	Check the data, resample within 72 hours of notification of the result and analyze to confirm bioassay result. Continue to monitor. Contact the San Diego Water Board and the State Water Board to discuss additional actions, which may include, but are not limited to, targeted analytical chemistry monitoring, increased

BEQ/MTL Threshold	Response Action
	frequency of bioassay monitoring, and implementation of a source identification program.
If BEQ/MTL ratio is greater than 1000	Check the data, resample within 72 hours of notification of the result and analyze to confirm bioassay result. Continue to monitor. Contact the San Diego Water Board and the State Water Board to discuss additional actions, which may include, but are not limited to, targeted and/or nontargeted analytical chemistry monitoring, increased frequency of bioassay monitoring, toxicological studies, engineering removal studies, modification of facility operation, implementation of a source identification program, and monitoring at additional locations.

3.4.5. **Quality Assurance Project Plan**

The Discharger must develop and maintain a quality assurance project plan (QAPP) for monitoring CECs at INT-006 and EFF-001A to ensure the project data are of known, consistent, and documented quality and that the monitoring is consistent with the requirements of the Order and the *Water Quality Control Policy for Recycled Water, as amended on December 11, 2018*. The QAPP shall be developed using the *Guidance for Quality Assurance Project Plans*, EPA QA/G-5 (EPA/240/R2/009, 2002). The QAPP shall be submitted for approval to the San Diego Water Board and State Water Board no later than 90 from the effective date of the order to Lake Jennings (Discarge Point 001). The QAPP shall be updated and re-submitted to the San Diego Water Board for approval when significant changes are made that would affect the overall data quality and use (e.g., using a new analytical chemistry laboratory) or at least annually if any changes are made.

3.4.5.1. **Selection of Analytical Methods for CEC Monitoring**

Laboratories shall use analytical methods that have been validated and approved for the analytes in the applicable matrix and can achieve the reporting limits in Table E-16 through Table E-20. This includes methods that have been approved by USEPA, the Standards Methods Committee, the American Society for Testing and Materials International, or other methods that have been validated and approved by the regional water boards or the State Water Board for the analytes in the applicable matrix. The QAPP shall include minimum method validation requirements developed by the San Diego Water Board in consultation with the State Water Board if proposing to (1) use a method that has not been validated and approved, (2) use a validated and approved method

that has been modified, or (3) use a method for an application that is outside the intended use of the method (e.g., different matrix, new analyte). The method shall be approved by the San Diego Water Board or State Water Board prior to use.

3.4.5.2. **Laboratory Selection and Demonstrations of Competency**

The laboratory providing analyses of CECs and bioanalytical screening shall hold a valid certificate of accreditation from the State of California ELAP for the analytical test methods or analytes selected, if such methods or analytes are accredited by ELAP at the time monitoring is required to begin. If ELAP accreditation for analytical test methods or an analyte becomes available after monitoring is initiated, then the laboratory providing analysis of CECs shall be accredited by ELAP for those methods or analytes within one year of such accreditation becoming available. If ELAP accreditation is unavailable for a method or an analyte, the Discharger must use a laboratory that has been accredited for a similar analytical method, instrumentation, or analyte until ELAP accreditation becomes available, unless otherwise approved by the San Diego Water Board for bioanalytical screening tools.

3.4.5.3. **Data Submission for CEC Monitoring**

The CEC monitoring results reporting requirements are summarized in section 7.8. of this MRP.

3.5. Whole Effluent Toxicity Testing Requirements

The Whole Effluent Toxicity (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 the 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.

3.5.1. **Discharge In-stream Waste Concentration for Chronic Toxicity**

The Discharger must conduct chronic toxicity monitoring once per month for Monitoring Locations EFF-002B and EFF-001B. The “in-stream” waste concentration (IWC)[29] for this discharge is 100 percent effluent.

3.5.2. **Most Sensitive Species**

The test species used for chronic toxicity testing shall be the most sensitive species. The San Diego Water Board may allow the temporary use of the next appropriate species as the most sensitive species when the Discharger submits documentation, and the San Diego Water Board determines that the Discharger has encountered unresolvable test interference or cannot secure a reliable supply of test organisms. The “next appropriate species” is the species exhibiting the

[29] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

highest percent effect at the IWC tested in the last species sensitivity screening other than the most sensitive species.

3.5.3. Routine Chronic Toxicity Monitoring Frequency

For routine chronic toxicity monitoring, the Discharger must conduct at least one chronic toxicity test using the most sensitive species each quarter during which there is expected to be at least 15 days of discharge. For the purposes of chronic toxicity, the calendar month starts the 1st of each month, and the calendar month starts from the initiation of routine monitoring. The Discharger must ensure there is sufficient time to perform additional chronic toxicity testing within the defined calendar month, should the initial toxicity test result in a "Fail". If the Discharger is unable to sample within the calendar month due to the availability of test organisms, contract laboratory scheduling issues, or some other reason outside of the Discharger's control, the Discharger must immediately notify the San Diego Water Board in writing. If the San Diego Water Board agrees that the failure to sample within the calendar month was unavoidable, the San Diego Water Board will specify an alternative sampling window for the monitoring period.

The Discharger may request to reduce the monitoring frequency from once per calendar quarter to once per six months if all of the following conditions are met: 1) the toxicity requirements in the Order have been followed; 2) a minimum of ten chronic toxicity tests have been conducted at the IWC; 3) all chronic toxicity test data are analyzed or reanalyzed using the Test of Significant Toxicity (TST); and 4) there were no chronic toxicity tests resulted in a "Fail" at the IWC. If a chronic toxicity test results in a "Fail" at the IWC during reduced monitoring, the frequency is automatically increased back to once per quarter for a period of five years.

3.5.4. Additional Chronic Toxicity Testing

If a chronic toxicity test conducted during routine monitoring results in a "Fail" at the IWC, the Discharger must conduct a maximum of two additional chronic toxicity tests. The additional tests shall be initiated within the same calendar month that the first routine chronic toxicity test was initiated that resulted in a "Fail" at the IWC. If the first chronic toxicity test results in a "Fail" at the IWC, then the second chronic toxicity compliance test is not required.

3.5.5. 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. 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.

3.5.6. Chronic Freshwater Species and Test Methods

The Discharger must conduct chronic toxicity tests on effluent samples, at the discharge IWC for the discharge, in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002; Table IA, 40 CFR*

Part 136). Approved tests methods for chronic toxicity are listed in Table E-25 below. In no case shall these species be substituted with another test species unless written authorization from the San Diego Water Board is received.

Table E-25. Approved Tests for Chronic Toxicity

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

3.5.7. **Species Sensitivity Screening**

The Discharger must conduct four sets of species sensitivity screening during year four of the permit term, with one set of screenings conducted in each quarter of the year. The San Diego Water Board may waive the requirement to conduct a species sensitivity screening if the Discharger provides written notice that discharges from the ECAWP Facility will be terminated by the end of the permit term. If required, for each set of species sensitivity screenings, the Discharger must collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, invertebrate, and alga species referenced in Table E-25. This sample shall also be analyzed for the parameter(s) required on a monthly and quarterly frequency in Tables E-13 and E-15, during that given month. As allowed under the test method for the *Ceriodaphnia dubia* and the *Pimephales promelas*, a second and third sample shall be collected for use as test solution renewal water as the seven-day toxicity test progresses. Samples for the species sensitivity screening shall be analyzed using the TST approach.

After the fourth set of species sensitivity screening, the most sensitive species for routine chronic toxicity monitoring will be determined using the following hierarchal order:

(1) The species exhibiting the most ‘Fails’.

(2) If all species result in a “Pass”, the species exhibiting the highest percent effect.

(3) If all species result in a “Pass” and there is no difference in percent effect, the species will be determined by San Diego Water Board.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported with other chronic toxicity rest results required by this MRP.

3.5.8. **Quality Assurance and Additional Requirements**

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

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

3.5.8.1.1. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA 2002, EPA-821-R-02-013) (see Table E-25), then the Discharger must resample and re-test within 14 days.

3.5.8.1.2. Dilution water and control water, including brine[30] controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

[30] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

3.5.8.1.3. Monthly reference toxicant testing is sufficient if in accordance with *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA 2002, EPA-821-R-02-013). All reference toxicant test results should be reviewed and reported using the effects concentration at 25 percent (EC_{25}).

3.5.8.1.4. The Discharger must perform toxicity tests on final effluent samples. Chlorine in the final effluent sample may be removed prior to conducting toxicity tests in order to simulate the dechlorination process at the ECAWP Facility. Ammonia, however, 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 of the Order).

3.5.9. Preparation of an Initial Investigation Toxicity Reduction Evaluation Work Plan

The Discharger must prepare and submit its Initial Investigation Toxicity Reduction Evaluation (TRE)[31] Work Plan to the San Diego Water Board for approval within 90 days of the effective date of the Order. If the San Diego Water Board does not disapprove the TRE Work Plan within 60 days, the TRE Work Plan shall become effective. The Discharger must use USEPA manual EPA/833B-99/002 (municipal), or most current version, as guidance. The TRE Work Plan shall describe the steps that the Discharger intends to follow if toxicity is detected, and shall include, at a minimum:

- A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;
- A description of the Discharger's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the 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).

3.5.10. TRE Trigger

A TRE is required when the Discharger has any combination of two or more failing chronic toxicity results within a single calendar month or within two successive calendar months. In addition, if other information indicated toxicity (e.g., results of additional monitoring, fish kills, intermittent recurring toxicity, etc.), then the San Diego Water Board may require a TRE. Routine chronic toxicity monitoring shall resume during a TRE.

[31] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

3.5.11. **TRE Process**

During the TRE Process, minimum effluent monitoring shall resume and TST results ("Pass" or "Fail" and percent effect) for chronic toxicity tests shall be used to determine effluent compliance with the chronic toxicity provisions in the Order.

3.5.11.1. Preparation and Implementation of Detailed TRE Work Plan. The Discharger must immediately initiate a TRE according to the type of treatment facility using *USEPA Manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999). Within 15 days of receiving validated results, the Discharger must submit a Detailed TRE Work Plan to the San Diego Water Board which shall follow the Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. The Detailed TRE Work Plan shall include the following information, and comply with additional conditions set by the San Diego Water Board:

- Further actions by the Discharger to investigate, identify, and correct the causes of toxicity;
- Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and
- A schedule for these actions, progress reports, and the final report.

3.5.11.2. **TIE Implementation**

The Discharger may initiate a TIE[32] as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005, 1991). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

3.5.11.3. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger must continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps

[32] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

3.5.11.4. The Discharger must continue to conduct the minimum effluent monitoring while the TRE and/or TIE process is taking place. Additional TRE Work Plans are not required once a TRE is begun.

3.5.11.5. TRE/TIE results. The San Diego Water Board shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TRE/TIE report, the Discharger must provide status updates in the monthly self-monitoring reports (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. The final TRE/TIE report shall be submitted to the San Diego Water Board within 30 days of report completion.

3.5.11.6. 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.

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

3.5.12. **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 in section 10, Report Preparation[33], and shall include:

3.5.12.1. The valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-20.

3.5.12.2. Summary water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

3.5.12.3. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.

3.5.12.4. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

[33] Section 10 of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* October 2002, EPA-821-R-02-013, https://www.epa.gov/sites/production/files/2015-08/documents/short-term-chronic-freshwater-wet-manual_2002.pdf

3.5.12.5. Tabular data and 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.

3.5.12.6. Any additional quality assurance/quality control documentation or any additional chronic toxicity-related information, upon written request from the San Diego Water Board.

3.6. Land Discharge Monitoring Requirements – Not Applicable

3.7. Biosolids Monitoring Requirements

3.7.1. Biosolids shall be monitored at the frequency stipulated in Table 1 of 40 CFR section 503.16for the following constituents: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, and total solids.

3.7.2. 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.

3.7.3. 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.

4. RECEIVING WATER MONITORING REQUIREMENTS

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

In the event that the Discharger, in coordination with Helix Water District, is unable to obtain a sample from a monitoring station(s) due to safety, legal, or other reasons, collection of samples at such station(s) can be omitted. In the event that a monitoring location is omitted, the Discharger, in coordination with Helix Water District, must 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. Water Quality Monitoring

4.1.1. Water Quality Monitoring at Lake Jennings

The Discharger, in coordination with Helix Water District, must monitor Lake Jennings at monitoring station(s) RSW-001 and RSW-002 as described in Table E-26. The monitoring at station(s) RSW-001 and RSW-002 must commence after discharge to Lake Jennings unless otherwise stated in the table notes of Table E-26 or as required by CCR title 22 section 60320.326 (a) and (b).

Table E-26. Reservoir Water Quality Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Monitoring Location(s)
Visual Observations	---	Visual	[2]	---	[2]
Reservoir inflow	MGD	Recorder/ Totalizer	Continuous	---	---
Reservoir outflow	MGD	Recorder/ Totalizer	Continuous	---	---
Reservoir storage volume	MG (million gallons)	Calculation	1/Day	---	---
Total Coliform[3]	MPN/100 mL	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
E. coli[3]	MPN/100 mL	Grab	1/Week	[4]	RSW-001[5] RSW-002[5]
Color[3]	ADMI Color Units	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Odor[3]	Units	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Temperature[3]	°F	Continuous profile[6]	1/Week	[4]	RSW-001 RSW-002
Dissolved Oxygen[3]	mg/L	Continuous profile[6]	1/Week	[4]	RSW-001 RSW-002
pH[7]	standard units	Continuous profile[6]	1/Week	---	RSW-001 RSW-002
Turbidity[3]	NTU	Grab	1/Week	[4]	RSW-001[5] RSW-002[5]
Nitrate Nitrogen[7]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Monitoring Location(s)
Nitrite Nitrogen[7]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Nitrogen, Total (as N)[3, 7]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Dissolved Phosphorus[3, 7]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Phosphorous, Total (as P)[3, 7]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Ammonia, un-ionized (as N)[7]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Chlorophyll a biomass (ash free dry weight)[3, 7]	milligrams per cubic meter (mg/m3)	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Total Toxins (measured separately): Microcystin, Cylindrospermopsin, Anatoxin[7]	µg/L	Grab	1/Month[8]	[9]	RSW-001[5] RSW-002[5]
TOC[3]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
TDS[3]	mg/L	Grab	1/Month[8]	[4]	RSW-001[5] RSW-002[5]
Electrical Conductivity[3]	mmhos/cm or dS/m	Continuous profile[6]	1/Week	[4]	RSW-001 RSW-002
Chloride[3]	mg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Iron[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Sulfate[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Manganese[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Total Hardness (as $CaCO_3$)	mg/L	Grab	1/Month	[4]	RSW-001[11] RSW-002[11]
MBAS (surfactants)[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Monitoring Location(s)
Thiobencarb[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
MTBE[3]	mg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
NDMA[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
1,4-Dioxane[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Formaldehyde[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
PARAMETERS FOR THE PROTECTION OF AQUATIC LIFE					
Aluminum[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Arsenic, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Cadmium, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Chromium (VI), Total Recoverable[5]	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Copper, Total[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Lead, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Mercury, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Nickel, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Selenium, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Silver, Total[3]	µg/L	Grab	1/Month	[4]	RSW-001[11]
Zinc, Total[3]	µg/L	Grab	1/Month	[4]	RSW-001[5] RSW-002[5]
Cyanide, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/6-Months	[10]	RSW-001[11]
Phenolic Compounds (non-chlorinated)[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Phenolic Compounds (chlorinated)[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Endosulfan[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Endrin	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Hexachlorocyclohexane[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Monitoring Location(s)
Beta/photon emitters	pCi/L	Grab	1/6-Months	[4]	RSW-001[11]
Combined Radium 226 and 228[6]	pCi/L	Grab	1/6-Months	[4]	RSW-001[11]
Gross Alpha Particle Activity (Excluding Radon and Uranium)	pCi/L	Grab	1/6-Months	[4]	RSW-001[11]
Strontium-90	pCi/L	Grab	1/6-Months	[4]	RSW-001[11]
Tritium	pCi/L	Grab	1/6-Months	[4]	RSW-001[11]
Uranium	pCi/L	Grab	1/6-Months	[4]	RSW-001[11]
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Antimony, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Bis (2-chloroethoxy) Methane	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Bis (2-chloroisopropyl) Ether	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Chlorobenzene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Chromium (III), Total Recoverable	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Di-n-butyl Phthalate	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Dichlorobenzenes[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Diethyl Phthalate	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Dimethyl Phthalate	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
4,6-dinitro-2-methylphenol	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
2,4-dinitrophenol	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Ethylbenzene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Fluoranthene	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Hexachlorocyclopentadiene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Nitrobenzene	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Thallium, Total	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Toluene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Tributyltin	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
1,1,1-trichloroethane	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Monitoring Location(s)
Acrylonitrile	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Aldrin	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Benzene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Benzidine	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Beryllium, Total	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Bis (2-chloroethyl) Ether	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Bis (2-ethlyhexyl) Phthalate	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Carbon Tetrachloride	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Chlordane[1]	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Chlorodibromomethane	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Chloroform	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Dichlorodiphenyltrichloroethane (DDT)[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
1,4-dichlorobenzene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
3,3'-dichlorobenzidine	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
1,2-dichloroethane	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
1,1-dichloroethylene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Dichlorobromomethane	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Dichloromethane	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
1,3-dichloropropene	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Dieldrin	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
2,4-dinitrotoluene	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
1,2-diphenylhydrazine	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Trihalomethanes, Total[1]	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Heptachlor	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Heptachlor Epoxide	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Hexachlorobenzene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Hexachlorobutadiene	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Hexachloroethane	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Isophorone	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
N-nitrosodi-N-propylamine	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
N-nitrosodiphenylamine	µg/L	Grab	1/6-Months	[10]	RSW-001[11]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Monitoring Location(s)
Polynuclear Aromatic Hydrocarbons (PAHs)[1]	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Polychlorinated Biphenyls (PCBs)[1]	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
TCDD equivalents[1]	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
1,1,2,2-tetrachloroethane	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Tetrachloroethylene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Toxaphene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
Trichloroethylene	µg/L	Grab	1/6-Months	[4]	RSW-001[11]
1,1,2-trichloroethane	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
2,4,6-trichlorophenol	µg/L	Grab	1/6-Months	[10]	RSW-001[11]
Vinyl Chloride	µg/L	Grab	1/6-Months	[4]	RSW-001[11]

Notes for Table E-26:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. 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 floatable substances of discharge origin. Observations of wind (direction and speed), weather (cloudy, sunny, or rainy), direction of current, water color, discoloration, oil and grease, turbidity, odor, presence of algal blooms, and status of Lake Jennings at the point of discharge shall be recorded. These observations shall be taken whenever a sample is collected. Visual observations shall also be conducted for repeat sampling.
3. The Discharger, in coordination with Helix Water District, must conduct monthly monitoring for no less than the initial 24 months of discharge. After the completion of the initial 24 months of discharge, the Discharger, in coordination with Helix Water District, may request to the San Diego Board and DDW for reduced on-going monitoring.
4. Samples shall be analyzed using drinking water methods approved by DDW for the contaminant pursuant to title 22 CCR section 60320.304 and section 1.3 of this MRP.
5. Parameters shall be analyzed at the surface (defined as 1.5 feet depth), bottom (defined as 6 feet of the lake bottom), and middle (defined as 635 feet, which is mid-way between the elevation of the outlet tower valve #6 (647.5 feet) and outlet tower valve #4 (622.5 feet)).
6. Parameters shall be measured throughout the entire water column at 5 ft intervals between the surface (defined as 1.5 ft depth) and a depth of 50 ft, followed by 25 ft

intervals between 50 ft and the bottom (defined as within 6 ft to prevent sediment disturbance during sampling.

7. Monitoring shall begin on the effective date of the Order and will continue after augmentation commences.
8. If there are visual signs of an algal bloom, the Discharger must monitor 1/week until the algal bloom is no longer visible.
9. Use approved EPA methods for detection of cyanotoxins in water or Solid Phase Adsorption Tracking Technology.
10. Sample shall be analyzed as specified in 40 CFR 136 and section 1.4. of this MRP.
11. At mid-depth; defined as 635 feet, which is mid-way between the elevation of the outlet tower valve #6 (647.5 feet) and outlet tower valve #4 (622.5 feet).

4.1.2. Water Quality Monitoring at Monitoring Locations RSW-003 and RSW-003A at Sycamore Creek

The Discharger must monitor Sycamore Creek at Monitoring Locations RSW-003 and RSW-003A as specified in Table E-27 below. If there is no discharge from Discharge Point No. 002, as monitored at Monitoring Location EFF-002B, during the monitoring period, the Discharger is not required to conduct monitoring for that period.

Table E-27. Receiving Water Monitoring Requirements (RSW-003 and RSW-003A)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	cubic feet per second (cfs)	cross-sect. velocity/area	1/month	--
Dissolved Oxygen	mg/L	grab	1/month	[2]
pH	Standard units	grab	1/month	[2]
Fecal Coliform	MPN/100 mL	grab	1/month	[2]
Total Coliform	MPN/100 mL	grab	1/month[3]	[2]
Enterococci	MPN/100 mL	grab	1/month[3]	[2]
E. coli	MPN/100 mL	grab	1/month	[2]
TDS	mg/L	grab	1/month	[2]
Turbidity	NTU	grab	1/month	[2]
Methyl Tert-Butyl Ether	µg/L	grab	1/month	[2]
Nitrogen Series[4]	mg/L	grab	1/month	[2]
Phosphorous Series[5]	mg/L	grab	1/month	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Sediment Phosphorous Series[6]	milligrams per kilogram (mg/kg)	grab	1/quarter	[2]
Temperature	°F	grab	1/month	[2]
Chloride	mg/L	grab	1/quarter	[2]
Chlorophyll-a	mg/cubic meter	grab	1/quarter	[2]
Iron, Total Recoverable	mg/L	grab	1/quarter	[2]
Manganese, Total Recoverable	mg/L	grab	1/quarter	[2]
Total Hardness (as $CaCO_3$)	mg/L	grab	1/quarter	[2]
TOC	mg/L	grab	1/year	[2]
Boron	mg/L	grab	1/year	[2]
Methylene Blue Active Substances	mg/L	grab	1/year	[2]
Sulfate	mg/L	grab	1/year	[2]
Antimony, Total Recoverable	µg/L	grab	1/year	[2]
Arsenic, Total Recoverable	µg/L	grab	1/year	[2]
Beryllium, Total Recoverable	µg/L	grab	1/year	[2]
Cadmium, Total Recoverable	µg/L	grab	1/year	[2]
Chromium (VI), Total Recoverable[7]	µg/L	grab	1/year	[2]
Chromium (III), Total Recoverable[7]	µg/L	grab	1/year	[2]
Copper, Total Recoverable	µg/L	grab	1/year	[2]
Lead, Total Recoverable	µg/L	grab	1/year	[2]
Mercury, Total Recoverable	µg/L	grab	1/year	[2]
Nickel, Total Recoverable	µg/L	grab	1/year	[2]
Selenium, Total Recoverable	µg/L	grab	1/year	[2]
Silver, Total Recoverable	µg/L	grab	1/year	[2]
Cyanide, Total	µg/L	grab	1/year	[2]
Thallium, Total Recoverable	µg/L	grab	1/year	[2]
Zinc, Total Recoverable	µg/L	grab	1/year	[2]
TCDD Equivalents	µg/L	grab	1/year	[2]
Asbestos	MFL	grab	1/year	[2]
Acrolein	µg/L	grab	1/year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Acrylonitrile	µg/L	grab	1/year	[2]
Benzene	µg/L	grab	1/year	[2]
Carbon Tetrachloride	µg/L	grab	1/year	[2]
Chlorobenzene	µg/L	grab	1/year	[2]
Chlorodibromomethane (dibromochloromethane)	µg/L	grab	1/year	[2]
Chloroethane	µg/L	grab	1/year	[2]
2-Chloroethylvinyl Ether	µg/L	grab	1/year	[2]
Chloroform	µg/L	grab	1/year	[2]
Dichlorobromomethane	µg/L	grab	1/year	[2]
1,1-Dichloroethane	µg/L	grab	1/year	[2]
1,2-Dichloroethane	µg/L	grab	1/year	[2]
1,1-Dichloroethylene	µg/L	grab	1/year	[2]
1,2-Dichloropropane	µg/L	grab	1/year	[2]
1,3-Dichloropropylene	µg/L	grab	1/year	[2]
Ethylbenzene	µg/L	grab	1/year	[2]
Methyl Bromide	µg/L	grab	1/year	[2]
Methyl Chloride (Chloromethane)	µg/L	grab	1/year	[2]
Methylene Chloride (Dichloromethane)	µg/L	grab	1/year	[2]
1,1,2,2-Tetrachloroethane	µg/L	grab	1/year	[2]
Tetrachloroethylene (Tetrachloroethene)	µg/L	grab	1/year	[2]
Toluene	µg/L	grab	1/year	[2]
1,2-Trans-Dichloroethylene	µg/L	grab	1/year	[2]
1,1,1-Trichloroethane	µg/L	grab	1/year	[2]
1,1,2-Trichloroethane	µg/L	grab	1/year	[2]
Trichloroethylene	µg/L	grab	1/year	[2]
Vinyl Chloride	µg/L	grab	1/year	[2]
2-Chlorophenol	µg/L	grab	1/year	[2]
2,4-Dichlorophenol	µg/L	grab	1/year	[2]
2,4-Dimethylphenol	µg/L	grab	1/year	[2]
2-Methyl-4,6-Dinitrophenol	µg/L	grab	1/year	[2]
2,4-Dinitrophenol	µg/L	grab	1/year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
2-Nitrophenol	µg/L	grab	1/year	[2]
4-Nitrophenol	µg/L	grab	1/year	[2]
3-Methyl-4-Chlorophenol	µg/L	grab	1/year	[2]
Pentachlorophenol	µg/L	grab	1/year	[2]
Phenol	µg/L	grab	1/year	[2]
2,4,6-Trichlorophenol	µg/L	grab	1/year	[2]
Acenaphthene	µg/L	grab	1/year	[2]
Acenaphthylene	µg/L	grab	1/year	[2]
Anthracene	µg/L	grab	1/year	[2]
Benzidine	µg/L	grab	1/year	[2]
Benzo(a)Anthracene	µg/L	grab	1/year	[2]
Benzo(a)Pyrene	µg/L	grab	1/year	[2]
Benzo(b)Fluoranthene	µg/L	grab	1/year	[2]
Benzo(ghi)perylene	µg/L	grab	1/year	[2]
Benzo(k)Fluoranthene	µg/L	grab	1/year	[2]
Bis(2-Chloroethoxy)Methane	µg/L	grab	1/year	[2]
Bis(2-Chloroethyl)Ether	µg/L	grab	1/year	[2]
Bis(2-Chloroisopropyl)Ether	µg/L	grab	1/year	[2]
Bis(2-Ethylhexyl)Phthalate	µg/L	grab	1/year	[2]
4-Bromophenyl Phenyl Ether	µg/L	grab	1/year	[2]
Butyl benzyl Phthalate	µg/L	grab	1/year	[2]
2-Chloronaphthalene	µg/L	grab	1/year	[2]
4-Chlorophenyl Phenyl Ether	µg/L	grab	1/year	[2]
Chrysene	µg/L	grab	1/year	[2]
Dibenzo(a,h)Anthracene	µg/L	grab	1/year	[2]
1,2 Dichlorobenzene	µg/L	grab	1/year	[2]
1,3 Dichlorobenzene	µg/L	grab	1/year	[2]
1,4 Dichlorobenzene	µg/L	grab	1/year	[2]
3,3′-Dichlorobenzidine	µg/L	grab	1/year	[2]
Diethyl Phthalate	µg/L	grab	1/year	[2]
Dimethyl Phthalate	µg/L	grab	1/year	[2]
Di-n-Butyl Phthalate	µg/L	grab	1/year	[2]
2,4-Dinitrotoluene	µg/L	grab	1/year	[2]
2,6-Dinitrotoluene	µg/L	grab	1/year	[2]
Di-n-Octyl Phthalate	µg/L	grab	1/year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,2-Diphenylhydrazine	µg/L	grab	1/year	[2]
Fluoranthene	µg/L	grab	1/year	[2]
Fluorene	µg/L	grab	1/year	[2]
Hexachlorobenzene	µg/L	grab	1/year	[2]
Hexachlorobutadiene	µg/L	grab	1/year	[2]
Hexachlorocyclopentadiene	µg/L	grab	1/year	[2]
Hexachloroethane	µg/L	grab	1/year	[2]
Indeno(1,2,3-cd) Pyrene	µg/L	grab	1/year	[2]
Isophorone	µg/L	grab	1/year	[2]
Naphthalene	µg/L	grab	1/year	[2]
Nitrobenzene	µg/L	grab	1/year	[2]
N-Nitrosodimethylamine	µg/L	grab	1/year	[2]
N-Nitrosodi-n-Propylamine	µg/L	grab	1/year	[2]
N-Nitrosodiphenylamine	µg/L	grab	1/year	[2]
Phenanthrene	µg/L	grab	1/year	[2]
Pyrene	µg/L	grab	1/year	[2]
1,2,4-Trichlorobenzene	µg/L	grab	1/year	[2]
Aldrin	µg/L	grab	1/year	[2]
alpha-BHC	µg/L	grab	1/year	[2]
beta-BHC	µg/L	grab	1/year	[2]
gamma-BHC	µg/L	grab	1/year	[2]
delta-BHC	µg/L	grab	1/year	[2]
Chlordane	µg/L	grab	1/year	[2]
4,4′-DDT	µg/L	grab	1/year	[2]
4,4′-DDE	µg/L	grab	1/year	[2]
4,4′-DDD	µg/L	grab	1/year	[2]
Dieldrin	µg/L	grab	1/year	[2]
alpha-Endosulfan	µg/L	grab	1/year	[2]
beta-Endosulfan	µg/L	grab	1/year	[2]
Endosulfan Sulfate	µg/L	grab	1/year	[2]
Endrin	µg/L	grab	1/year	[2]
Endrin Aldehyde	µg/L	grab	1/year	[2]
Heptachlor	µg/L	grab	1/year	[2]
Heptachlor Epoxide	µg/L	grab	1/year	[2]
PCBs[8]	µg/L	grab	1/year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Toxaphene	µg/L	grab	1/year	[2]

Notes for Table E-27:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Sample shall be analyzed as specified in 40 CFR 136 and section 1.4. of this MRP.
3. If total coliform results exceed the applicable effluent limitation at Monitoring Location EFF-002A (as specified in section 4.1.2.1. of the Order), the Discharger must increase the receiving water monitoring frequency at Monitoring Locations RSW-003 and RSW-003A for the parameter(s) to three times per week until enterococci values at Monitoring Location RSW-003A are below enterococci water quality objectives for Sycamore Creek for a minimum of one week (see section 4.3.2.1.2 of Attachment F). Alternatively, the Discharger may demonstrate to the San Diego Water Board that the ECAWP Facility's effluent is not a contributing source of the downstream receiving water quality objective exceedance(s).
4. Includes: total nitrogen (as N), total organic nitrogen (as N), total nitrate (as N), total nitrite (as N), and ammonia, un-ionized (as N)
5. Includes: total phosphorus (as P) and dissolved orthophosphate (as P).
6. Includes: total phosphorus (as P) and total orthophosphate (as P).
7. The Discharger may, at their option, monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
8. 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.

4.1.3. Water Quality Monitoring at Monitoring Locations RSW-004 through RSW-008

The Discharger must monitor the San Diego River at Monitoring Locations RSW-004 through RSW-008 as specified in Table E-28 below. If there is no discharge from Discharge Point No. 002, as monitored at Monitoring Location EFF-002B, during the monitoring period, the Discharger is not required to conduct monitoring for that period.

Table E-28. Receiving Water Monitoring Requirements (RSW-004 through RSW-008)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate	cfs	cross-sect. velocity/area	1/month	--
Dissolved Oxygen[2]	mg/L	grab	1/month	[3]
pH	standard units	grab	1/month	[3]
Fecal Coliform	MPN/100 mL	grab	1/month	[3]
Total Coliform	MPN/100 mL	grab	1/month	[3]
Enterococci	MPN /100 mL	grab	1/month	[3]
E. Coli	MPN/100 mL	grab	1/month	[3]
TDS	mg/L	grab	1/month	[3]
Turbidity	NTU	grab	1/month	[3]
Nitrogen Series[4]	mg/L	grab	1/month	[3]
Phosphorous Series[5]	mg/L	grab	1/month	[3]
Temperature	°F	grab	1/month	[3]
Chlorophyll-a	mg/cubic meter	grab	1/quarter	[3]
Sediment Phosphorous Series[6]	mg/kg	grab	1/quarter	[3]

Notes for Table E-28:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. If only one measurement is collected for dissolved oxygen, it shall be determined at the earliest time possible. For each measurement reported, the Discharger must also report the percent saturation (calculated based on temperature).
3. Sample shall be analyzed as specified in 40 CFR 136 and section 1.4. of this MRP.
4. Includes: total nitrogen (as N), total organic nitrogen (as N), total nitrate (as N), total nitrite (as N), and ammonia, un-ionized (as N)
5. Includes: total phosphorus (as P) and dissolved orthophosphate (as P).
6. Includes: total phosphorus (as P) and total orthophosphate (as P).

4.2. Fish Monitoring

4.2.1. Fish Tissue Monitoring at Lake Jennings

4.2.1.1. Recreational Fish Catch Survey

The Discharger, in coordination with Helix Water District, must conduct a creel census once per month at Lake Jennings. The information collected for the creel census shall include the total number of anglers surveyed, and the number and species of fish caught and released or retained. The Discharger, in coordination with Helix Water District, must calculate catch-per-unit-effort (CPUE) for each fish species using the following equation:

CPUE = (number of fish caught) / (number of anglers surveyed)

4.2.2. Fish Tissue Monitoring

The Discharger, in coordination with Helix Water District, must monitor fish liver tissue once per permit term at any location in Lake Jennings to determine if pollutants are bioaccumulating in fish. Fish species targeted for fish liver tissue analyses shall be species commonly targeted and consumed by recreational fishers, excluding species routinely stocked (e.g., trout and catfish). Fish liver tissue samples shall be a composite sample consisting of a minimum of three individual fish. Fish liver tissue shall be chemically analyzed for the constituents specified in Table E-29. The presence of any physical abnormalities or disease symptoms (e.g., fin erosion, external lesions, and tumors) or external parasites shall also be recorded.

Table E-29. Fish Tissue Monitoring Requirements[1]

Parameter	Units	Type of Sample	Minimum Frequency
Total Lipids	Micrograms per kilogram (µg/kg)	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

Parameter	Units	Type of Sample	Minimum Frequency
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	µg/kg	Composite	1/Permit Term
2,4-DDD	µg/kg	Composite	1/Permit Term
4,4-DDD	µg/kg	Composite	1/Permit Term
2,4-DDE	µg/kg	Composite	1/Permit Term
4,4-DDE	µg/kg	Composite	1/Permit Term
2,4-DDT	µg/kg	Composite	1/Permit Term
4,4-DDT	µg/kg	Composite	1/Permit Term
Aldrin	µg/kg	Composite	1/Permit Term
Alpha-Chlordane	µg/kg	Composite	1/Permit Term
Dieldrin	µg/kg	Composite	1/Permit Term
Endosulfan[1]	µg/kg	Composite	1/Permit Term
Endrin	µg/kg	Composite	1/Permit Term
Gamma-BHC	µg/kg	Composite	1/Permit Term
Heptachlor	µg/kg	Composite	1/Permit Term

Parameter	Units	Type of Sample	Minimum Frequency
Heptachlor Epoxide	µg/kg	Composite	1/Permit Term
Hexachlorobenzene	µg/kg	Composite	1/Permit Term
Mirex	µg/kg	Composite	1/Permit Term
Trans-Nonachlor	µg/kg	Composite	1/Permit Term
Acenapthene	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(o)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
Dibenz(ah)anthracene	µg/kg	Composite	1/Permit Term
Fluoranthene	µg/kg	Composite	1/Permit Term
Fluorene	µg/kg	Composite	1/Permit Term
Ideno(123cd)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

Parameter	Units	Type of Sample	Minimum Frequency
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

Notes for Table E-29:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.

4.2.3. **Fish Tissue Monitoring at Sycamore Creek**

The Discharger must monitor fish tissue from any of the seven Santee Lakes once per year, and at Monitoring Location RSW-003A twice per year. Tissue of fish shall be collected and analyzed according to the latest criteria of Toxic Substances Monitoring Program. Sampling at Monitoring Location RSW-003A must take place at the same time as benthic macroinvertebrate analysis. Fish tissue monitoring results shall be submitted to the California Environmental Data Exchange Network (CEDEN) within one (1) year of sample collection.

4.2.4. **California Environmental Data Exchange Network**

In addition to submitting SMRs, the Discharger, in coordination with Helix Water District, must also ensure that receiving water monitoring results from sections 4.1.1 through 4.1.3 and 4.2.3 of this MRP are submitted to CEDEN no later than 120 days after the completion of monitoring. A statement certifying that all monitoring results have been timely uploaded into CEDEN shall be uploaded to California Integrated Water Quality System (CIWQS) annually by March 1 of each year.

4.3. Monitoring Surveys

4.3.1. Monitoring surveys conducted to meet receiving water monitoring requirements of this MRP (sections 4.1 and 4.2 of this MRP) shall include, as a minimum, the following information:

4.3.1.1. A description of climatic and receiving water characteristics at the time of sampling [e.g. observations of wind (direction and speed); weather (e.g. cloudy, sunny, rainy, etc.,; observations of water color or discoloration (percent algal cover at surface and bottom); oil and grease; turbidity; odor, and materials of sewage origin in the water or on the river banks; time of sampling; air temperature (°F); water temperature (°F); etc.].

4.3.1.2. A description of sampling stations including a description of characteristics unique to each station [e.g. Global Positioning System (GPS) coordinates for station location, photo documentation; sediment characteristics, rocks, river flow (contiguous or terminated), and estuary mouth conditions (i.e., open or closed due to sand deposition), etc.]

4.3.1.3. An annual in-depth discussion of the survey results. The discussion shall compare data with the reference station(s) with data from the stations located in the area of the discharge. All tabulations and computations shall be explained.

4.3.2. Whenever possible, samples shall be collected from the Monitoring Locations RSW-003, RSW-003A, and RSW -004 through RSW-008 on the same day for the same constituents. Sample methods, preservation, and analyses, when not specified, shall be approved by the San Diego Water Board.

4.4. Biological Monitoring in Sycamore Creek

4.4.1. Benthic Stream Bioassessments

The Discharger must conduct benthic stream bioassessments in Sycamore Creek at Monitoring Locations RSW-003A and RSW-003 in May and October of each year. The sampling locations shall be within half a mile upstream or downstream of RSW-003A and RSW-003. In lieu of conducting stream bioassessments at RSW-003A and RSW-003 in October each year, the Discharger may conduct bioassessments at an alternative site determined by the Stormwater Monitoring Coalition Sampling Plan for the San Diego River Watershed and Assessment Program.

4.4.1.1. The sampling of benthic macroinvertebrates and algae must be conducted in accordance with the latest State of California Surface Water Ambient Monitoring Program (SWAMP) Standard Operating Procedures (SOPs) for Wadable Streams (SWAMP; Ode et al. 2016b)[34]. Sampling shall also be conducted, concurrently with benthic organism collection for the “Full” suite of physical habitat characterization measurements as specified in the SOP.

4.4.1.2. Field sampling for bioassessment must be conducted by properly trained personnel and in adherence to the latest State of California SOPs in an unbiased manner representative of stream reach condition. Field sampling must be consistent with the SWAMP Quality Assurance Program Plan (SWAMP QAPrP) guidelines and requirements or must have a project-specific Quality Assurance Project Plan (QAPP) that meets these minimum guidelines and requirements, such as the *Southern California Regional Watershed Monitoring Program Bioassessment Quality Assurance Project Plan*, 2009.

[34] Ode, P.R., A.E., Fetscher, and L.B. Busse. 2016. *Standard Operating Procedures (SOP) for the Collection of Field Data for Bioassessments of California Wadable Streams: Benthic Macroinvertebrates, Algae, and Physical Habitat.* California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) SOP-SB-2016-0001.

4.4.1.3. Laboratory analysis of benthic macroinvertebrates for taxonomic identifications must be conducted at a Southwest Association of Freshwater Invertebrate Taxonomists (SAFIT) level of II or IIa level (midges to subfamily) in accordance with the most recent *State of California Standard Operating Procedures for Laboratory Processing and Identification of Benthic Macroinvertebrates in California* (Woodward et al. 2012)[35]. Laboratory identification and quantification of specimens in the benthic stream algal communities sampled for IBI calculations must follow the latest SWAMP *Standard Operating Procedures for Laboratory Processing, Identification, and Enumeration of Stream Algae* (Stancheva et al. 2015)[36], which prescribes methods for separate analysis of 1) diatoms and 2) soft algae (including cyanobacteria). Though not developed at this time, future laboratory identification using genetic methods may be used if consistent with laboratory results and conducted using methods approved by the State of California SWAMP and the San Diego Water Board Executive Officer.

4.4.1.4. Benthic macroinvertebrate data collected and identified to SAFIT Level II or IIa must be used for calculating California Stream Condition Index scores on a per sample basis (one reach, one sampling event). Scores are calculated using the most recent SWAMP SOP (current version: SWAMP-SOP-2020-0001)[37].

4.4.1.5. Benthic Algal Stream Condition Index (ASCI) scores (Theroux et al. 2020)[38] must be calculated using the most recent SWAMP SOP (current version: SOP-2020-0001). An alternate genetic-based algal stream condition index may be used if conducted using methods approved by the San Diego Water Board Executive Officer.

4.4.1.6. Benthic macroinvertebrate, algae, and physical habitat data shall be submitted to the CEDEN or an equivalent database that is linked to CEDEN within one (1) year of sample collection.

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[35] Woodard, M.E., J. Slusark, and P.R. Ode. 2012. *Standard Operating Procedures for Laboratory Processing and Identification of Benthic Macroinvertebrates in California*. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 003.

[36] Stancheva, R., Busse, L., Kociolek, J. P., and Sheath, R. G., 2015. Standard Operating Procedures for Laboratory Processing, Identification, and Enumeration of Stream Algae. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) SOP-2015-0003.

[37] Boyle, T., R. D. Mazor, A. C. Rehn, S. Theroux, M. Beck, M. Sigala, C. Yang, P.R. Ode. 2020. Instructions for calculating bioassessment indices and other tools for evaluating wadable streams in California: The California Stream Condition Index (CSCI), Algal Stream Condition Index (ASCI) and Index of Physical Integrity (IPI). SWAMP-SOP-2020-0001.

[38] Theroux, S., R.D. Mazor, M.W. Beck, P.R. Ode, E.D. Stein, and M. Sutula. 2020. *Predictive biological indices for algae populations in diverse stream environments, Ecological Indicators*.

4.5. Receiving Water Status and Trends

4.5.1. Algal Bloom Report

The Discharger, in coordination with Helix Water District, must submit the following information quarterly to the San Diego Water Board regarding any algal blooms that occurred in Lake Jennings during the previous quarter:

4.5.1.1. The dates the algal bloom was observed.

4.5.1.2. A description of the location of the algal bloom (including GPS coordinates), and an estimate of the distance of the algal bloom from the drinking water intakes for the R. M. Levy Drinking Water Treatment Plant. Provide photos of the algal bloom if available.

4.5.1.3. Indicate if signs were posted as a result of the algal bloom and provide a description of where the signs were posted.

4.5.1.4. A description of the color and texture of the algal bloom, and whether there were any odors associated with the algal bloom.

4.5.1.5. An estimate of the size, shape, and extent of the algal bloom.

4.5.1.6. If a harmful algal bloom is detected, the Discharger must, in coordination with Helix Water District, submit a California Freshwater and Estuarine Harmful Algal Bloom Report within 15 days to the California Water Quality Monitoring Council database at: https://mywaterquality.ca.gov/habs/do/bloomreport.html. The Discharger, in coordination with Helix Water District, must include a statement certifying that all harmful algal blooms have been timely reported to the California Water Quality Monitoring Council database with the Algal Bloom Report.

4.5.2. Lake Jennings Annual Receiving Water Monitoring Report

The Discharger, in coordination with Helix Water District, must submit an Annual Receiving Water Monitoring Report by March 1 each year. The Annual Receiving Water Monitoring Report must include all the reservoir monitoring data collected in the previous calendar year. The Receiving Water Monitoring Report shall cover the receiving water monitoring requirements of sections 4.1.1,4.2.1, and 4.2.2 of this MRP and include, as a minimum, the following information:

4.5.2.1. A description of climatic and receiving water characteristics at the time of sampling (e.g., observations of wind (direction and speed); weather (e.g. cloudy, sunny, rainy, etc.; observations of water color or discoloration (percent algal cover at surface and bottom); oil and grease; turbidity; odor, and materials of sewage origin in the water or on the river banks; time of sampling; air temperature (°F); water temperature (°F); etc.).

4.5.2.2 A description of sampling stations including, if such information is available, a description of characteristics unique to each station (e.g., GPS coordinates for station location, photo documentation, sediment characteristics, etc.).

4.5.2.3 A summary of receiving water monitoring results for receiving water monitoring

conducted for the previous calendar year (see Table E-26 of this MRP).

4.5.2.4 A summary of results of fish tissue monitoring required by section 4.2.2 of this MRP (if fish tissue monitoring was conducted in the previous year).

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

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

4.5.2.7 An in-depth discussion, evaluation (e.g., detailed statistical analyses), interpretation and tabulation of the data including interpretations and conclusions as to whether applicable water quality objectives in the Basin Plan have been attained at each station. The discussion shall compare receiving water data with historical data and answer the monitoring questions proposed in each section of this MRP.

4.5.2.8 A discussion on whether the receiving water monitoring results are consistent with the predictions of the Computational Aquatic Ecosystem Dynamics Model of Lake Jennings.

4.5.2.9. A discussion of how the discharge and reservoir management practices affect the water quality and biological condition of Lake Jennings.

4.5.3. **State of Lake Jennings Report**

The Discharger must present an oral report to the San Diego Water Board summarizing the conclusions drawn from the receiving water monitoring results for Lake Jennings during the permit cycle. The State of Lake Jennings Report shall be given once no later than 180 days prior to the permit expiration date. If an oral report cannot be scheduled for a San Diego Water Board meeting, the San Diego Water Board Executive Officer may approve submission of a written State of Lake Jennings Report. The State of Lake Jennings Report shall include, at minimum, the following elements:

- A description of the monitoring effort completed;
- The status and trends of receiving water conditions;
- A discussion of the effects of the discharge and reservoir management on the water quality and biological condition of Lake Jennings; and
- A discussion on whether or not the receiving water monitoring results are consistent with the predictions of the Computational Aquatic Ecosystem Dynamics Model of Lake Jennings.

4.5.4. **Annual Report for Receiving Water Monitoring Conducted at Monitoring Stations RSW-003A, and RSW-003 through RSW-008**

The Discharger must submit a Supplemental Annual Receiving Water Monitoring Report by March 1 each year, which must include all the monitoring data collected at monitoring location RSW-003A, and monitoring locations RSW-003 through RSW-008 in the previous calendar year. The Supplemental Annual Receiving Water Monitoring Report must be in a CEDEN compatible electronic format . The

Supplemental Annual Receiving Water Monitoring Report shall cover the receiving water monitoring requirements of sections 4.1.2 and 4.1.3 of this MRP and include, as a minimum, the following information:

4.5.4.1. A description of climatic and receiving water characteristics at the time of sampling (e.g., observations of wind (direction and speed); weather (e.g. cloudy, sunny, rainy, etc.; observations of water color or discoloration (percent algal cover at surface and bottom); oil and grease; turbidity; odor, and materials of sewage origin in the water or on the river banks; time of sampling; air temperature (°F); water temperature (°F); etc.)

4.5.4.2. A description of sampling stations including, if such information is available, a description of characteristics unique to each station (e.g., GPS coordinates for station location, photo documentation, sediment characteristics, et

4.5.4.3. Receiving water monitoring results for receiving water monitoring conducted for the previous calendar year (see Tables E-27 and E-28), including methods used for analyzing each parameter.

4.5.4.4. Results of fish tissue monitoring required by section 4.2.3 of this MRP (if fish tissue monitoring was conducted in the previous year).

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

5. REGIONAL MONITORING

The Discharger must participate in the San Diego Water Board coordination of other monitoring in the San Diego River Watershed, such as monitoring conducted by municipal separate storm water system (MS4) dischargers and monitoring conducted as part of the Surface Water Ambient Monitoring Program (SWAMP). The Discharger must also participate and coordinate with state and local agencies and other dischargers within the San Diego Region in the development and implementation of a regional watershed monitoring program for the San Diego River Watershed as directed by the San Diego Water Board. The intent of a regional watershed monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During a coordinated watershed sampling effort, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the condition of the watershed. In that event, the San Diego Water Board shall notify the Discharger in writing that the requirement to perform the receiving water sampling and analytical effort defined in certain portions of section 4 of this MRP is suspended for the duration of the reallocation.

6. SPECIAL STUDY REQUIREMENTS

6.1. Mercury Monitoring Work Plan for Lake Jennings

6.1.1. In accordance with *Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence*

Fishing Beneficial Uses and Mercury Provisions (Mercury Provisions)[39], the Discharger shall develop a work plan for a final study report to enable the San Diego Water Board determine the following:

6.1.1.1. Whether or not the discharge contributes to bioaccumulation of mercury in Lake Jennings.

6.1.1.2. Whether revised mercury effluent limitations are necessary for the discharge to Lake Jennings.

6.1.1.3. An appropriate site-specific water column concentration value/water quality objective for Lake Jennings.

6.1.2. The Discharger shall submit the work plan to the San Diego Water Board within 210 days of the effective date of the Order. The work plan must contain the following core elements:

6.1.2.1. A sampling program for collecting at least:

6.1.2.1.1. Four mercury water column samples and four dissolved methylmercury water column samples at least 90 days apart during three separate sampling periods.

6.1.2.1.2. Ten mercury fish tissue samples from Trophic Level 4 fish at least 90 days apart during three separate sampling periods. If Trophic Level 4 fish are not the highest trophic level, the Discharger shall collect samples from the size of fish corresponding to the Prey Fish Water Quality Objective or California Least Tern Prey Fish Water Quality Objective.[40]

6.1.2.2. A description of proposed sampling location(s) and sampling periods to ensure that samples are collected at appropriate locations and on the same day from within the same vicinity.

6.1.2.3. A description of sampling and analysis procedures for water column and fish tissue samples, and how the Discharger will ensure that sufficiently sensitive test methods are used for sample analysis.

6.1.2.3. A schedule for completion of monitoring activities and for submitting a final study report as described in section 6.1.4. below.

6.1.3. Following San Diego Water Board staff's review of the work plan, the Discharger must implement the work plan as directed in writing by the San Diego Water Board Executive Officer.

6.1.4. Results of all monitoring conducted for mercury and dissolved methylmercury in the water column and for mercury in fish tissue shall be included in the Annual

[39] The Mercury Provisions are available at the following webpage: https://www.waterboards.ca.gov/water_issues/programs/mercury/docs/hg_prov_final.pdf

[40] Common trophic level 4 fish species are identified in Attachment C of the Mercury Provisions. If Trophic Level 4 fish are not the highest trophic level, two sampling points must be during the breeding season for the applicable water quality objective.

Receiving Water Report. The Discharger must submit a final study report upon completion of the study that must include the following:

6.1.4.1. Results of all monitoring conducted for mercury and dissolved methylmercury in the water column and for mercury in fish tissue during the study period.

6.1.4.2. An in-depth discussion, evaluation (e.g., detailed statistical analyses), interpretation and tabulation of monitoring data including interpretations and conclusions as to whether the discharge contributes to bioaccumulation of mercury in Lake Jennings and whether revised effluent limitations based on the Mercury Provisions are appropriate.

6.1.4.3. A calculated site-specific bioaccumulation factor determined as the mean methylmercury tissue concentration in one trophic level divided by the mean methylmercury concentration in water. Multiple bioaccumulation factors from different sampling periods or different species shall be combined using a geometric mean. To derive water column concentration in the form of total mercury, a chemical translator must also be used to convert from methylmercury to total mercury[41].

7. REPORTING REQUIREMENTS

7.1. General Monitoring and Reporting Requirements

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

7.1.2. The Discharger must 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. DDW and Title 22 Reporting

7.2.1. The Discharger must submit analytical results of all monitoring required pursuant to title 22 of the CCR to DDW's CLIP database no later than the 10th day of the following month in which analysis was complete with the following requirement.

7.2.1.1 The Discharger must use DDW provided Primary Station Codes (PS-codes) to electronically submit the water quality monitoring results. Laboratory results required by DDW that cannot be transmitted electronically via PS-codes to California Laboratory Intake Portal (CLIP), such as bacteriological data must be submitted to DDW in appropriate reports (e.g., monthly, quarterly reports). If there is any required data including from non-CLIP method(s) which cannot be transmitted electronically, the Discharger must contact DDW with a justification and method of data submission acceptable to DDW.

[41] USEPA, *Water Quality Criteria for the Protection of Human Health: Methylmercury* (EPA-823-R01-001, Jan. 2001), Appendix A, pages A-19 to A-25 describe the chemical translators and provide national translators to convert from methylmercury to total mercury.

7.2.2. The Discharger, in coordination with Helix Water District, must submit an annual report to DDW, the San Diego Water Board, and Helix WD pursuant to section 60320.328, by July 1st of each year. The report shall be prepared by an engineer licensed in California and experienced in the fields of wastewater treatment and public water supply, or California-licensed engineers collectively having the experience. The annual report must include the following:

7.2.2.1. A summary of the Discharger's compliance status with the monitoring requirements and criteria of Article 5.3 during the previous calendar year.

7.2.2.2. The following information regarding violations of Article 5.3 during the previous calendar year:

7.2.2.2.1. The date, duration, and nature of the violation;

7.2.2.2.2. A summary of any corrective actions and suspensions of delivery of advanced treated advanced treated recycled water to Lake Jennings resulting from a violation; and

7.2.2.2.3. If uncorrected, a schedule and summary of all remedial actions.

7.2.2.3. Any detections of monitored chemicals or contaminants, and any observed trends in the monitoring results of Lake Jennings.

7.2.2.4. A description of any changes in the operation of any unit processes or facilities.

7.2.2.5. A description of any anticipated changes, along with an evaluation of the expected impact of the changes on subsequent unit processes.

7.2.2.6. The estimated quantity and quality of advanced treated recycled water to be delivered for the next calendar year, as well as the quantity delivered during the previous three years.

7.2.2.7. A summary of the measures taken to comply with sections 60320.306 and 60320.301 (e), and the effectiveness of the implementation of those measures.

7.2.3. The Discharger must submit the upload the reports summarized in Table E-30 to CIWQS:

Table E-30. Title 22 Report Contents and Due Dates

Report Frequency	Contents	Reference Section(s)	Due Date
Monthly	Pathogen Log Reductions and Failures to meet log reduction credits for a duration shorter than 4 hours	Sections 4.3.4.8.3., 4.3.6.2., 4.3.6.3., 4.3.6.8., and 4.3.6.9. of the Order	No later than the 10th day of the following month

Report Frequency	Contents	Reference Section(s)	Due Date
Monthly	Summary of Operational Parameters for UVAOP, including Daily Predicted 1,4-dioxane Log Reduction	Sections 4.3.6.5.10. and 4.3.6.8 of the Order	No later than the 10th day of the following month
Monthly	Results from sampling in Lake Jennings that cannot be uploaded to CLIP[1]	Section 4.3.7.3. of the Order.	Submit with monthly SMRs (see Tables E-31 and E-32)
Quarterly	RO and AOP Performance Monitoring Results	Section 4.3.4.5. of the Order	Submit with quarterly SMRs (see Tables E-31 and E-32)
Quarterly	Radical Scavenging Demand[2]	Section 4.3.6.5.11. of the Order	Submit with quarterly SMRs (see Tables E-31 and E-32)
Annual	Compliance and Monitoring Summary	Section 7.2.2. of this MRP	July 1st of following year

Notes for Table E-30:

1. The Discharger should include any analytical data results from title 22 CCR required monthly sampling that cannot be uploaded to clip in monthly SMRs uploaded to CIWQS.
2. The Discharger must monitor and/or calculate the radical scavenging demand, if directed by DDW.

7.3. San Diego Water Board Self-Monitoring Reports

7.3.1. The Discharger must 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 5.2. of the Standard

Provisions (Attachment D). The Discharger must maintain sufficient staffing and resources to ensure it submits complete and timely SMRs. This includes provision for training individuals on how to prepare and submit SMRs.

7.3.2.3. The Discharger must report in the SMR the results for all monitoring specified in sections 3 and 4 of this MRP. The Discharger must use USEPA-approved test methods or other test methods specified in the Order for analysis of any samples collected. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by the Order, the results of this monitoring shall be included in the in the SMR.

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

7.3.2.5. The Discharger must attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the Order; 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.

7.3.2.6. The Discharger must add all violations to CIWQS under the “Violations” tab.

7.3.2.7. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-31. Monitoring Periods and Reporting Schedule

Sampling Frequency	Start of Monitoring Period	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of the 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 the 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 the second calendar month following month of sampling.

Sampling Frequency	Start of Monitoring Period	Monitoring Period	SMR Due Date
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 the 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
Annual	Permit effective date	January 1 through December 31	February 1
Once during the permit term	Permit effective date	Permit term	No later than 180 days prior to the expiration date of the Order

7.3.2. The Discharger must submit SMRs by the due dates and with contents specified in Table E-32:

Table E-32. Required Contents in SMRs

SMR Type	Required Contents
Monthly	• Cover letter (see section 7.3.2.5. of this MRP) • Results of monitoring for internal, influent, effluent, and receiving water parameters with continuous, weekly, or monthly monitoring frequencies. • Results from sampling in Lake Jennings that cannot be uploaded to CLIP.
Quarterly	• Cover letter (see section 7.3.2.5. of this MRP) • Results of monitoring for internal, influent, effluent, and receiving water parameters with quarterly monitoring frequency. • Chronic toxicity test results. • RO and AOP Performance Monitoring Results. • Radical Scavenging Demand (if required by DDW).
Semiannual	• Cover letter (see section 7.3.2.5. of this MRP) • Results of monitoring for receiving water and parameters with a monitoring frequency of once every 6 months.

SMR Type	Required Contents
Annual	• Cover letter (see section 7.3.2.5. of this MRP) • Results of monitoring for effluent and receiving water parameters with a monitoring frequency of annually and once per permit term

7.3.3. **Reporting Protocols**

The Discharger must report with each sample result the applicable reported ML, also known as the Reporting Level (RL), and the current Method Detection Limit (MDL)[42], as determined by the procedure in 40 CFR part 136.

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

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

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

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.

7.3.3.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.[43]

7.3.3.4. The Discharger, in coordination with Helix Water District for Lake Jennings monitoring, is to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

7.3.4. **Compliance Determination**

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and in Attachment A of the Order. For purposes of reporting and administrative enforcement by the San Diego Water

[42] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[43] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

Board and State Water Board, the Discharger must 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. See section 6 of the Order for more detailed information on compliance determinations.

7.4. USEPA Discharge Monitoring Reports

The Discharge Monitoring Reports (DMRs)[44] are USEPA reporting requirements. The Discharger must 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/).[45]

7.5. San Diego Water Board and State Water Board Pretreatment Reporting

The Discharger must submit an annual pretreatment/wastewater source control report to the San Diego Water Board via the State Water Board's CIWQS program website by September 1 of each year:

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

The annual pretreatment/wastewater source control report shall contain, but not be limited to, the following information:

7.5.1. A discussion of upset, interference, or pass through, if any, at the ECWRF or ECAWP Facility, which the Discharger knows, or suspects were caused by nondomestic users of the Publicly-owned Treatment Works 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.

7.5.2. A list of Significant Industrial Users (SIUs) within the Discharger's sewershed, including their names and addresses, and a list of deletions, additions, and SIU name changes keyed to the previously submitted list. The Discharger must 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.

[44] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[45] Note that DMR-QA results or the most recent Water Pollution Performance Evaluation Study must be submitted annually via email. Refer to section 1.9 of this MRP for more information.

7.5.3. A summary of enforcement actions or any other actions taken by the City of San Diego (City) or the Discharger against SIUs within the Discharger's sewershed 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.

7.5.4. A summary of any pretreatment/wastewater source control program modifications. Examples of modifications include the following:

7.5.4.1. Updates to local limits for the Discharger's sewershed;

7.5.4.2. Changes to the interjurisdictional pretreatment agreements[46] between and among the City, ECAWP JPA, and members of the ECAWP JPA;

7.5.4.3. A summary of outreach activities and any metrics used to determine effectiveness of the outreach program; and

7.5.4.4. Any instances of chemical/contaminant source investigations.

7.6. State Water Board and USEPA Biosolids Reporting

The Discharger must 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 at the address below:

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

The annual biosolids report must be submitted by February 19 of each year for the period covering the previous calendar year. The report shall include:

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

7.6.2. Results of all pollutant monitoring required under section 3.7. of this MRP. Results must be reported on a 100% dry weight basis.

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

7.6.3. 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.

[46] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

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

7.6.4.1. For land application sites:

7.6.4.1.1. Locations of land application sites (with field names and numbers) used that calendar year, size of each field applied to, applier, and site owner;

7.6.4.1.2. Volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, and calculated plant available nitrogen;

7.6.4.1.3. Crops planted, dates of planting and harvesting;

7.6.4.1.4. 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;

7.6.4.1.5. Certifications of management practices at 40 CFR section 503.14; and

7.6.4.1.6. Certifications of site restrictions at 40 CFR section 503.32(b)(5).

7.6.4.2. For surface disposal sites:

7.6.4.2.1. Locations of sites, site operator and site owner, size of parcel on which biosolids were disposed;

7.6.4.2.2. Results of any required groundwater monitoring;

7.6.4.2.3. Certifications of management practices at 40 CFR section 503.24; and

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

7.7. State Water Board Volumetric Reporting

7.7.1. The Discharger must submit annual volumetric data to the State Water Board by April 30 of each year. The Discharger must submit this annual volumetric data containing monthly data in electronic format via GeoTracker.[47] The Discharger must report in accordance with each of the items in section 3 of the Recycled Water Policy as described below:

7.7.1.1. Influent: Monthly total volume of wastewater collected and treated by the ECWRF.

7.7.1.2. Production: Monthly volume of wastewater treated, specifying level of treatment.

7.7.1.3. Discharge: Monthly volume of treated wastewater not beneficially reused.

7.7.1.4. Reuse. Monthly volume of recycled water distributed for potable and non-potable uses.

[47] Link to State Water Board webpage with more information on GeoTracker: https://www.waterboards.ca.gov/ust/electronic_submittal/

7.7.1.4.1. Reuse Categories. Annual volume of treated wastewater distributed for beneficial use in compliance with title 22 CCR in each of the reuse categories listed below:

7.7.1.4.1.1. Agricultural irrigation: pasture or crop irrigation.

7.7.1.4.1.2. Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway, and street landscaping.

7.7.1.4.1.3. Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses.

7.7.1.4.1.4. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered.

7.7.1.4.1.5. Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered.

7.7.1.4.1.6. Other non-potable uses: including but not limited to dust control, flushing sewers, street sweeping, fire protection, fill stations, snow making, and recreational impoundments.

7.7.1.4.1.7. Reservoir water augmentation: the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system, as defined in section 116275 of the Health and Safety Code, or into a constructed system conveying water to such a reservoir (Water Code section 13561).

7.8. State Water Board Constituent of Emerging Concern Reporting

CEC monitoring results shall be electronically reported to the CIWQS database. The Discharger must submit the quality assurance data specified in the QAPP, including percent recoveries and acceptable recover ranges for each analyte, to the San Diego Water Board with each dataset. The San Diego Water Board may require additional actions if the data quality objectives are not met.

7.9. Other Reports

The following reports are required by the Order, this MRP, and/or title 22 CCR. The reports must be signed and certified as required by section 5.2. of the Standard Provisions (Attachment D). The Discharger must submit the plans and reports summarized in Table E-33 as required by the listed reference sections. If no submission method is specified then the Discharger may email the plans and reports directly to DDW and San Diego Water Board staff.

Table E-33. Other Plans and Reports

Plan/Report	Reference Section	Reviewing/Approving Agency	Due Date
Report of Waste Discharge (ROWD) (for reissuance)	Page 1 of the Order	San Diego Water Board	No later than 180 days before the Order expiration date
Joint Plan	Section 4.3.1.2. of the Order	San Diego Water Board and DDW	Prior to discharge to Lake Jennings; Updates to Joint Plant 60 days prior to planned changes
Testing Protocol for Advanced Oxidation Process	Section 4.3.4.3. of the Order	DDW	90 days prior to conducting test
Results from Testing of Advanced Oxidation Process	Section 4.3.4.3. of the Order	DDW	Prior to discharge to Lake Jennings
Report following first 12 months of full-scale RO operation	Section 4.3.4.4. of the Order	DDW	Within 60 days after completing the first 12-months of full-scale Operation[1]
Title 22 Engineering Report Update	Section 4.3.5.2. of the Order	San Diego Water Board and DDW	March 13, 2029
Pre-Augmentation Reservoir Monitoring Results	Section 4.3.7.3. of the Order	San Diego Water Board and DDW	Prior to discharge to Lake Jennings[1,2]
Draft SWSAP Operation Plan	Section 4.3.8. of the Order	San Diego Water Board and DDW	Prior to discharge to Lake Jennings[3]
Updated SWSAP Operation Plan	Section 4.3.8.6 of the Order	San Diego Water Board and DDW	Six months following the first year of optimizing treatment processes
Cross Connection Control Program Report	Section 4.3.9.3.1. of the Order	San Diego Water Board and DDW	At start-up of operation and subsequently every year
Spill Prevention Plan (SPP)	Section 5.3.2.1. of the Order	San Diego Water Board	To be submitted upon request of the San Diego Water Board
Spill Response Plan (SRP)	Section 5.3.2.1. of the Order	San Diego Water Board	To be submitted upon request of the San Diego Water Board
Spill Report	Section 5.3.2.2. of the Order	San Diego Water Board	Notification within 24 hours of spill; Written report within 5 days of spill

Plan/Report	Reference Section	Reviewing/Approving Agency	Due Date
Reservoir Nutrient Management Plan	Section 5.3.2.3. of the Order	San Diego Water Board	Within 120 days of the effective date of this Order
Aquatic Pesticides Application Plan (APAP)	Section 5.3.3.1.3. of the Order	San Diego Water Board	90 days prior to pesticide discharge
Pollution Minimization Program	Section 5.3.3.2. of the Order	San Diego Water Board	As required by section 5.3.3.2. of the Order
Certification Report	Section 5.3.4.1.of the Order	San Diego Water Board	As required by section 5.3.4.1.of the Order
Operation and Maintenance Manual	Section 5.3.4.7. of the Order	San Diego Water Board	Upon request by the San Diego Water Board
Expanded Local Limits Study Report	Section 5.3.4.8.5. of the Order	San Diego Water Board and DDW	Within 180 days of the effective date of this Order
Standard Operating Procedure for Receiving Anaerobically Digestible Material	Section 5.3.4.11. of the Order	San Diego Water Board	Prior to receiving hauled-in anaerobically digestible material
Asset Management Plan	Section 5.3.4.12. of the Order	San Diego Water Board	Within two years of the effective date of this Order
Notice of Anticipated Bypass	Section 1.7.5.1 of Attachment D	San Diego Water Board	At least 10 days before the date of the bypass
Notice of Unanticipated Bypass	1.7.5.2. of Attachment D	San Diego Water Board	Within 24 hours of unanticipated bypass
Discharge Monitoring Report-Quality Assurance Study or most recent Water Pollution Performance Evaluation Study	Section 1.9. of this MRP	State Water Board	Annually no later than December 31st
Initial Investigation TRE Work Plan	Section 3.5.9. of this MRP	San Diego Water Board	Within 90 days of the effective of this Order
QAPP	Section 3.4.5. of this MRP	San Diego Water Board and State Water Board	Within 60 days of the effective of this Order
CEDEN Data Submittal Certification	Section 4.2.4. of this MRP	San Diego Water Board and State Water Board	Annually no later than March 1st

Plan/Report	Reference Section	Reviewing/Approving Agency	Due Date
Benthic Stream Bioassessments	Section 4.4.1 of this MRP	San Diego Water Board	Within one year of sample collection
Algal Bloom Report	Section 4.5.1. of this MRP	San Diego Water Board	Quarterly following any quarter with algal blooms no later than the end of the following quarter
Freshwater and Estuarine Harmful Algal Bloom	Section 4.5.1.6. of this MRP	California Water Quality Monitoring Council	Within 15 days of harmful algal bloom
Receiving Water Monitoring Report	Section 4.5.2. of this MRP	San Diego Water Board	Annually no later than March 1st
State of Lake Jennings Report	Section 4.5.3. of this MRP	San Diego Water Board	No later than 180 days prior to the expiration date of this Order
Supplemental Receiving Water Monitoring Report	Section 4.5.4. of this MRP	San Diego Water Board	Annually no later than March 1st
Mercury Monitoring Work Plan for Lake Jennings	Section 6.1. of this MRP	San Diego Water Board	Within 210 days of the effective date of this Order
Mercury Final Study Report	Section 6.1.4. of this MRP	San Diego Water Board	To be determined

Notes for Table E-33:

1. The report shall be uploaded to CIWQS before the specified due date with notification emailed to DDW staff.
2. The Discharger may submit the data collected one month prior to commencing the discharge separately.
3. The Draft SWSAP Operation Plan will need to be reviewed and approved by DDW prior to the Discharger operating the Facility. It is recommended that the Discharger submit the Draft SWSAP Operation Plan nine months prior to planned discharge to allow time for approval process.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section 2.2. of Order No. R9-2025-0003 NPDES No. CA 9000001, *Waste Discharge Requirements for the East County Advanced Water Purification Joint Powers Authority East County Advanced Water Purification Project Discharge to Lake Jennings and Sycamore Creek* (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 the Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of the Order.

The Order has been prepared in 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 the Order that are specifically identified as "not applicable" have been determined not to apply to the Discharger. Sections or subsections of the Order not specifically identified as "not applicable" are fully applicable to the Discharger.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

Type of Information	Facility/Discharger Information
WDID	9 000004038
Discharger(s)	East County Advanced Water Purification Joint Powers Authority (ECAWP JPA)
Facility and Facility Address	East County Advanced Water Purification Facility (ECAWP Facility) 12001 North Fanita Parkway, Santee, CA 92071
Facility Contact, Title and Phone	Robert Northcote, Plant Manager, (619) 258-4697
Authorized Person to Sign and Submit Reports	Same as Facility Contact
Mailing Address	9300 Fanita Parkway, Santee, CA 92071
Billing Address	Same as mailing address
Type of Facility	Publicly-owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	3
Complexity	B
Pretreatment Program	No (member of City of San Diego's program)
Recycling Requirements	Potable Reuse (non-potable recycled water regulated under separate waste discharge requirements (WDRs) and water reclamation requirements (WRRs))

Type of Information	Facility/Discharger Information
Facility Permitted Flow	• ECAWP Facility – 13.7 million gallons per day (MGD) • East County Water Recycling Facility (ECWRF) – 16 MGD
Facility Design Flow	• ECAWP Facility – Design Maximum Capacity (13.7 MGD), Annual Average Flow (12.7 MGD) • ECWRF– Design Maximum Capacity (22 MGD), Annual Average Flow (16 MGD)
Watershed	Sycamore Creek (within Sycamore Canyon)
Receiving Waters	Lake Jennings and Sycamore Creek
Receiving Water Type	Inland Surface Waters

1.1. The ECAWP JPA is a public joint powers authority established pursuant to California Government Code section 6500 et seq. which consists of the following member agencies: Padre Dam Municipal Water District, the City of El Cajon, and the County of San Diego. The ECAWP JPA is the Surface Water Source Augmentation Project Water Recycling Agency (SWSAP WRA)[48] as defined in section 60301.853 of title 22 of the California Code of Regulations (title 22 CCR) and is responsible for the East County Advanced Water Purification Project (ECAWP Project).[49]

1.2 The Discharger filed a report of waste discharge (ROWD) and submitted an application for issuance of waste discharge requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit on May 26, 2023.

1.3 The San Diego Water Board developed the Order to establish requirements for the discharge of potable recycled water from the East County Advance Water Purification Facility (ECAWP Facility) to Lake Jennings and Sycamore Creek. For the purposes of the Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

1.4 The Order replaces and supersedes Order No. R9-2022-0003 NPDES NO. CA0107492 *Waste Discharge Requirements for the Padre Dam Municipal Water District, Ray Stoyer Water Recycling Facility, Discharge to Sycamore Creek, San Diego County* (Order No. R9-2022-0003), which regulated discharges of tertiary treated recycled water from the Ray Stoyer Water Recycling Facility (Ray Stoyer WRF) to Santee Lakes and Sycamore Creek.

[48] A SWSAP WRA is defined in section 60301.853 of title 22 CCR as an agency that is subject to a Regional Board's water-recycling requirements applicable to a SWSAP, and is, in whole or part, responsible for applying to the Regional Water Board for a permit, obtaining a permit, the operation of a SWSAP, and complying with the terms and conditions of the Regional Water Board permit and the requirements of Chapter 3 of title 22 CCR.

[49] The ECAWP Project is located at 12001 North Fanita Parkway, Santee, CA 92071.

1.5 The Order does not replace Order No. 97-49, *Waste Discharge and Water Recycling Requirements for Padre Dam Municipal Water District, San Diego County* (Order No. 97-49). Order No. 97-49 established requirements for the discharge of recycled water from the Roy Stoyer WRF to non-potable customers for reuse via non-potable (i.e., purple pipe) conveyance system. San Diego Water Board staff anticipate non-potable recycled water discharges from the ECWRF will be regulated under separate WDRs and WRR, which will replace and supersede Order No. 97-49.

1.6. The Order contains a delayed effective date due to construction activities and related non-discharge until construction is completed and the ECAWP Facility is operational. The Discharger anticipates completing construction of the ECAWP Facility in late summer of 2026 or early fall of 2026 and plans to initiate both the discharges, to Lake Jennings and Santee Lakes, shortly thereafter. Therefore, the effective date of the Order has been delayed until June 1, 2026.

2. FACILITIES DESCRIPTION

The ECAWP Project includes the following facilities: the ECWRF, the Solids Handling Facility, the ECAWP Facility, the dechlorination facility, and the potable reuse conveyance facilities (collectively referred to as the Facilities). A map and flow schematic of the Facilities is provided respectively in Attachment B and C of the Order.

2.1. Description of Wastewater and Biosolids Treatment and Controls

The ECAWP Project is a potable reuse project that will produce advanced treated water to: 1) augment Lake Jennings, which serves as a water supply source for the Helix Water District's (Helix WD) R.M. Levy Drinking Water Treatment Plant (DWTP), and 2) maintain Santee Lakes, which is a regional recreational area and park owned and operated by Padre Dam Municipal Water District (Padre Dam). Padre Dam, the City of El Cajon, and the Lakeside/Alpine and Winter Gardens sewer service areas of the San Diego County Sanitation District serve as the wastewater sources for the ECAWP Project. Wastewater from these sources will be diverted to the ECWRF from the Ray Stoyer WRF Influent Pump Station and the East Mission Gorge Pump Station. As part of the ECAWP Project, the ECAWP JPA acquired the East Mission Gorge Pump Station from the City of San Diego (City) and reconfigured the pump station to direct wastewater to the ECWRF via a new force main. The ECAWP Project may also receive return flows from Santee Lakes, to maximize recycled water availability during periods of peak demand.[50]

2.1.1. East County Water Recycling Facility (ECWRF)

Prior to the ECAWP Project, Padre Dam diverted up to 2.0 MGD of East County wastewater flows to the Ray Stoyer WRF. Tertiary treated recycled water from the

[50] During months of peak recycled water demand, in lieu of discharging flow from Lake No. 1 to Sycamore Creek, flow from the Santee Lakes would be pumped back to the ECWRF for treatment and reuse.

Ray Stoyer WRF was then discharged to 1) Santee Lakes and Sycamore Creek and 2) non-potable customers.

The ECAWP Project dismantled the majority of the Roy Stoyer WRF and replaced it with the new 16 MGD ECWRF. The treatment processes at the ECWRF includes, in order of flow:

- Screening and grit removal units.
- Primary clarifiers, with ferric chloride for chemical phosphorus removal.
- An equalization tank.
- Bioreactors for nutrient removal, that include a 4-stage Bardenpho process.
- Secondary clarifiers, with ferric chloride for chemical phosphorus removal;
- Granular media filters (GMFs);
- A chlorine contact basins (remnant from the former Ray Stoyer WRF chlorine contact basins).
- An odor control unit.

During normal operation, final effluent produced from the ECWRF will serve: 1) as the source water for the ECAWP Facility, and 2) non-potable customers. The production and reuse of tertiary treated disinfected non-potable recycled wastewater will be regulated under separate WDRs and WRRs, as requested by the Discharger.

2.1.2. **Solids Handling Facility**

The ECAWP JPA will treat sludge from the ECWRF primary and secondary clarifiers at the Solids Handling Facility. The Solids Handling Facility will produce Class B solids for beneficial use outside the state of California or for landfill disposal. The treatment processes at the Solids Handling Facility includes a rotary drum for sludge thickening, anaerobic digestion, digested sludge storage, centrifuge dewatering, cake storage and loadout facilities, and biogas handling.

Sludge will be thickened before being fed to the anaerobic digesters. The digested sludge will be dewatered and the centrate from dewatering will gravity flow to a residuals bypass pump station. Thickener supernatant will be returned to the ECWRF for treatment, while centrate will be discharged to the Metro System via a residuals bypass pipeline.

2.1.3. **ECAWP Facility**

The ECAWP Facility will treat up to 15.2 MGD of tertiary filtered effluent from the ECWRF to produce a maximum flow of 13.7 MGD of advanced treated recycled water. The ECAWP JPA will direct a maximum of 12.5 MGD of advanced treated recycled water to Lake Jennings and will direct the remainder to Santee Lakes. The anticipated average annual product water flow to Lake Jennings will be about 11.5 MGD. Treatment processes at the ECAWP Facility consists of MF, reverse osmosis, ultraviolet light with advanced oxidation process (UV/AOP) and post-

stabilization. The ECAWP JPA will minimize corrosion and treatability issues, by using a post-stabilization treatment of carbon dioxide and hydrated lime to adjust the product water pH to between 7.5 and 8.5 pH units and to elevate alkalinity. After stabilization, the ECAWP Facility product water used for indirect potable reuse will be chlorinated to ensure that a free chlorine residual is maintained in the pipeline to Lake Jennings. Backwash flows from the microfiltration process will be collected and returned to the ECWRF influent stream ahead of the primary clarifiers. Reverse osmosis (RO) concentrate will be discharged to the Metro System via the East County Residuals Line (a regional brine[51] line) for treatment and disposal. The discharge of RO concentrate will bypass the City's North City Water Reclamation Plant and Pure Water facilities and be directed to the City's E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant

1.1.4. Potable Reuse Conveyance, Dechlorination, and Reservoir Augmentation

Chlorinated advanced treated recycled water is conveyed to Lake Jennings via a 12.5 MGD product water pump station, located at the ECAWP Facility and a 53,500 foot long, 24-inch diameter pipeline. The dechlorination facility adjacent to Lake Jennings will reduce chlorine residual levels in the discharged water to nondetectable levels. Advanced treated recycled water is discharged to Lake Jennings via a submerged Y-shaped nozzle structure.

2.1.5. East County Residuals Line

The East County Residuals Line diverts brine from the ECAWP Facility and centrate from the Solids Handling Facility to wastewater conveyance facilities that feed into the C's E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant bypassing the C's North City Water Reclamation Plant and Pure Water facilities.

2.2. Discharge Point and Receiving Waters

2.2.1. Discharge Point 001- Lake Jennings

The ECAWP Facility has a maximum capacity of 13.7 MGD and an annual average flow of 12.7 MGD. The ECAWP Facility is designed to provide a consistent flow of 12.5 MGD to Lake Jennings, with about 11.5 MGD discharged to Lake Jennings on an annual average basis.

Lake Jennings serves as an additional source of raw water supply[52] to the adjacent Helix WD R.M. Levy DWTP. Lake Jennings has a maximum storage capacity of 9,790 acre-feet and a surface area of approximately 135 acres. Helix WD allows recreational fishing along the shoreline, from a floating dock, and from boats on the water. The Lake Jennings watershed is only approximately 1.6 square miles, and surface runoff contributes a small amount (less than 5 percent) of the reservoir inflow. As a result, Helix WD historically relied on imported water supplies to maintain Lake Jennings water levels. Because almost all inflow to the

[51] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
[52] The Helix WD R.M. Levy DWTP also receives imported water from the San Diego County Water Authority.

reservoir is controlled by Helix WD, the reservoir does not overflow to downstream waters. Engineered mixing, provided by an aerator and air curtain system, is used to enhance reservoir circulation, prevent reservoir thermal stratification, and prevent short-circuiting within the reservoir. The system is made of three components – an aerator, a straight-line air curtain, and a loop line air curtain. All three lines diffuse compressed air into the water column to promote mixing and prevent short circuiting of the advanced treated water from the inlet piping in the northern arm to the inlet/outlet tower at the west end of the reservoir near the dam. The aerator is 144-foot long and is located just south of the inlet/outlet tower. The straight line air curtain is 495-feet long and runs across the lake from north to south. The loop line air curtain is 785-feet long and wraps around the end of Sentry Point. These three systems will be operated in accordance with the Operations Plan based on the reservoir level and amount of advanced treated water inflow to maintain 100:1 dilution or more.

2.2.2. Discharge Point 002 –Sycamore Creek

Prior to the completion of the ECAWP Project, Padre Dam directed disinfected tertiary treated effluent from the Ray Stoyer WRF to Sante Lakes to maintain water levels in the lakes. Santee Lakes consists of seven lakes with a total volume of 131.5 million gallons which flow in series beginning with Lake No. 7 and ending with Lake No. 1, which ultimately discharges to Sycamore Creek, a tributary to the San Diego River. The San Diego Water Board regulated the discharge of tertiary treated effluent from the Ray Stoyer WRF to Sycamore Creek through Order No. R9-2022-0003, as described in section 1.4 of this Fact Sheet. The Ray Stoyer WRF ceased all discharges and was removed from service in May 2025.

Currently, the ECAWP Project will direct dechlorinated effluent from the ECAWP Facility to Santee Lakes and Sycamore Creek, replacing the effluent discharge from the Ray Stoyer WRF. The ECAWP JPA will direct the following types of discharges from the ECAWP Facility to Santee Lakes and Sycamore Creek (Discharge Location 002):

- Routine discharges of dechlorinated ECWRF/ECAWP Facility recycled water to Lake No. 7 in order to maintain lake water levels and make up for evaporative or other water losses in the lakes.
- If required, short-term discharges of “off specification” effluent from ECAWP Facility that meets requirements for discharge to the Santee Lakes (Discharge Location 002) but does not meet State Water Resources Control Board, Division of Drinking Water (DDW) requirements for discharge to Lake Jennings (Discharge Location 001). Such off-specification discharges would be short-term in nature, potentially ranging from several hours to one or two days, depending on the flow rate.

2.3. ECAWP JPA Operations

The ECAWP Project is operated by the ECAWP JPA, which is responsible for the following:

- Wastewater diversion from the collection system to the ECWRF;
- Treatment operations at the ECWRF, Solids Handling Facility, ECAWP Facility, and dechlorination facilities;
- Conveyance and discharge to Lake Jennings (Discharge Location 001); and
- Conveyance and discharge to the Santee Lakes (Discharge Location 002).

The ECAWP JPA is also responsible for complying with all effluent limitations established by the San Diego Water Board, and any ECWRF or ECAWP Facility treatment or reliability requirements established by the San Diego Water Board or DDW. Padre Dam is responsible for day-to-day operations of the Facilities. Helix WD, the owner and operator of Lake Jennings, is responsible for managing reservoir diversions to the R.M. Levy DWTP. The ECAWP JPA and Helix WD coordinate to ensure that recycled water delivered to the R.M. Levy DWTP comply with all applicable DDW requirements.

The ECAWP Project (detailed in the Title 22 Engineering Report) has several failure response elements to ensure reliability. In order of implementation, these include (1) diversion to Santee Lakes (Discharge Location 002), (2) diversion of UV/AOP effluent to the Metro System, (3) diversion of ECWRF flow to the Metro System, and (4) decoupling from Lake Jennings through use of an alternate water source. The ECAWP Project will use a graded system-wide alarm and response framework to detect production of off-specification water and to standardize failure response to treatment excursions.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

3.1. Legal Authorities

The Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (Water Code) (commencing with section 13260). The Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U. S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing discharge to waters of the United States at the discharge location described in Table 1 subject to the WDRs in the Order.

3.2. California Environmental Quality Act (CEQA)

Under Water Code section 13389, the 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. However, compliance with CEQA is required for those provisions in the Order that are based on State law only. Under the San Diego Water Board's state law authority, the Order incorporates applicable portions of State Water Resources Control Board (State Water Board) Water

Quality Control Policy for Recycled Water and Article 5.3, Division 4, of title 22 CC R. The state law only provisions of the Order are discretionary approvals subject to compliance with CEQA.

Padre Dam adopted a Mitigated Negative Declaration for the ECAWP Project on December 5, 2018. On February 20, 2020, the ECAWP JPA considered the Mitigated Negative Declaration adopted by Padre Dam for the ECAWP Project. On July 21, 2022, the ECAWP JPA filed a Notice of Determination for an Amendment to the Mitigated Negative Declaration for the ECAWP Project. The Mitigated Negative Declaration and Amendment to the Mitigated Negative Declaration both concluded that there were no significant impacts to hydrology and water quality.

The San Diego Water Board, as a responsible agency, is responsible for reviewing the Mitigated Negative Declaration. The San Diego Water Board independently reviewed the Mitigated Negative Declaration and Amendment to the Mitigated Negative Declaration for adequacy and concluded it was adequate.

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. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Resources Control Board (State Water Board). Beneficial uses listed in the Basin Plan which apply to Lake Jennings, Sycamore Creek, and groundwater within the Santee Hydrologic Subarea (HSA) (907.12) are as follows:

Table F-2. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Lake Jennings	• Municipal and Domestic Supply (MUN); • Industrial service supply (IND); • Water contact recreation (REC-1); • Non-contact recreation (REC-2); • Warm Freshwater Habitat (WARM); • Cold Freshwater Habitat (COLD); and • Wildlife habitat (WILD);
002	Sycamore Creek (within Sycamore Canyon watershed)	• AGR; • IND; • REC-1; • REC-2; • WARM; • WILD; and • Preservation of Rare, Threatened or Endangered Species (RARE)

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santee HSA (907.12)	• MUN; • IND; • Industrial Process Supply (PROC); and • AGR

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

3.3.2. National Toxics Rule (NTR) and California Toxics Rule (CTR)

USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

On December 10, 2024, the USEPA Administrator signed a final rule to revise the current federal Clean Water Act freshwater selenium water quality criteria applicable to certain waters of California. The criterion reflects the latest scientific information and establishes levels of selenium that protect California's aquatic life and aquatic-dependent wildlife. The criterion replaces California's previous selenium criterion for certain waters that the EPA promulgated in 2000 as part of the CTR.

3.3.3. State Implementation Policy

On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy). The State Implementation Policy became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the San Diego Water Board in the Basin Plan. The State Implementation Policy became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the State Implementation Policy on February 24, 2005, that became effective on July 13, 2005. The State Implementation Policy establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of the Order implement the State Implementation Policy.

3.3.4. Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries (ISWEBE Plan)

The ISWEBE Plan establishes provisions for water quality and sediment quality that apply to all inland surface waters, enclosed bays, estuaries, and coastal

lagoons of the State, including both waters of the United States and waters of the State. The ISWEBE Plan will be a single planning document that includes all the water quality control plan provisions adopted by the State Water Board that relate to surface waters other than open bays and the ocean. The State Water Board has adopted the plan provisions described below, which will be incorporated into the ISWEBE Plan.

3.3.4.1. Toxicity Provisions

The State Water Board adopted the *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions) were adopted by the State Water Board on December 1, 2020. The Toxicity Provisions were approved by the Office of Administrative Law (OAL) on April 25, 2022, and by USEPA on May 1, 2023. The Toxicity Provisions establish statewide numeric water quality objectives for both acute and chronic toxicity and a program of implementation to control toxicity. The Toxicity Provisions provide consistent protection of aquatic life beneficial uses in inland surface waters, enclosed bays, and estuaries throughout the State, and protect aquatic habitats and life from the effects of known and unknown toxicants. The Order implements chronic toxicity monitoring requirements from the Toxicity Provisions.

3.3.4.2. Bacteria Provisions

The State Water Board adopted Resolution No. 2018-0038 establishing *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California -Bacteria Provisions and a Water Quality Standards Variance Policy* (Bacteria Provisions) on August 7, 2018, which became effective upon approval by the OAL on February 4, 2019, and approval by the USEPA on March 22, 2019. The Bacteria Provisions establish statewide bacteria water quality objectives for the protection of surface waters designated with the contact recreation beneficial use (REC-1) and also established implementation options to protect recreational users from the effects of pathogens in surface waters.

3.3.4.3. Mercury Provisions

The State Water Board adopted Resolution No. 2017-0027 on May 2, 2017, which approved *Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions* (Mercury Provisions). The Mercury Provisions provide a consistent regulatory approach throughout the State by setting mercury limits to protect the beneficial uses associated with the consumption of fish by both people and wildlife.

The Mercury Provisions establish a fish-tissue based sport fishing water quality objective which applies to inland surface water bodies such as lakes, reservoirs, rivers, creeks, etc., with specific beneficial uses (such as the WILD and RARE beneficial uses). A water body must also contain trophic level 4 fish within 200-500 millimeters in total length for the sport fishing water quality objective to be applied (see Attachment C of the Mercury Provisions for a list of common trophic

level 4 fish species). The sport fishing water quality objective applies to both Lake Jennings and Sycamore Creek because beneficial uses of both water bodies include WILD and trophic level 4 fish species are present in both water bodies. The Mercury Provisions translate the fish-tissue based sport fishing into a water column concentration/water quality objective of 12 nanograms per liter (or 0.012 µg/L), which applies to flowing water bodies such as Sycamore Creek. Results The Mercury Provisions, however, require that the water column concentration/water quality objective for reservoirs be determined on a case-by-case basis.

The Order implements the Mercury Provisions by requiring effluent and receiving water monitoring for mercury.

3.3.5. 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 No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Resolution No. 68-16). Resolution No. 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16.

3.3.6. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Effluent limitations may be relaxed where one of the exceptions described in 40 CFR 122.44(l) are met including exceptions involving technical mistakes or mistaken interpretations of law. This Order is the first time these effluent limitations have been issued, so no effluent limitations have been relaxed.

3.3.7. Endangered Species Act Requirements

The 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). The Order requires compliance with effluent limitations, and other requirements to protect the beneficial uses of waters of the State, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

3.3.8. **Sewage Sludge and Biosolids**

The 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 at a municipal wastewater treatment facility. The Discharger is responsible for meeting all applicable requirements of 40 CFR part 503 that are under USEPA's enforcement authority.

3.3.9. **Title 22/Surface Water Augmentation Regulations**

The State Water Board amended division 4, chapters 3 and 17 of title 22 CCR for the purpose of establishing regulations governing the planned placement of recycled water into a surface water reservoir that is used as a source of domestic drinking water supply; known as surface water augmentation. The Order incorporates treatment criteria and monitoring and reporting requirements from title 22 CCR sections 60320.300 through 60320.330. The Title 22 Engineering Report for the ECAWP Project addressing protection of public health was reviewed and accepted by DDW.[53]

3.3.10. **State Recycled Water Policy**

The State Water Board adopted the *Policy for Water Quality Control for Recycled Water (*Recycled Water Policy) on February 3, 2009, and amended it on January 22, 2013, and December 11, 2018. The purpose of the Recycled Water Policy is to increase the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Recycled Water Policy provides direction to the Regional Water Boards, proponents of recycled water projects, and to the public regarding the methodology and appropriate criteria for the State Water Board and the Regional Water Boards to use when issuing permits for recycled water projects. The 2018 Amendment included permitting guidance for reservoir augmentation projects, and updates monitoring requirements for contaminants of emerging concern (CECs) in recycled water used for reservoir water augmentation. The Order includes monitoring requirements for CECs which are consistent with the Recycled Water Policy.

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

Under section 303(d) of the 1972 CWA, states, territories, and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The State Water Board adopted the 2020-2022 California Integrated Report on January 19, 2022, which includes the Statewide 2020-2022 303(d) list. The 2020-2022 303(d) lists includes a listing for Lake Jennings for mercury; and listings for the Lower San

[53] DDW issued a letter dated March 13, 2024, confirming its conditional acceptance of the ECAWP JPA Title 22 Engineering Report (engineering report) dated, September 2023.

Diego River for indicator bacteria, low dissolved oxygen, benthic community effects, nitrogen, phosphorus, total dissolved solids, toxicity, bifenthrin, chlordane, chloride, color, cyfluthrin, cypermethrin, permethrin, pyrethroids, and turbidity.

On February 10, 2010, the San Diego Water Board adopted Resolution No. R9-2010-0001[54], *A Resolution Amending the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)* (Bacteria TMDL). The Bacteria TMDL was subsequently approved by the State Water Board on December 14, 2010, the OAL on April 4, 2011, and the USEPA on June 22, 2011. The Bacteria TMDL established waste load allocations (WLAs) for bacteria for the Ray Stoyer Water Recycling Facility based on REC-1 water quality objectives (WQOs) in the Basin Plan. The ECWRF and ECAWP Facility have replaced the Ray Stoyer Water Recycling Facility. The Order establishes effluent limitations for total coliform bacteria based on requirements from Title 22 of the CCR which are more stringent than the requirements of the Bacteria TMDL.

TMDLs for the remaining 303(d) listed parameters have not been developed. Effluent limitations in the Order for nitrogen and phosphorus are based on applicable WQOs.

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 the Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.

3.5.2. Stormwater

Pursuant to Order No 2014-0057-DWQ, NPDES Permit No. CAS000001, the Statewide *General Permit for Stormwater Discharges Associated with Industrial Activities* (Industrial General Permit), sewerage treatment plants are assigned (per Occupational Safety and Health Administration) Standard Industrial Classification (SIC) code 4952 (for 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 Industrial General Permit. The eligibility for enrollment under the Industrial General Permit is not based on treatment design flow or capacity of the sewerage treatment plants. It is industrial activity that is regulated. The Facility has the same SIC code (4952) and

[54] California Regional Water Quality Control Board, San Diego Region, Resolution No. R9-2010-0001, *A Resolution Amending the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)*, adopted February 10, 2010.

is enrolled under the Stormwater 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/Wastewater Source Control**

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 Publicly-Owned Treatment Works (POTWs).

4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a), which requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d), which 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.

4.1. Discharge Prohibitions

The Order establishes discharge prohibitions for the ECAWP Facility as described below and in section 3.1 of the Order. Discharges from the ECAWP Facility to surface waters in violation of prohibitions contained in the Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facility to land in violation of prohibitions contained in the Order are violations of the Water Code and are not subject to third party lawsuits under the CWA because the Water Code does not contain provisions allowing third party lawsuits.

4.1.1. The discharge of waste not treated by secondary, tertiary, and advanced treatment processes from the ECAWP Facility to Lake Jennings or Sycamore Creek; and not in compliance with the effluent limitations specified in section 4.1 of the Order, or to a location other than Discharge Point No. 001 or 002, unless specifically regulated by the Order or separate WDRs, is prohibited. This prohibition is intended to ensure that only fully treated wastewater is discharged from the ECAWP Facility at the appropriate discharge points.

4.1.2. The Discharger must comply with Discharge Prohibitions contained in chapter 4 of the Basin Plan as a condition of the Order. The Discharge prohibitions in the Basin Plan are applicable to any person,[55] as defined by section 13050(c) of the Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the State within the boundaries of the San Diego Region.

[55] Pursuant to Section 13050 (c) of the Water Code "person" includes any city, county, district, the state, and the United States, to the extent authorized by federal law.

4.1.3. Discharge Prohibition 3.3 prohibits the discharge of residual algaecides and aquatic herbicides to Sycamore Creek. This prohibition is based on 40 C.F.R. 122.21(a), "Duty to Apply," and California Water Code section 13260, which requires filing a Report of Waste Discharge before discharges can occur. Discharges not described in the ROWD, and subsequently not discharged in the manner permitted by the Order, are prohibited.

4.1.4. Discharge Prohibition 3.4 prohibits the discharge of residual algaecides and aquatic herbicides to Pond C at the ECAWP Facility or Lakes No. 1-7 (at Santee Lakes) from creating a condition of nuisance as defined in section 13050 of the California Water Code. This prohibition is based on California Water Code section 13050 for water quality control for achieving water quality objectives.

4.1.5. Discharge Prohibition 3.5 prohibits the discharge of residual algaecides and aquatic herbicides to Pond C at the ECAWP Facility or Lakes No. 1-7 (at Santee Lakes) which cause, or have a reasonable potential to cause, or contribute to an in-stream excursion in Sycamore Creek above any applicable standard or criterion promulgated by USEPA pursuant to section 303 of the CWA, or water quality objective adopted by the State or San Diego Water Board. This prohibition is based on CWA section 301 and the California Water Code.

4.2. Technology-Based Effluent Limitations[56]

4.2.1. Scope and Authority

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

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

The CWA established the minimum performance requirements for POTWs (defined in section 304(d)(1)). Section 301(b)(1)(B) of that 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_5), Total Suspended Solids (TSS), and pH.

[56] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

In compliance with 40 CFR sections 122.45(f)(1) and 423.15, mass-based limitations have also been established in the 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. The Order includes effluent limitations expressed in terms of mass and concentration. This Order does not establish mass-based effluent limitations for pH, turbidity, and settleable solids pursuant to 40 CFR section 122.45(f)(1).

Mass-based effluent limitations were calculated using the following equation: lbs/day = flow (MGD) x pollutant concentration (milligrams per liter [mg/L]) x 8.34.

4.2.2. **Applicable Technology-Based Effluent Limitations**

4.2.2.1. **Federal Regulations**

The Order establishes average weekly and average monthly effluent limitations for BOD_5 and TSS, and an average monthly percent removal of at least 85 percent for BOD_5 and TSS based on secondary treatment standards for POTWs established in 40 CFR part 133.

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

Section 122.45(d) of 40 CFR require that all permit limitations be expressed, unless impracticable, as average monthly effluent limitations (AMELs) and average weekly effluent limitations (AWELs) for POTWs. TBELs based on secondary treatment standards for BOD_5, TSS, and pH are summarized in Table F-3, applying AMELs in lieu of 30-day average and AWELs in lieu of 7-day average.

Table F-3. Secondary Treatment Standards

Parameter	Unit	30-day Average	Average Weekly
BOD_5	mg/L	30	45
BOD_5	% Removal	≥85	--
TSS	mg/L	30	45
TSS	% Removal	≥85	--
pH	standard units	See note 1	See note 1

Notes for Table F-3:

1. The secondary treatment standard specified in 40 CFR part 133 require that pH be maintained between 6.0 and 9.0 standard units.

4.2.2.2. Order No. R9-2022-0003 established average monthly and weekly effluent limitations of 15 mg/L and 23 mg/L for BOD_5 and TSS for the discharge to Sycamore Creek which are more stringent than secondary treatment standards specified for BOD_5 and TSS in 40 CFR part 133. The more stringent effluent limitations were included in Order No. R9-2022-0003 to prevent any impacts to dissolved oxygen concentrations in the Lower San Diego River, which is 303(d)

listed for dissolved oxygen. Sycamore Creek is a tributary of the Lower San Diego River. Although more stringent effluent limitations for BOD_5 and TSS are not included in the Order, BOD_5 and TSS concentrations of advanced treated recycled water discharged to Lake Jennings and Sycamore Creek will be significantly lower than BOD_5 and TSS concentrations of effluent previously discharged from the Ray Stoyer WRF. Tertiary treated effluent from the ECWRF serves as source water for the AWP Facility. Average monthly BOD_5 and TSS concentrations of tertiary treated effluent from the ECWRF are projected to below 10 mg/L, while BOD_5 and TSS concentrations of advanced treated recycled water from the ECAWP Facility are projected to be non-detect.

Levels of pH in treated effluent from the ECWRF are projected to be between 6.5 and 8.5, while pH levels in advanced treated recycled water are projected to be between 7.5 and 8.5. The effluent limitations established in the Order for pH are based on Basin Plan water quality objectives, which are more stringent than secondary treatment standards for pH.

TBELs established in the Order are summarized in Table F-4.

Table F-4. Summary of Applicable TBELs[1]

Parameter	Unit	Average Monthly[1]	Average Weekly[1]	Daily Maximum[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
BOD_5	mg/L	30	45	--	--	--
BOD_5[2]	lbs/day	4,003	6,005		--	--
BOD_5	% Removal[1]	≥85	--	--	--	--
TSS	mg/L	30	45	--	--	--
TSS[2]	lbs/day	4,003	6,005		--	--
TSS	% Removal[1]	≥85	--	--	--	--
pH	standard units	--	--	--	6.5	8.5

Notes for Table F-4:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The Mass Emission Rate (MER) limitations, in pounds per day, were calculated based on the following equation: MER (lb/day) = 8.34 x Q x C, where Q is the maximum allowable flow rate (in MGD) and C is the concentration (in mg/L).

4.2.2.3. **Effluent Flow.** The Order establishes an annual average monthly flow limitation of 12.5 MGD from the ECAWP Facility (measured at monitoring location EFF-001A) and establishes an average monthly flow limitation of 2.0 MGD for the discharge from the ECAWP Facility to Santee Lakes and Sycamore Creek

(measured at monitoring location EFF-002A). Effluent limitations for flow established at monitoring location EFF-001A are based on the ECAWP Facility design flow and the description of the Facilities included in the ROWD, while effluent limitations for flow at monitoring location EFF-002A are based on the capacity of Pond C and Lakes No. 1-7 at Santee Lakes, and information provided in the ROWD. The effluent flow limitations are a component of the Order to ensure proper operation and maintenance of treatment processes and systems. Proper operation includes ensuring flows stay within the design capacity of the process treatment units[57] and conveyance systems.[58] 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.[59] In compliance with applicable regulations, the mass-based effluent limitations in the Order are calculated based on design flow of the ECAWP Facility.

4.3. Water Quality-Based Effluent Limitations

4.3.1. Scope and Authority

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

Section 122.44(d)(1)(i) of 40 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under the 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 achieve applicable water quality objectives and criteria that are contained in other State plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

4.3.2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Order establishes requirements for the discharge of advanced treated recycled water to Lake Jennings (Discharge Point 001) and to Sycamore Creek

[57] See 40 CFR section 122.41 (e).
[58] See 40 CFR section 122.41 (e).
[59] See 40 CFR section 122.45 (b)(1).

(Discharge Point 002), a tributary of the San Diego River. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains 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 Lake Jennings and Sycamore Creek are summarized in section 3.3.1. of this Fact Sheet. The Basin Plan establishes both narrative and numeric WQOs which apply to Lake Jennings and Sycamore Creek. Lake Jennings and Sycamore Creek are both within the Santee HSA (907.12). As a result, WQOs listed in Table 3-9 of the Basin Plan apply to Lake Jennings and Sycamore Creek. Effluent limitations based on the following applicable Basin Plan WQOs have been included in the Order:

4.3.2.1.1. **pH**

The Basin Plan establishes the following WQO for the pH for inland surface waters: "*In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5*". As discussed in section 4.2.2.2. of this Fact Sheet, the Basin Plan WQO for pH is more stringent than the secondary treatment standards for pH in 40 CFR part 133.

4.3.2.1.2. **Bacteria**

The Order contains effluent limitations for total coliform that apply at monitoring location EFF-002A for the discharge to Santee Lakes. The total coliform effluent limitations are based on CCR title 22 criteria for tertiary recycled water. Order No. R9-2022-0003 established waste discharge requirements for the discharge from the Ray Stoyer WRF to Santee Lakes and Sycamore Creek, and included effluent limitations for the following indicator bacteria:

- Total coliform (based on CCR title 22 criteria for tertiary recycled water;
- Fecal coliform and *Escherichia coli (E. coli)* (based on Bacteria Total Maximum Daily Load waste load allocations derived from previous Basin Plan WQOs for surface waters with the REC-1 beneficial use); and
- Enterococci (based on WQOs from the State Water Board Bacteria Provisions which are incorporated in the Basin Plan).

The ECWRF replaced the Ray Stoyer WRF and serves as source water for the ECAWP Facility. The ECAWP Facility discharges advanced treated recycled water to Santee Lakes and Sycamore Creek which is of a higher quality than that previously discharged from the Ray Stoyer WRF. The Order only includes total coliform effluent limitations based on title 22 CCR criteria which are the most stringent of the bacteria effluent limitations that were previously established in Order No. R9-2022-0003.

The Bacteria Provisions establish the following bacteria WQOs for surface waters designated for contact recreation (REC-1):

E. coli

- 100 coliform forming units per 100 milliliters (CFU/100 mL) as a six-week geometric mean calculated weekly; and
- 320 CFU/100 mL as a statistical threshold value not to be exceeded by more than 10 percent of samples collected in a calendar month, calculated in a static manner.

Enterococci

- 30 CFU/100 mL as a six-week geometric mean calculated weekly; and
- 110 CFU/100 mL as a statistical threshold value not to be exceeded by more than 10 percent of samples collected in a calendar month, calculated in a static manner.

The *E. coli* WOQs apply to all waters where salinity is equal to or less than one part per thousand (ppt) 95 percent of the time. The *E. coli* WQOs apply to Lake Jennings because salinity concentrations in Lake Jennings are expected to be less than one ppt 95 percent or more of the time. All total dissolved solids (TDS) concentrations for samples collected at Lake Jennings from 2019 to 2023 were below 1,000 mg/L.

The enterococci WQOs apply to Sycamore Creek because salinity concentrations in Sycamore Creek are expected to be greater than one ppt more than 5 percent or more of the time. TDS concentrations exceeded 1,000 mg/L in about 46 percent of receiving water samples collected at Sycamore Creek between 2019 and 2023 at Sycamore Creek.

4.3.2.1.4. **Biostimulatory Substances**

The Basin Plan establishes the following WQOs for biostimulatory substances, "*Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses. Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 milligrams per liter (mg/L) in any stream at the point where it enters any standing body of water, nor 0.025 mg/L in any standing body of water. A desired goal in order to prevent plant nuisance in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10% of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1, on a weight to weight basis shall be used.*"

This Order establishes effluent limitations for ammonia, nitrogen, and phosphorus. Section 4.3.4.4 of this Fact Sheet explains how these effluent limitations were derived.

4.3.2.1.5. **Turbidity.** Table 3-2 of the Basin Plan establishes a WQO of 20 Nephelometric Turbidity Units (NTU) for turbidity for inland surface waters in the Santee Hydrologic Subarea (which includes Lake Jennings and Sycamore Creek) not to be exceeded more than 10 percent of the time during any one year. The Basin Plan also includes a more stringent turbidity WQO of 5.0 NTU for waters such as Lake Jennings which are designated for use as domestic and municipal supply (based on the secondary Maximum Contaminant Level, MCL for turbidity). The Order effluent limitations for turbidity based on title 22 CCR criteria which are more stringent than the Basin Plan WQOs for turbidity. The turbidity effluent limitations which apply at monitoring locations INT-005A-F are the following:

- 0.2 NTU more than 5% of the time within a 24-hour period; and
- 0.5 NTU at any time.

4.3.2.1.6. **Ammonia**. The Basin Plan establishes a WQO of 0.025 mg/L for unionized ammonia in inland surface waters, bays, and estuaries.

4.3.2.1.7. **Toxicity**. The Basin Plan establishes a narrative WQO for toxicity which states that, "*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*"

4.3.2.1.8. **Pollutants with Primary or Secondary Maximum Contaminant Levels**. Lake Jennings is designated for use as domestic or municipal supply. Groundwaters within the Santee HSA are also designated for use as domestic or municipal supply. The Basin Plan incorporates the following maximum contaminant levels (MCLs) by reference as WQOs for waters designated for use as domestic or municipal water, which includes both Lake Jennings and groundwater within the Santee HSA (shown in table F-5):

- Primary MCLs for Organic Chemicals (from Table 64444-A of section 64444 of title 22 CCR;
- Primary MCLs for Inorganic Chemicals (from Table 64431-A of title 22 CCR);
- Secondary MCLs (from Table 64449-A of title 22 CCR);
- Radionuclides (from Tables 64442 and 64443 of title 22 CCR); and
- Disinfection byproducts (from Table 64533-A of title 22 CCR).

The incorporation of MCLs by reference in the Basin Plan is prospective including future changes to the incorporate provisions as the changes take effect.

Table F-5 provides a summary of the most stringent WQOs that apply to surface waters and groundwater within the Santee HSA (907.12).

Table F-5. Summary of Basin Plan WQOs

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Boron	mg/L	1.0[1]	0.75[1]	--	--
Percent Sodium	%	60[1]	60[1]	--	--
Odor	none	None[1]	None[1]	--	--
pH	standard units	--	--	See note 2	--
Total Residual Chlorine	µg/L	--	--	11 (chronic criterion), 19 (acute criterion)[3]	--
Total Phosphorus	mg/L	0.1[1,4]	--	--	--
Nitrogen, Total (as N)	mg/L	See note 4	--	--	--
Ammonia, un-ionized	mg/L	--	--	--	0.025 (Basin Plan page 3-13
Fluoride	mg/L	1.0[1]	1.0[1]	--	2.0 (primary MCL)[5]
Iron, Total Recoverable	mg/L	1.0[1]	0.3[1]	--	0.3 (secondary MCL)[6]
Manganese	mg/L	1.00	0.05[1]	--	0.05 (secondary MCL)[6]
Methylene Blue Active Substances (MBAS)	mg/L	0.5[1]	0.5[1]	--	0.5 (secondary MCL)[6]
Dissolved Oxygen	mg/L	--	--	5.0[7]	--

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Antimony	mg/L	--	--	--	0.006 (primary MCL)[5]
Arsenic	mg/L	--	--	--	0.010 (primary MCL)[5]
Asbestos	million fibers per liter	--	--	--	7 (primary MCL)[5]
Barium	mg/L	--	--	--	1 (primary MCL)[5]
Beryllium	mg/L	--	--	--	0.004 (primary MCL)[5]
Cadmium	mg/L	--	--	--	0.005 (primary MCL)[5]
Chromium	mg/L	--	--	--	0.05 (primary MCL)[5]
Cyanide	mg/L	--	--	--	0.15 (primary MCL)[5]
Fluoride	mg/L	--	--	--	2.0 (primary MCL)[5]
Mercury	mg/L	--	--	--	0.002 (primary MCL)[5]
Nickel	mg/L	--	--	--	0.1 (primary MCL)[5]
Nitrate (as NO_3)	mg/L	--	45	--	45 (primary MCL)[5]
Nitrate + Nitrite (sum as nitrogen)	mg/L	--	--	--	10 (primary MCL)[5]
Nitrite (as nitrogen)	mg/L	--	--	--	1 (primary MCL)[5]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Perchlorate	mg/L	--	--	--	0.006 (primary MCL)[5]
Selenium	mg/L	--	--	--	0.05 (primary MCL)[5]
Thallium	mg/L	--	--	--	0.002 (primary MCL)[5]
Benzene	mg/L	--	--	--	0.001 (primary MCL)[8]
Carbon Tetrachloride	mg/L	--	--	--	0.005 (primary MCL)[8]
1,2-Dichlorobenzene	mg/L	--	--	--	0.6 (primary MCL)[8]
1,4-Dichlorobenzene	mg/L	--	--	--	0.005 (primary MCL)[8]
1,1-Dichloroethane	mg/L	--	--	--	0.005 (primary MCL)[8]
1,2-Dichloroethane	mg/L	--	--	--	0.0005 (primary MCL)[8]
cis-1,2-Dichloroethylene	mg/L	--	--	--	0.006 (primary MCL)[8]
trans-1,2-Dichloroethylene	mg/L	--	--	--	0.01 (primary MCL)[8]
1,2-Dichloropropane	mg/L	--	--	--	0.005 (primary MCL)[8]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
1,3-Dichloropropene	mg/L	--	--	--	0.0005 (primary MCL)[8]
Ethylbenzene	mg/L	--	--	--	0.3 (primary MCL)[8]
Methyl-tert-butyl ether (MTBE)	mg/L	--	--	--	0.013 (primary MCL)[8]
Monochlorobenzene	mg/L	--	--	--	0.07 (primary MCL)[8]
Styrene	mg/L	--	--	--	0.1 (primary MCL)[8]
1,1,2,2-Tetrachloroethane	mg/L	--	--	--	0.001 (primary MCL)[8]
Tetrachloroethylene	mg/L	--	--	--	0.005 (primary MCL)[8]
Toluene	mg/L	--	--	--	0.15 (primary MCL)[8]
1,2,4-Tricholorobenezene	mg/L	--	--	--	0.005 (primary MCL)[8]
1,1,1-Tricholoroethane	mg/L	--	--	--	0.200 (primary MCL)[8]
1,1,2-Tricholoroethane	mg/L	--	--	--	0.005 (primary MCL)[8]
Trichloroethylene	mg/L	--	--	--	0.005 (primary MCL)[8]
Trichlorofluoromethane	mg/L	--	--	--	0.15 (primary MCL)[8]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
1,1,2-Trichloro-1,2,2-Trifluroethane	mg/L	--	--	--	1.2 (primary MCL)[8]
Vinyl Chloride	mg/L	--	--	--	0.0005 (primary MCL)[8]
Xylenes	mg/L	--	--	--	1.750* (primary MCL)[8]
Alachlor	mg/L	--	--	--	0.002 (primary MCL)[8]
Atrazine	mg/L	--	--	--	0.001 (primary MCL)[8]
Bentazon	mg/L	--	--	--	0.018 (primary MCL)[8]
Benzo(a)pyrene	mg/L	--	--	--	0.0002 (primary MCL)[8]
Carbofuran	mg/L	--	--	--	0.018 (primary MCL)[8]
Chlordane	mg/L	--	--	--	0.0001 (primary MCL)[8]
2,4,D	mg/L	--	--	--	0.07 (primary MCL)[8]
Dalapon	mg/L	--	--	--	0.2 (primary MCL)[8]
Dibromochloropropane	mg/L	--	--	--	0.0002 (primary MCL)[8]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Di(2-ethylhexyl)adipate	mg/L	--	--	--	0.4 (primary MCL)[8]
Di(2-ethylhexyl)phthalate	mg/L	--	--	--	0.004 (primary MCL)[8]
Dinoseb	mg/L	--	--	--	0.007 (primary MCL)[8]
Diquat	mg/L	--	--	--	0.02 (primary MCL)[8]
Endothall	mg/L	--	--	--	0.1 (primary MCL)[8]
Endrin	mg/L	--	--	--	0.002 (primary MCL)[8]
Ethylene Dibromide	mg/L	--	--	--	0.00005 (primary MCL)[8]
Glyphosate	mg/L	--	--	--	0.7 (primary MCL)[8]
Heptachlor	mg/L	--	--	--	0.00001 (primary MCL)[8]
Heptachlor Epoxide	mg/L	--	--	--	0.00001 (primary MCL)[8]
Hexachlorobenzene	mg/L	--	--	--	0.001 (primary MCL)[8]
Hexachlorocyclopentadiene	mg/L	--	--	--	0.05 (primary MCL)[8]
Lindane	mg/L	--	--	--	0.0002 (primary MCL)[8]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Methoxychlor	mg/L	--	--	--	0.03 (primary MCL)[8]
Molinate	mg/L	--	--	--	0.02 (primary MCL)[8]
Oxamyl	mg/L	--	--	--	0.05 (primary MCL)[8]
Pentachlorophenol	mg/L	--	--	--	0.001 (primary MCL)[8]
Picloram	mg/L	--	--	--	0.5 (primary MCL)[8]
Polychlorinated Biphenyls	mg/L	--	--	--	0.0005 (primary MCL)[8]
Simazine	mg/L	--	--	--	0.004 (primary MCL)[8]
Thiobencarb	mg/L	--	--	--	0.07 (primary MCL)[8]
Toxaphene	mg/L	--	--	--	0.003 (primary MCL)[8]
2,3,7,8-TCDD (Dioxin)	mg/L	--	--	--	3E-08 (primary MCL)[8]
2,3,5-TP (Silvex)	mg/L	--	--	--	0.05 (primary MCL)[8]
Aluminum	mg/L	--	--	--	0.2 (secondary MCL)[6]
Color	mg/L	20	--	--	15 (secondary MCL)[6]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Copper	mg/L	--	--	--	1.0 (secondary MCL)[6]
Corrosivity	mg/L	--	--	--	Noncorrosive (secondary MCL)[6]
MTBE	mg/L	--	--	--	0.005 (secondary MCL)[6]
Silver	mg/L	--	--	--	0.1 (secondary MCL)[6]
Thiobencarb	mg/L	--	--	--	0.001 (secondary MCL)[6]
Turbidity	NTU	--	--	--	5 (secondary MCL)[6]
Zinc	mg/L	--	--	--	5 (secondary MCL)[6]
Chloride	mg/L	400[1]	--	--	250-500 (secondary MCL range)[6]
Total Dissolved Solids (TDS)	mg/L	1000[1]	--	--	(500-1000 (secondary MCL range)[6]
Sulfate	mg/L	500[1]	--	--	250-500 (secondary MCL range)[6]
Phenolic compounds	µg/L	--	--	--	1.0
Combined Radium 226 and 228	picocuries per liter (pCi/L)	--	--	--	5 (primary MCL)[9]

Parameter	Units	Surface Water (from Table 3-9 of Basin Plan)	Groundwater (from Table 3-10 of Basin Plan)	Surface Water (from Other Section of Basin Plan)	MCL Incorporated into Basin Plan
Gross Alpha Particle Activity (Excluding Radon and Uranium)	pCi/L	--	--	--	15 (primary MCL)[9]
Uranium	pCi/L	--	--	--	20 (primary MCL)[9]
Beta/photon emitters	millirem per year	--	--	--	4 (primary MCL, annual dose equivalent to total body or any internal organ)[10]
Strontium-90	pCi/L	--	--	--	8 (primary MCL)[10]
Tritium	pCi/L	--	--	--	20,000 (primary MCL)[10]
Total Trihalomethanes • Bromodichloromethane • Bromoform • Chloroform • Dibromochloromethane	mg/L	--	--	--	0.080 (primary MCL)[11]

Notes for Table F-5:

1. Not to be exceeded more than 10% of the time.
2. WQO for pH of 6.5-8.5 applies to all inland surface waters (see page 3-21 of the Basin Plan).
3. Based on interpretation of USEPA's National Recommended Water Quality Criteria for the protection of aquatic life.
4. Based on footnote a of Table 3-9 and page 3-17 of the Basin Plan.
5. MCL from Table 64431-A of title 22 CCR. Also see page 3-22 of the Basin Plan.
6. MCL from Table 64449-A of title 22 CCR. Also see page 3-30 of the Basin Plan.

7. Dissolved oxygen levels shall not be less than 5.0 mg/L in inland surface waters with designated MAR or WARM beneficial uses. Both Lake Jennings and Sycamore Creek are designated with the WARM beneficial use (see page 3-20 of the Basin Plan).
8. MCL from Table 64444-A of title 22 CCR. Also see pages 3-25 and 3-26 of the Basin Plan
9. From Table 64442 of title 22 CCR. Also see page 3-30 of the Basin Plan
10. From Table 64443 of title 22 CCR. Also see page 3-30 of the Basin Plan
11. From Table 64533-A of title 22 CCR. The MCL for total trihalomethanes represents the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane. Also see page 3-30 of the Basin Plan.

4.3.3. Determining the Need for WQBELs

The San Diego Water Board conducted a reasonable potential analysis (RPA) using data gathered from the ECAWP Demonstration Facility to determine the need for WQBELs in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to cause or contribute to an exceedance of WQOs, as provided in section 1.3 of the State Implementation Policy. Analyses results of effluent samples collected from the ECAWP Demonstration Facility from 2015-2016 and in 2019 were used in the RPA. A separate RPA was done for each discharge point, namely Discharge Point 001 (for Lake Jennings) and Discharge Point 002 (for Sycamore Creek). The same effluent data was used for each RPA since advanced treated recycled water will be discharged to both Lake Jennings and Sycamore Creek. However, for parameters with which receiving water data was available, the receiving water data for the specific water body was also used in the RPA. Receiving water data from 2019-2023 for Lake Jennings and Sycamore Creek were used in the RPA. Receiving water data collected prior to 2019 was not used.

Although the State Implementation Policy applies directly to the implementation of CTR priority pollutants, the State Water Board has held that Regional Boards may use the State Implementation Policy as guidance for all water quality-based toxics control. The State Implementation Policy states in the introduction: "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency*." As a result, the RPA procedures from the State Implementation Policy were used to evaluate reasonable potential for both CTR and non-CTR toxic constituents.

The State Implementation Policy RPA methodology requires the maximum effluent concentration (MEC) and maximum ambient background concentration (B) for the receiving water to be determined, and compared to the lowest/most stringent water quality criteria (C). For the RPA, WQOs established for protection of aquatic life and human health were considered, which include water quality criteria for priority pollutants established in the CTR, Basin Plan WQOs, and MCLs from title 22 of the CCR. MCLs for several parameters have been incorporated

into the Basin Plan as WQOs for surface waters and groundwaters designated for use as domestic or municipal supply (see Table F-7 of this Fact Sheet). Basin Plan WQOs for groundwater within the Santee HSA were also considered in the RPA due to the potential for advanced treated recycled water discharged to Santee Lakes to infiltrate into groundwater and the potential for Sycamore Creek to be interconnected with groundwater.

The following steps outlined in section 1.3 of the State Implementation Policy were followed in conducting the RPA:

Step 1: The lowest/most stringent water quality criteria (C) for each pollutant was identified from applicable water quality criteria specified in the CTR or NTR, Basin Plan, and from MCLs specified in title 22 of the CCR.

Step 2: Effluent data for the ECAWP Demonstration Facility collected from 2015 to 2016 and in 2019 was compiled.

Step 3: The MEC was identified. For pollutants that were reported as not detected the lowest method detection limit (MDL) was used as the MEC in the RPA. If the maximum reported value was an estimated concentration or a value reported as detected but not quantified (DNQ), the estimated concentration was used as the C.

Step 4: The MEC was compared to C for each priority pollutant. A pollutant is determined to have reasonable potential and an effluent limitation is required if the MEC is greater than or equal to the C. The MEC did not exceed the C for any pollutant with detected concentrations.

Step 5: The maximum ambient background concentration (B) in Lake Jennings and Sycamore Creek for each pollutant for which data was available was determined. For pollutants that were reported as not detected the lowest MDL was used as the B in the RPA. If the maximum reported background concentration was an estimated concentration or a value reported as detected but not quantified (DNQ), the estimated concentration was used as the B.

Step 6: For pollutants for which receiving water data was available, the B was compared to the C. A pollutant is determined to have reasonable potential and an effluent limitation is required if the B for the pollutant is greater than the C, and if the pollutant was also detected in the effluent.

Step 7: This step entails review of other information available to determine if a water quality-based effluent limitation is required, notwithstanding the above analysis in steps 1 through 6, to protect beneficial uses. Pursuant to step 7, information that may be used to aid in determining if a water quality-based effluent limitation is required includes: the facility type, the discharge type, solids loading analysis, lack of dilution, history of compliance problems, potential toxic impact of discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, the presence of endangered or threatened species or critical habitat, and other information. Lake Jennings is designated for domestic or municipal supply and serves as the source water for the R.M. Levy DWTP. Although the MEC did not exceed the C or B for any

parameters with MCLs for which data was available, effluent limitations are included in the Order for all parameters with MCLs pursuant to step 7 to ensure protection of the domestic and municipal beneficial use of Lake Jennings. Pursuant to step 7, the Order also includes effluent limitations for total chlorine residual and ammonia due to the potential toxic effects of both parameters.

Step 8: Pursuant to step 8, monitoring was required in lieu of effluent limitations for all parameters for which data was unavailable or insufficient, or for parameters reported as not detected, in which all the reported detection limits exceeded the C. Data was deemed to be insufficient and monitoring required in lieu of effluent limitations for parameters for which the MEC or B was an estimated concentration.

Section 1.4.2. of the State Implementation Policy establishes procedures for granting dilution ratios and mixing zones based on the assimilative capacity of the receiving water. The Discharger has not requested a dilution ratio or mixing zone nor provided the necessary analysis need to grant a dilution ratio or mixing zone.

A summary of the RPA results for discharge points 001 (Lake Jennings) and 002 (Sycamore Creek) is presented in Tables F-6 and F-7, respectively.

Table F-6. RPA for Discharge Point 001 (Lake Jennings) for CTR Parameters, Basin Plan Parameters, and Parameters with MCLs[1]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Antimony	Microgram per liter (µg/L)	6	Primary MCL and Basin Plan	Not Detected (ND) (MDL = 0.16)	<6 (RL)[2]	See note 3
Arsenic	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.06)	4.4	See note 3
Barium	µg/L	0.001	Primary MCL and Basin Plan	0.22 (DNQ)	No Data	See note 3
Beryllium	µg/L	4	Primary MCL and Basin Plan	ND (MDL = 0.054)	No Data	See note 3
Cadmium	µg/L	4.52	CTR	ND (MDL = 0.012)	<1 (RL)	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Chromium (III)	µg/L	404	CTR	No data	No Data	No
Chromium (VI)	µg/L	11	CTR	0.027	0.099	No
Total Chromium	µg/L	50	Primary MCL and Basin Plan	0.15 (DNQ)	<10 (RL)[2]	See note 3
Copper	µg/L	14.0	CTR	ND (MDL = 0.2)	<50 (RL)[2]	See note 3
Lead	µg/L	9.0	CTR	0.064 (DNQ)	<5 (RL)[2]	See note 3
Mercury	µg/L	1.5	CTR	ND (MDL = 0.042)	1.5	See note 3
Nickel	µg/L	100	Primary MCL and Basin Plan	ND (MDL = 0.32)	2.2	See note 3
Selenium[10]	µg/L	1.5	CTR	1.5 (DNQ)	<5 (RL)[2]	See note 3
Silver	µg/L	4.1	CTR	ND (MDL = 0.014)	<10 (RL)[2]	See note 3
Thallium	µg/L	1.7	Primary MCL and Basin Plan	0.088 (DNQ)	<1 (RL)[2]	See note 3
Zinc	µg/L	120	CTR	2.8 (DNQ)	<50 (RL)[2]	See note 3
Cyanide	µg/L	5.2	CTR	7.0 (DNQ)	<100 (RL)[2]	See note 3
Asbestos	MFL	7	Primary MCL and Basin Plan	ND (MDL = 0.2)	<0.2 (RL)[2]	See note 3
2,3,7,8-TCDD (Dioxin)	µg/L	1.3E-08	CTR	ND (MDL = 3.6E-07)	< 5E-06 (RL)[2]	MDL > C[3]
Dioxin TEQ	µg/L	No Criteria	No Criteria	No Data	No Data	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Acrolein	µg/L	320	CTR	No Data	No Data	See note 3
Acrylonitrile	µg/L	0.059	CTR	No Data	No Data	See note 3
Benzene	µg/L	1	Primary MCL and Basin Plan	ND (MDL = 0.12)	<0.5 (RL)	See note 3
Bromoform	µg/L	4.3	CTR	0.14 (DNQ)	<1 (RL)[2]	See note 3
Carbon Tetrachloride	µg/L	0.25	CTR	ND (MDL = 0.087)	<0.5 (RL)[2]	See note 3
Chlorobenzene	µg/L	680	CTR	ND (MDL = 0.066)	<0.5 (RL)[2]	See note 3
Chlorodibromomethane	µg/L	0.401	CTR	0.19 (DNQ)	<1 (RL)[2]	No
Chloroethane	µg/L	No Criteria	No Criteria	No Data	<0.5 (RL)[2]	No Criteria[4]
2-Chloroethylvinyl Ether	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
Chloroform	µg/L	No Criteria	No Criteria	2.6	<0.1 (RL)[2]	No Criteria[4]
Dichlorobromomethane	µg/L	0.56	CTR	0.21 (DNQ)	<1 (RL)[2]	No
1,1-Dichloroethane	µg/L	5	Primary MCL and Basin Plan	ND (MDL = 0.13)	<0.5 (RL)[2]	See note 3
1,2-Dichloroethane	µg/L	0.38	CTR	ND (MDL = 0.12)	<0.5 (RL)[2]	See note 3
1,1-Dichloroethylene	µg/L	0.057	CTR	ND (MDL = 0.11)	<0.5 (RL)[2]	See note 3
1,2-Dichloropropane	µg/L	0.52	CTR	ND (MDL = 0.071)	<0.5 (RL)[2]	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
1,3-Dichloropropylene	µg/L	0.5	Primary MCL and Basin Plan	ND (MDL = 0.11)	No Data	See note 3
Ethylbenzene	µg/L	300	Primary MCL and Basin Plan	ND (MDL = 0.11)	<0.5 (RL)[2]	See note 3
Methyl Bromide	µg/L	48	CTR	ND (MDL = 0.12)	No Data	No
Methyl Chloride	µg/L	No Criteria	No Criteria	0.43 (DNQ)	No Data	No Criteria[4]
Methylene Chloride (Dichloromethane)	µg/L	4.7	CTR	No Data	<0.5 (RL)[2]	No Data[4]
1,1,2,2-Tetrachloroethane	µg/L	0.17	CTR	ND (MDL = 0.1)	<0.5 (RL)[2]	See note 3
Tetrachloroethylene	µg/L	0.8	CTR	ND (MDL = 0.5)	<0.5 (RL)[2]	See note 3
Toluene	µg/L	150	Primary MCL and Basin Plan	ND (MDL = 0.057)	<0.5 (RL)[2]	See note 3
cis-1,2-Dichloroethylene	µg/L	6	Primary MCL and Basin Plan	ND (MDL = 0.14)	<0.5 (RL)[2]	See note 3
1,2-Trans-Dichloroethylene	µg/L	10	Primary MCL and Basin Plan	ND (MDL = 0.1)	<0.5 (RL)[2]	See note 3
1,1,1-Trichloroethane	µg/L	200	Primary MCL and Basin Plan	ND (MDL = 0.079)	<0.5 (RL)[2]	See note 3
1,1,2-Trichloroethane	µg/L	0.6	CTR	ND (MDL = 0.075)	<0.5 (RL)[2]	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Trichloroethylene	µg/L	2.7	CTR	ND (MDL = 0.097)	<0.5 (RL)[2]	See note 3
Vinyl Chloride	µg/L	0.5	Primary MCL and Basin Plan	ND (MDL = 0.077)	<0.5 (RL)[2]	See note 3
Xylenes (m,p)	µg/L	1750	Primary MCL and Basin Plan	ND (MDL = 0.3)	<0.5 (RL)[2]	See note 3
Alachlor	µg/L	2	Primary MCL and Basin Plan	ND (MDL = 0.041)	No Data	See note 3
Atrazine	µg/L	1	Primary MCL and Basin Plan	ND (MDL = 0.048)	<0.5 (RL)[2]	See note 3
Bentazon	µg/L	18	Primary MCL and Basin Plan	ND (MDL = 0.063)	<2 (RL)[2]	See note 3
Benzo(a)Pyrene	µg/L	0.0044	CTR	ND (MDL = 0.011)	<0.01 (RL)[2]	See note 3
Carbofuran	µg/L	18	Primary MCL and Basin Plan	ND (MDL = 0.1)	<5 (RL)[2]	See note 3
2,4-D	µg/L	70	Primary MCL and Basin Plan	(MDL = 0.028)	<10 (RL)[2]	See note 3
Dalapon	µg/L	200	Primary MCL and Basin Plan	ND (MDL = 0.12)	<10 (RL)[2]	See note 3
Dibromochloropropane	µg/L	0.2	Primary MCL and Basin Plan	No Data	No Data	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Di(2-ethylhexyl)adipate	µg/L	400	Primary MCL and Basin Plan	No Data	<1 (RL)[2]	See note 3
Di(2-ethylhexyl)phthalate	µg/L	4	Primary MCL and Basin Plan	No Data	0.33	See note 3
Dinoseb	µg/L	7	Primary MCL and Basin Plan	ND (MDL = 0.024)	<2 (RL)[2]	See note 3
Diquat	µg/L	20	Primary MCL and Basin Plan	ND (MDL = 0.34)	<4 (RL)[2]	See note 3
Endothall	µg/L	100	Primary MCL and Basin Plan	ND (MDL = 2.6)	<45 (RL)[2]	See note 3
Endrin	µg/L	2	Primary MCL and Basin Plan	(MDL = 0.005)	<0.05 (RL)[2]	See note 3
Ethylene Dibromide	µg/L	0.05	Primary MCL and Basin Plan	No Data	<0.02 (RL)[2]	See note 3
Glyphosate	µg/L	700	Primary MCL and Basin Plan	ND (MDL = 1.6)	<25 (RL)[2]	See note 3
Hexachlorobenzene	µg/L	0.00075	CTR	ND (MDL = 0.041)	<0.01 (RL)[2]	MDL > C[4]
Hexachlorocyclopentadiene	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.038)	<0.25 (RL)[2]	See note 3
Methoxychlor	µg/L	30	Primary MCL and Basin Plan	ND (MDL = 0.015)	<0.05 (RL)[2]	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Molinate	µg/L	20	Primary MCL and Basin Plan	ND (MDL = 0.015)	<0.05 (RL)[2]	See note 3
Oxamyl	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.17)	<20 (RL)[2]	See note 3
Picloram	µg/L	500	Primary MCL and Basin Plan	ND (MDL = 0.015)	<1 (RL)[2]	See note 3
PCBs sum	µg/L	0.00017	CTR	ND (MDL = 0.1)	<0.01 (RL)[2]	See note 3
Simazine	µg/L	4	Primary MCL and Basin Plan	ND (MDL = 0.028)	<0.05 (RL)[2]	See note 3
Thiobencarb	µg/L	1	Secondary MCL and Basin Plan	ND (MDL = 0.017)	<0.05 (RL)[2]	See note 3
Toxaphene	µg/L	0.0002	CTR	ND (MDL = 0.083)	<0.95 (RL)[2]	See note 3
2,3,7,8-TCDD (Dioxin)	µg/L	1.3E-08	CTR	ND (MDL = 3.6E-07)	<5E-06 (RL)[2]	See note 3
2,4,5-TP (Silvex)	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.022)	<1 (RL)[2]	See note 3
2-Chlorophenol	µg/L	120	CTR	No Data	No Data	No Data[4]
2,4-Dichlorophenol	µg/L	93	CTR	No Data	No Data	No
2,4-Dimethylphenol	µg/L	540	CTR	No Data	No Data	No Data[4]
2-Methyl-4,6-Dinitrophenol	µg/L	13.4	CTR	No Data	No Data	No

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
2,4-Dinitrophenol	µg/L	70	CTR	No Data	No Data	No Data[4]
2-Nitrophenol	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
4-Nitrophenol	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
3-Methyl-4-Chlorophenol	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
Pentachlorophenol	µg/L	0.28	CTR	ND (MDL = 0.005)	<0.2 (RL)[2]	No
Phenol	µg/L	21,000	CTR	No Data	No Data	No
2,4,6-Trichlorophenol	µg/L	2.1	CTR	No Data	No Data	No Data[5]
Acenaphthene	µg/L	1,200	CTR	ND (MDL = 0.016)	No Data	No
Acenaphthylene	µg/L	No Criteria	No Criteria	ND (MDL = 0.014)	No Data	No Criteria[4]
Anthracene	µg/L	9,600	CTR	ND (MDL = 0.019)	No Data	No
Benzidine	µg/L	0.00012	CTR	No Data	No Data	No Data
Benzo(a)Anthracene	µg/L	0.0044	CTR	ND (MDL = 0.011)	No Data	MDL > C[4]
Benzo(b)Fluoranthene	µg/L	0.0044	CTR	ND (MDL = 0.011)	No Data	MDL > C[4]
Benzo(ghi)perylene	µg/L	No Criteria	No Criteria	ND (MDL = 0.012)	No Data	No Criteria[4]
Benzo(k)Fluoranthene	µg/L	0.0044	CTR	ND (MDL = 0.017)	No Data	MDL > C[4]
Bis(2-Chloroethoxy)Methane	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Bis(2-Chloroethyl)Ether	µg/L	0.031	CTR	No Data	No Data	No Data[4]
Bis(2-Chloroisopropyl)Ether	µg/L	1,400	CTR	No Data	No Data	No Data[4]
Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	CTR	ND (MDL = 0.15)	No Data	No
4-Bromophenyl Phenyl Ether	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
Butyl benzyl Phthalate	µg/L	3,000	CTR	ND (MDL = 0.063)	No Data	No
2-Chloronaphthalene	µg/L	1,700	CTR	No Data	No Data	No Data[4]
4-Chlorophenyl Phenyl Ether	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
Chrysene	µg/L	0.0044	CTR	ND (MDL = 0.014)	No Data	MDL > C[4]
Dibenzo(a,h)Anthracene	µg/L	0.0044	CTR	ND (MDL = 0.063)	No Data	MDL > C[4]
1,2-Dichlorobenzene	µg/L	600	Primary MCL and Basin Plan	ND (MDL = 0.076)	<0.5 (RL)[2]	No
1,3-Dichlorobenzene	µg/L	400	CTR	ND (MDL = 0.084)	<0.5 (RL)[2]	No
1,4-Dichlorobenzene	µg/L	5	Primary MCL and Basin Plan	ND (MDL = 0.092)	<0.5 (RL)[2]	No
3,3-Dichlorobenzidine	µg/L	0.04	CTR	No Data	No Data	No Data[4]
Diethyl Phthalate	µg/L	23,000	CTR	ND (MDL = 0.051)	No Data	No

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Dimethyl Phthalate	µg/L	313,000	CTR	ND (MDL = 0.039)	No Data	No
Di-n-Butyl Phthalate	µg/L	2,700	CTR	ND (MDL = 0.074)	No Data	No
2,4-Dinitrotoluene	µg/L	0.11	CTR	ND (MDL = 0.013)	No Data	No
2,6-Dinitrotoluene	µg/L	No Criteria	No Criteria	ND (MDL = 0.036)	No Data	No Criteria[4]
Di-n-Octyl Phthalate	µg/L	No Criteria	No Criteria	ND (MDL = 0.027)	No Data	No Criteria[4]
1,2-Diphenylhydrazine	µg/L	0.04	CTR	No Data	No Data	No Data[4]
Fluoranthene	µg/L	300	CTR	ND (MDL = 0.01)	No Data	No
Fluorene	µg/L	1300	CTR	ND (MDL = 0.014)	No Data	No
Hexachlorobutadiene	µg/L	0.44	CTR	ND (MDL = 0.063)	<0.5 (RL)[2]	No
Hexachloroethane	µg/L	1.9	CTR	No Data	No Data	No Data[4]
Indeno(1,2,3-cd) Pyrene	µg/L	0.0044	CTR	ND (MDL = 0.027)	No Data	MDL > C[4]
Isophorone	µg/L	8.4	CTR	ND (MDL = 0.02)	No Data	No
Naphthalene	µg/L	No Criteria	No Criteria	ND (MDL = 0.15)	No Data	No Criteria[4]
Nitrobenzene	µg/L	17	CTR	No Data	No Data	No Data
N-Nitrosodimethylamine	µg/L	0.00069	CTR	ND (MDL = 0.00096)	No Data	MDL > C[4]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
N-Nitrosodi-n-Propylamine	µg/L	0.005	CTR	ND (MDL = 0.00084)	No Data	No
N-Nitrosodiphenylamine	µg/L	5	CTR	No Data	No Data	No Data[4]
Phenanthrene	µg/L	No Criteria	No Criteria	ND (MDL = 0.008)	No Data	No Criteria[4]
Pyrene	µg/L	960	CTR	ND (MDL = 0.008)	No Data	No
1,2,4-Trichlorobenzene	µg/L	5	Primary MCL and Basin Plan	ND (MDL = 0.07)	<0.5 (RL)[2]	See note 3
Aldrin	µg/L	0.00013	CTR	No Data	<0.01 (RL)[2]	No Data[4]
alpha-BHC	µg/L	0.0039	CTR	ND (MDL = 0.018)	No Data	MDL > C[4]
beta-BHC	µg/L	0.014	CTR	ND (MDL = 0.02)	No Data	MDL > C[4]
gamma-BHC (Lindane)	µg/L	0.019	CTR	ND (MDL = 0.007)	<0.01 (RL)[2]	No
delta-BHC	µg/L	No Criteria	No Criteria	ND (MDL = 0.033)	No Data	No Criteria[4]
Chlordane	µg/L	0.00057	CTR	ND (MDL = 0.032)	<0.1 (RL)[2]	MDL > C[4]
4,4-DDT	µg/L	0.00059	CTR	ND (MDL = 0.031)	No Data	MDL > C[4]
4,4-DDE	µg/L	0.00059	CTR	ND (MDL = 0.018)	No Data	MDL > C[4]
4,4-DDD	µg/L	0.00083	CTR	ND (MDL = 0.015)	No Data	MDL > C[4]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Dieldrin	µg/L	0.00014	CTR	ND (MDL = 0.005)	No Data	MDL > C[4]
alpha-Endosulfan	µg/L	0.056	CTR	ND (MDL = 0.058)	No Data	MDL > C[4]
beta-Endosulfan	µg/L	0.056	CTR	ND (MDL = 0.052)	No Data	No
Endosulfan Sulfate	µg/L	110	CTR	ND (MDL = 0.049	No Data	No
Endrin	µg/L	0.036	CTR	ND (MDL = 0.005)	<0.05 (RL)[2]	See note 3
Endrin Aldehyde	µg/L	0.76	CTR	ND (MDL = 0.084)	No Data	See note 3
Heptachlor	µg/L	0.00021	CTR	ND (MDL = 0.003)	<0.01 (RL)[2]	See note 3
Heptachlor Epoxide	µg/L	0.0001	CTR	ND (MDL = 0.005)	<0.01 (RL)[2]	See note 3
Aluminum	µg/L	200	Secondary MCL and Basin Plan	1 (DNQ)	280	B>C[3]
Ammonia, Un-ionized	mg/L	0.025	Basin Plan	ND (MDL = 0.03)	No Data	See note 3
Chloride	mg/L	250	Secondary MCL and Basin Plan	11	120	See note 3
Iron, Total Recoverable	mg/L	0.3	Secondary MCL and Basin Plan	ND (MDL = 0.0026)	<0.1 (RL)[2]	See note 3
Manganese	mg/L	0.05	Secondary MCL and Basin Plan	ND (MDL = 0.000056)	0.021	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Odor Threshold	None	None	Basin Plan	No Data	1.0	See note 3
Methylene Blue-Activated Substances (MBAS)	mg/L	0.5	Secondary MCL and Basin Plan	ND (MDL = 0.014)	<0.05 (RL)[2]	See note 3
Total Residual Chlorine	mg/L	0.011	USEPA Criteria	No Data (<0.03 projected)	No Data	See note 3
TDS	mg/L	500, 1000 (upper limit)	Secondary MCL and Basin Plan	120	700	See note 3
Sulfate	mg/L	250	Secondary MCL and Basin Plan	ND (MDL = 0.06)	210	See note 3
Boron	mg/L	0.75[5]	Basin Plan	0.35	0.16	No
Fluoride	mg/L	1.0[5]	Basin Plan	0.1	0.35	No
Percent Sodium	%	60[5]	Basin Plan	No Data	No Data	No
pH	standard units	6.5 – 8.5	Basin Plan	No Data (6.5-8.5 projected)	7.74-8.49	No
Gross Alpha Particle Activity (Excluding Radon and Uranium)	picocuries per liter (pCi/L)	15	Primary MCL and Basin Plan	ND (MDL = 2.7)	4.46	See note 3
Combined Radium 226 and 228	pCi/L	5	Primary MCL and Basin Plan	ND (MDL = 1)[6]	1.06 (Radium 226)	See note 3
Uranium	pCi/L	20	Primary MCL and Basin Plan	ND (MDL = 0.057)	1.09	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Strontium-90	pCi/L	8	Primary MCL and Basin Plan	0.641	No Data	See note 3
Tritium	pCi/L	20,000	Primary MCL and Basin Plan	291	No Data	See note 3
Beta/photon emitters	millirem/year	4	Primary MCL and Basin Plan	<3 (RL)	No Data	See note 3
Phosphorus, Total (as P)	mg/L	0.025[5,7]	Basin Plan	No Data (<0.025 projected)	No Data	See note 3
Nitrate (as NO_3)	mg/L	45.0	Primary MCL and Basin Plan	2.9	No Data	See note 3
Nitrate + Nitrite (sum as nitrogen)	mg/L	10.0	Primary MCL and Basin Plan	2.9	0.16	See note 3
Nitrogen, Total (as N)	mg/L	See note 7	Basin Plan	<3 (projected)	No Data	See note 3
Color	ADMI Units	15	Secondary MCL and Basin Plan	Not sampled	<5 (RL)[2]	See note 3
Dissolved Oxygen	mg/L	>5.0	Basin Plan	No Data	No Data	No
Trihalomethanes, Total[8]	mg/L	0.080	Primary MCL and Basin Plan	0.0014	No Data	See note 3

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Haloacetic Acids (HAA5)[9]	mg/L	0.060	Primary MCL	ND (MDL = 0.002)	No Data	See note 3
Bromate	mg/L	0.010	Primary MCL	No Data	No Data	See note 3
Chlorite	mg/L	1.0	Primary MCL	No Data	No Data	See note 3

Notes for Table F-6:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. The maximum ambient background concentration (B) is less than the reporting level or limit.
3. The Order establishes an effluent limitation based on the MCL to ensure protection of the domestic and municipal supply beneficial use of Lake Jennings. An effluent limitation was also established for ammonia based on the potential toxic impact of ammonia on fish.
4. Based on step 8 of section 1.3 of the State Implementation Policy, the Order requires monitoring in place of an effluent limitation when:
   - Effluent data was insufficient or unavailable; and
   - All effluent results for the parameter were reported as ND and the lowest MDL exceeded the lowest applicable WQO or criterion (C).
5. Concentrations not to be exceeded more than 10 percent of the time during any one-year period.
6. Maximum effluent concentrations for radium 226 and radium 228 were each reported as ND.
7. The Basin Plan does not establish analogous concentration values for total nitrogen, but establishes that natural ratios of nitrogen to phosphorus (N:P) are to be identified through monitoring and upheld. Effluent limitations are included in the Order for nitrogen and phosphorus based on the basin plan WQOs for biostimulatory substances to prevent nutrients being discharged at levels that could stimulate algae and emergent plant growth in Lake Jennings.
8. MCL applies to total trihalomethanes which represents the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane.
9. MCL applies to HAA5 which represents the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.
10. The C value represents the current federal CWA freshwater selenium water quality criterion, which the USEPA added to the CTR on December 10, 2024.

Table F-7. RPA for Discharge Point 002 (Sycamore Creek) for CTR Parameters, Basin Plan Parameters, and Parameters with MCLs[1]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Antimony	µg/L	6	Primary MCL and Basin Plan	ND (MDL = 0.16)	2.2	See note 2
Arsenic	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.06)	3.7	See note 2
Barium	µg/L	0.001	Primary MCL and Basin Plan	0.22 (DNQ)	No Data	See note 2
Beryllium	µg/L	4	Primary MCL and Basin Plan	ND (MDL = 0.054)	0.18 (DNQ)	See note 2
Cadmium	µg/L	3.13	CTR	ND (MDL = 0.012)	0.21	See note 2
Chromium (III)	µg/L	266	CTR	No data	1,200	B > C[3]
Chromium (VI)	µg/L	11	CTR	0.027	0.54	No
Total Chromium	µg/L	50	Primary MCL and Basin Plan	0.15 (DNQ)	No Data	See note 2
Copper	µg/L	12.1	CTR	ND (MDL = 0.2)	4.9	See note 2
Lead	µg/L	4.7	CTR	0.064 (DNQ)	0.81	See note 2
Mercury	µg/L	0.012	State Water Board Mercury Provisions	ND (MDL = 0.042)	2.34	See note 2, MDL > C[3]
Nickel	µg/L	68	Primary MCL and Basin Plan	ND (MDL = 0.32)	4.8	See note 2
Selenium[9]	µg/L	3.1	CTR/NTR	1.5 (DNQ)	1.0	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Silver	µg/L	4.1	CTR/NTR	ND (MDL = 0.014)	0.22	See note 2
Thallium	µg/L	1.7	Primary MCL and Basin Plan	0.088 (DNQ)	0.22	See note 2
Zinc	µg/L	120	CTR	2.8 (DNQ)	11	See note 2
Cyanide	µg/L	5.2	CTR	7.0 (DNQ)	ND (MDL = 2.5)	See note 2
Asbestos	MFL	7	Primary MCL and Basin Plan	ND (MDL = 0.2)	ND (MDL = 1)	See note 2
2,3,7,8-TCDD (Dioxin)	µg/L	1.3E-08	CTR	ND (MDL = 3.6E-07)	ND (MDL = 1.3E-07)	MDL > C[3]
Dioxin TEQ	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 0.13)	See note 2
Acrolein	µg/L	320	CTR	No Data	ND (MDL = 1.7)	See note 2
Acrylonitrile	µg/L	0.059	CTR	No Data	ND (MDL = 1.4)	See note 2
Benzene	µg/L	1	Primary MCL and Basin Plan	ND (MDL = 0.12)	0.32 (DNQ)	See note 2
Bromoform	µg/L	4.3	CTR	0.14 (DNQ)	ND (MDL = 0.18)	See note 2
Carbon Tetrachloride	µg/L	0.25	CTR	ND (MDL = 0.087)	ND (MDL = 0.26)	See note 2
Chlorobenzene	µg/L	680	CTR	ND (MDL = 0.066)	ND (MDL = 0.12)	See note 2
Chlorodibromomethane	µg/L	0.401	CTR	0.19 (DNQ)	No Data	No
Chloroethane	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
2-Chloroethylvinyl Ether	µg/L	No Criteria	No Criteria	No Data	No Data	No Criteria[4]
Chloroform	µg/L	No Criteria	No Criteria	2.6	No Data	No Criteria[4]
Dichlorobromomethane	µg/L	0.56	CTR	0.21 (DNQ)	No Data	No
1,1-Dichloroethane	µg/L	5	Primary MCL and Basin Plan	ND (MDL = 0.13)	ND (MDL = 0.29)	See note 2
1,2-Dichloroethane	µg/L	0.38	CTR	ND (MDL = 0.12)	ND (MDL = 0.15)	See note 2
1,1-Dichloroethylene	µg/L	0.057	CTR	ND (MDL = 0.11)	ND (MDL = 0.31)	See note 2
1,2-Dichloropropane	µg/L	0.52	CTR	ND (MDL = 0.071)	ND (MDL = 0.15)	See note 2
1,3-Dichloropropylene	µg/L	0.5	Primary MCL and Basin Plan	ND (MDL = 0.11)	ND (MDL = 0.17)	See note 2
Ethylbenzene	µg/L	300	Primary MCL and Basin Plan	ND (MDL = 0.11)	ND (MDL = 0.18)	See note 2
Methyl Bromide	µg/L	48	CTR	ND (MDL = 0.12)	ND (MDL = 0.17)	No
Methyl Chloride	µg/L	No Criteria	No Criteria	0.43 (DNQ)	ND (MDL = 0.19)	No Criteria[5]
Methylene Chloride (Dichloromethane)	µg/L	4.7	CTR	No Data	ND (MDL = 0.35)	No Data[5]
1,1,2,2-Tetrachloroethane	µg/L	0.17	CTR	ND (MDL = 0.1)	ND (MDL = 0.13)	See note 2
Tetrachloroethylene	µg/L	0.8	CTR	ND (MDL = 0.5)	ND (MDL = 0.21)	See note 2
Toluene	µg/L	150	Primary MCL and Basin Plan	ND (MDL = 0.057)	ND (MDL = 0.15)	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
cis-1,2-Dichloroethylene	µg/L	6	Primary MCL and Basin Plan	ND (MDL = 0.14)	No Data	See note 2
1,2-Trans-Dichloroethylene	µg/L	10	Primary MCL and Basin Plan	ND (MDL = 0.1)	ND (MDL = 0.19)	See note 2
1,1,1-Trichloroethane	µg/L	200	Primary MCL and Basin Plan	ND (MDL = 0.079)	ND (MDL = 0.079)	See note 2
1,1,2-Trichloroethane	µg/L	0.6	CTR	ND (MDL = 0.075)	ND (MDL = 0.075)	See note 2
Trichloroethylene	µg/L	2.7	CTR	ND (MDL = 0.097)	ND (MDL = 0.097)	See note 2
Vinyl Chloride	µg/L	0.5	Primary MCL and Basin Plan	ND (MDL = 0.077)	ND (MDL = 0.077)	See note 2
Xylenes (m,p)	µg/L	1750	Primary MCL and Basin Plan	ND (MDL = 0.3)	No Data	See note 2
Alachlor	µg/L	2	Primary MCL and Basin Plan	ND (MDL = 0.041)	No Data	See note 2
Atrazine	µg/L	1	Primary MCL and Basin Plan	ND (MDL = 0.048)	No Data	See note 2
Bentazon	µg/L	18	Primary MCL and Basin Plan	ND (MDL = 0.063)	No Data	See note 2
Benzo(a)Pyrene	µg/L	0.0044	CTR	ND (MDL = 0.011)	No Data	See note 2
Carbofuran	µg/L	18	Primary MCL and Basin Plan	ND (MDL = 0.1)	No Data	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
2,4-D	µg/L	70	Primary MCL and Basin Plan	(MDL = 0.028)	No Data	See note 2
Dalapon	µg/L	200	Primary MCL and Basin Plan	ND (MDL = 0.12)	No Data	See note 2
Dibromochloropropane	µg/L	0.2	Primary MCL and Basin Plan	No Data	No Data	See note 2
Di(2-ethylhexyl)adipate	µg/L	400	Primary MCL and Basin Plan	No Data	No Data	See note 2
Di(2-ethylhexyl)phthalate	µg/L	4	Primary MCL and Basin Plan	No Data	No Data	See note 2
Dinoseb	µg/L	7	Primary MCL and Basin Plan	ND (MDL = 0.024)	No Data	See note 2
Diquat	µg/L	20	Primary MCL and Basin Plan	ND (MDL = 0.34)	No Data	See note 2
Endothall	µg/L	100	Primary MCL and Basin Plan	ND (MDL = 2.6)	No Data	See note 2
Endrin	µg/L	2	Primary MCL and Basin Plan	(MDL = 0.005)	ND (MDL = 0.0022)	See note 2
Ethylene Dibromide	µg/L	0.05	Primary MCL and Basin Plan	No Data	No Data	See note 2
Glyphosate	µg/L	700	Primary MCL and Basin Plan	ND (MDL = 1.6)	No Data	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Hexachlorobenzene	µg/L	0.00075	CTR	ND (MDL = 0.041)	ND (MDL = 0.09)	MDL > C[3]
Hexachlorocyclopentadiene	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.038)	ND (MDL = 0.1)	See note 2
Gamma-BHC (lindane)	µg/L	0.019	CTR	ND (MDL = 0.007)	0.0039	See note 2
Methoxychlor	µg/L	30	Primary MCL and Basin Plan	ND (MDL = 0.015)	No Data	See note 2
Molinate	µg/L	20	Primary MCL and Basin Plan	ND (MDL = 0.015)	No Data	See note 2
Oxamyl	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.17)	No Data	See note 2
Picloram	µg/L	500	Primary MCL and Basin Plan	ND (MDL = 0.015)	No Data	See note 2
PCBs sum	µg/L	0.00017	CTR	ND (MDL = 0.1)	ND (MDL = 0.052)	See note 2
Simazine	µg/L	4	Primary MCL and Basin Plan	ND (MDL = 0.028)	No Data	See note 2
Thiobencarb	µg/L	1	Secondary MCL and Basin Plan	ND (MDL = 0.017)	No Data	See note 2
Toxaphene	µg/L	0.0002	CTR	ND (MDL = 0.083)	ND (MDL = 0.039)	MDL > C[3]
2,3,7,8-TCDD (Dioxin)	µg/L	1.3E-08	CTR	ND (MDL = 3.6E-07)	ND (MDL = 1.3E-07)	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
2,4,5-TP (Silvex)	µg/L	50	Primary MCL and Basin Plan	ND (MDL = 0.022)	No Data	See note 2
2-Chlorophenol	µg/L	120	CTR	No Data	ND = (MDL = 0.079)	No Data[4]
2,4-Dichlorophenol	µg/L	93	CTR	No Data	ND (MDL = 0.093)	No
2,4-Dimethylphenol	µg/L	540	CTR	No Data	ND (MDL = 0.13)	No Data[4]
2-Methyl-4,6-Dinitrophenol	µg/L	13.4	CTR	No Data	ND (MDL = 0.78)	No
2,4-Dinitrophenol	µg/L	70	CTR	No Data	ND (MDL = 0.97)	No Data[4]
2-Nitrophenol	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 0.81)	No Criteria[4]
4-Nitrophenol	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 1.04)	No Criteria[4]
3-Methyl-4-Chlorophenol	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 0.11)	No Criteria[4]
Pentachlorophenol	µg/L	0.28	CTR	ND (MDL = 0.005)	ND (MDL = 0.1)	No
Phenol	µg/L	21,000	CTR	No Data	ND (MDL = 0.52)	No
2,4,6-Trichlorophenol	µg/L	2.1	CTR	No Data	ND (MDL = 0.07)	No Data[4]
Acenaphthene	µg/L	1,200	CTR	ND (MDL = 0.016)	ND (MDL = 0.52)	No
Acenaphthylene	µg/L	No Criteria	No Criteria	ND (MDL = 0.014)	ND (MDL = 0.081)	No Criteria[4]
Anthracene	µg/L	9,600	CTR	ND (MDL = 0.019)	ND (MDL = 0.069)	No

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Benzidine	µg/L	0.00012	CTR	No Data	ND (MDL = 0.18)	No Data
Benzo(a)Anthracene	µg/L	0.0044	CTR	ND (MDL = 0.011)	ND (MDL = 0.072)	MDL > C[3]
Benzo(a)Pyrene	µg/L	0.0044	CTR	ND (MDL = 0.011)	ND (MDL = 0.075)	MDL > C[3]
Benzo(b)Fluoranthene	µg/L	0.0044	CTR	ND (MDL = 0.011)	ND (MDL = 0.099)	MDL > C[3]
Benzo(ghi)perylene	µg/L	No Criteria	No Criteria	ND (MDL = 0.012)	ND (MDL = 0.11)	No Criteria[4]
Benzo(k)Fluoranthene	µg/L	0.0044	CTR	ND (MDL = 0.017)	ND (MDL = 0.08)	MDL > C[3]
Bis(2-Chloroethoxy)Methane	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 0.1)	No Criteria[4]
Bis(2-Chloroethyl)Ether	µg/L	0.031	CTR	No Data	No Data	No Data[4]
Bis(2-Chloroisopropyl)Ether	µg/L	1,400	CTR	No Data	ND (MDL = 0.13)	No Data[4]
Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	CTR	ND (MDL = 0.15)	ND (MDL = 1.7)	No
4-Bromophenyl Phenyl Ether	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 0.08)	No Criteria[4]
Butyl benzyl Phthalate	µg/L	3,000	CTR	ND (MDL = 0.063)	ND (MDL = 0.58)	No
2-Chloronaphthalene	µg/L	1,700	CTR	No Data	No Data	No Data[4]
4-Chlorophenyl Phenyl Ether	µg/L	No Criteria	No Criteria	No Data	ND (MDL = 0.16)	No Criteria[4]
Chrysene	µg/L	0.0044	CTR	ND (MDL = 0.014)	ND (MDL = 0.11)	MDL > C[3]
Dibenzo(a,h)Anthracene	µg/L	0.0044	CTR	ND (MDL = 0.063)	No Data	MDL > C[3]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
1,2-Dichlorobenzene	µg/L	600	Primary MCL and Basin Plan	ND (MDL = 0.076)	ND (MDL = 0.13)	No
1,3-Dichlorobenzene	µg/L	400	CTR	ND (MDL = 0.084)	No Data	No
1,4-Dichlorobenzene	µg/L	5	Primary MCL and Basin Plan	ND (MDL = 0.092)	ND (MDL = 0.11)	No
3,3-Dichlorobenzidine	µg/L	0.04	CTR	No Data	ND (MDL = 1.5)	No Data[5]
Diethyl Phthalate	µg/L	23,000	CTR	ND (MDL = 0.051)	ND (MDL = 0.13)	No
Dimethyl Phthalate	µg/L	313,000	CTR	ND (MDL = 0.039)	0.27 (DNQ)	No
Di-n-Butyl Phthalate	µg/L	2,700	CTR	ND (MDL = 0.074)	ND (MDL = 0.52)	No
2,4-Dinitrotoluene	µg/L	0.11	CTR	ND (MDL = 0.013)	ND (MDL = 0.1)	No
2,6-Dinitrotoluene	µg/L	No Criteria	No Criteria	ND (MDL = 0.036)	ND (MDL = 0.12)	No Criteria[4]
Di-n-Octyl Phthalate	µg/L	No Criteria	No Criteria	ND (MDL = 0.027)	ND (MDL = 0.53)	No Criteria[4]
1,2-Diphenylhydrazine	µg/L	0.04	CTR	No Data	ND (MDL = 0.066)	No Data[4]
Fluoranthene	µg/L	300	CTR	ND (MDL = 0.01)	ND (MDL = 0.092)	No
Fluorene	µg/L	1300	CTR	ND (MDL = 0.014)	ND (MDL = 0.077)	No
Hexachlorobutadiene	µg/L	0.44	CTR	ND (MDL = 0.063)	ND (MDL = 0.15)	No

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Hexachloroethane	µg/L	1.9	CTR	No Data	ND (MDL = 0.13)	No Data[4]
Indeno(1,2,3-cd) Pyrene	µg/L	0.0044	CTR	ND (MDL = 0.027)	ND (MDL = 0.12)	MDL > C[3]
Isophorone	µg/L	8.4	CTR	ND (MDL = 0.02)	ND (MDL = 0.085)	No
Naphthalene	µg/L	No Criteria	No Criteria	ND (MDL = 0.15)	ND (MDL = 0.1)	No Criteria[4]
Nitrobenzene	µg/L	17	CTR	No Data	ND (MDL = 0.1)	No Data
N-Nitrosodimethylamine	µg/L	0.00069	CTR	ND (MDL = 0.00096)	ND (MDL = 0.13)	MDL > C[3]
N-Nitrosodi-n-Propylamine	µg/L	0.005	CTR	ND (MDL = 0.00084)	ND (MDL = 0.064)	No
N-Nitrosodiphenylamine	µg/L	5	CTR	No Data	ND (MDL = 0.092)	No Data[4]
Phenanthrene	µg/L	No Criteria	No Criteria	ND (MDL = 0.008)	ND (MDL = 0.071)	No Criteria[4]
Pyrene	µg/L	960	CTR	ND (MDL = 0.008)	ND (MDL = 0.077)	No
1,2,4-Trichlorobenzene	µg/L	5	Primary MCL and Basin Plan	ND (MDL = 0.07)	No Data	See note 2
Aldrin	µg/L	0.00013	CTR	No Data	ND (MDL = 0.0022)	No Data[3]
alpha-BHC	µg/L	0.0039	CTR	ND (MDL = 0.018)	ND (MDL = 0.0012)	MDL > C[3]
beta-BHC	µg/L	0.014	CTR	ND (MDL = 0.02)	ND (MDL = 0.0039)	MDL > C[3]
gamma-BHC (Lindane)	µg/L	0.019	CTR	ND (MDL = 0.007)	No Data	No

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
delta-BHC	µg/L	No Criteria	No Criteria	ND (MDL = 0.033)	ND (MDL = 0.002)	No Criteria[4]
Chlordane	µg/L	0.00057	CTR	ND (MDL = 0.032)	ND (MDL = 0.02)	MDL > C[3]
4,4-DDT	µg/L	0.00059	CTR	ND (MDL = 0.031)	0.0077 (DNQ)	MDL > C[3]
4,4-DDE	µg/L	0.00059	CTR	ND (MDL = 0.018)	ND (MDL = 0.0016)	MDL > C[3]
4,4-DDD	µg/L	0.00083	CTR	ND (MDL = 0.015)	ND (MDL = 0.0025)	MDL > C[3]
Dieldrin	µg/L	0.00014	CTR	ND (MDL = 0.005)	ND (MDL = 0.0013)	MDL > C[3]
alpha-Endosulfan	µg/L	0.056	CTR	ND (MDL = 0.058)	0.022	MDL > C[3]
beta-Endosulfan	µg/L	0.056	CTR	ND (MDL = 0.052)	ND (MDL = 0.0016)	No
Endosulfan Sulfate	µg/L	110	CTR	ND (MDL = 0.049	ND (MDL = 0.0014)	No
Endrin	µg/L	0.036	CTR	ND (MDL = 0.005)	ND (MDL = 0.0022)	See note 2
Endrin Aldehyde	µg/L	0.76	CTR	ND (MDL = 0.084)	ND (MDL = 0.016)	See note 2
Heptachlor	µg/L	0.00021	CTR	ND (MDL = 0.003)	ND (MDL = 0.0012)	See note 2
Heptachlor Epoxide	µg/L	0.0001	CTR	ND (MDL = 0.005)	ND (MDL = 0.0013)	See note 2
Aluminum	µg/L	200	Secondary MCL and Basin Plan	1 (DNQ)	230	B > C[2]
Ammonia, Un-ionized	mg/L	0.025	Basin Plan	ND (MDL = 0.03)	0.739	B > C[2]

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Chloride	mg/L	250	Secondary MCL and Basin Plan	11	500	Yes, B > C
Iron, Total Recoverable	mg/L	0.3	Secondary MCL and Basin Plan	ND (MDL = 0.0026)	12	B > C[2]
Manganese	mg/L	0.05	Secondary MCL and Basin Plan	ND (MDL = 0.000056)	2.7	B > C[2]
Odor Threshold	None	None	Basin Plan	No Data	No Data	See note 2
Methylene Blue-Activated Substances (MBAS)	mg/L	0.5	Secondary MCL and Basin Plan	ND (MDL = 0.014)	0.16	See note 2
Total Residual Chlorine	mg/L	0.011	USEPA Criteria	No Data (<0.03 projected)	No Data	See note 2
TDS	mg/L	500, 1000 (upper limit)	Secondary MCL and Basin Plan	120	1,615	Yes, B > C[2]
Sulfate	mg/L	250	Secondary MCL and Basin Plan	ND (MDL = 0.06)	210	See note 2
Boron	mg/L	0.75[6]	Basin Plan	0.35	0.36	No
Fluoride	mg/L	1.0[6]	Basin Plan	0.1	0.35	No
Percent Sodium	%	60[6]	Basin Plan	No Data	No Data	No
pH	standard units	6.5 – 8.5	Basin Plan	No Data (6.5-8.5 projected)	6.37-8.41	No
Gross Alpha Particle Activity (Excluding Radon and Uranium)	picocuries per liter (pCi/L)	15	Primary MCL and Basin Plan	ND (MDL = 2.7)	No Data	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Combined Radium 226 and 228	pCi/L	5	Primary MCL and Basin Plan	ND (MDL = 1)[5]	No Data	See note 2
Uranium	pCi/L	20	Primary MCL and Basin Plan	ND (MDL = 0.057)	No Data	See note 2
Strontium-90	pCi/L	8	Primary MCL and Basin Plan	0.641	No Data	See note 2
Tritium	pCi/L	20,000	Primary MCL and Basin Plan	291	No Data	See note 2
Beta/photon emitters	millirem/year	4	Primary MCL and Basin Plan	<3 (RL)	No Data	See note 2
Phosphorus, Total (as P)	mg/L	0.025[5,7]	Basin Plan	No Data (<0.025 projected)	0.65	B > C[3]
Nitrate (as N)	mg/L	10.0	Primary MCL and Basin Plan	2.9	6.53	See note 2
Nitrate + Nitrite (sum as nitrogen)	mg/L	10.0	Primary MCL and Basin Plan	2.9	6.53	See note 2
Nitrogen, Total (as N)	mg/L	See note 7	Basin Plan	<3 (projected)	8.68	See note 2
Color	ADMI Units	15	Secondary MCL and Basin Plan	No Data	No Data	See note 2
Dissolved Oxygen	mg/L	>5.0	Basin Plan	No Data	0.85-13.62	No
Trihalomethanes, Total[7]	mg/L	0.080	Primary MCL and Basin Plan	0.0014	No Data	See note 2

Parameter	Units	Most Stringent Criteria (C)	Source of Criteria	MEC	Background (B)	Reasonable Potential
Haloacetic Acids (HAA5)[8]	mg/L	0.060	Primary MCL	ND (MDL = 0.002)	No Data	See note 2
Bromate	mg/L	0.010	Primary MCL	No Data	No Data	See note 2
Chlorite	mg/L	1.0	Primary MCL	No Data	No Data	See note 2

Notes for Table F-7:

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in the Order.
2. Pursuant to step 7 of section 1.3 of the State Implementation Policy, the Order establishes an effluent limitation based on the MCL for protection of the domestic and municipal supply beneficial use of Lake Jennings. An effluent limitation was also established for ammonia based on the potential toxic impact of ammonia on fish.
3. The Order requires monitoring in place of an effluent limitation when:
    - Effluent data was insufficient or unavailable; and
    - All effluent results for the parameter were reported as ND and the lowest MDL exceeded the lowest applicable WQO or criterion (C).
4. Concentrations not to be exceeded more than 10 percent of the time during any one-year period.
5. Maximum effluent concentrations for radium 226 and radium 228 were each reported as ND.
6. The Basin Plan does not establish analogous concentration values for total nitrogen but establishes that natural ratios of nitrogen to phosphorus (N:P) are to be identified through monitoring and upheld. Effluent limitations are included in the Order for nitrogen and phosphorus based on the basin plan WQOs for biostimulatory substances to prevent nutrients being discharged at levels that could stimulate algae and emergent plant growth in Lake Jennings.
7. MCL applies to total trihalomethanes which represents the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane.
8. MCL applies to HAA5 which represents the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.
9. The C value represents the current federal CWA freshwater selenium water quality criterion, which the USEPA added to the CTR on December 10, 2024.

4.3.4. RPA Results

4.3.4.1. Parameters with MCLs

Based on steps 3 and 6 of section 1.3 of the State Implementation Policy, when a pollutant (or parameter) is detected in the effluent, an effluent limitation is required for the pollutant when the MEC exceeds the lowest applicable WQO or criterion (C), or when the maximum ambient background concentration (B) exceeds the C. For the RPAs conducted for discharge points 001 and 002, there were no cases in which the MEC or B exceeded the C for detected pollutants. Effluent limitations were established in the Order for all parameters with MCLs based on step 7 of the State Implementation Policy to ensure protection of the municipal and domestic supply beneficial use of Lake Jennings. Lake Jennings serves as the source supply for the R.M. Levy DWTP. Effluent limitations are included in the Order based on the following MCLs:

- Primary MCLs for organic chemicals (from Table 64444-A of section 64444 of title 22 CCR;
- Primary MCLs for inorganic chemicals (from Table 64431-A of title 22 CCR);
- Secondary MCLs (from Table 64449-A of title 22 CCR);
- MCLs for radionuclides (from Tables 64442 and 64443 of title 22 CCR); and
- MCLs for disinfection byproducts (from Table 64533-A of title 22 CCR).

4.3.4.2. Ammonia

WQBELs were included in the Order for un-ionized ammonia based on the WQO for un-ionized ammonia in the Basin Plan despite the MEC for effluent from the AWP Demonstration Facility being reported as ND. Effluent limitations for ammonia were established pursuant to step 7 of section 1.3 of the State Implementation Policy because of potential toxic effects of ammonia on aquatic life.

4.3.4.3. Total Residual Chlorine

WQBELs are included in the Order for total chlorine residual pursuant to step 7 of section 1.3 of the State Implementation Policy because of the potential toxic effects of chlorine on aquatic life if the AWP Facility effluent is not adequately dechlorinated. As a result, the Order establishes an AMEL and an MDEL for total residual chlorine which are derived from USEPA's *National Recommended Water Quality Criteria for Protection of Aquatic Life* for total residual chlorine in freshwater. The effluent limitations for total chlorine residual were calculated using the State Implementation Policy procedure described in section 4.3.3. of this Fact Sheet.

4.3.4.4. Nitrogen and Phosphorus

Effluent limitations are included in the Order for nitrogen and phosphorus based on the basin plan WQOs for biostimulatory substances to prevent nutrients being discharged at levels that could stimulate algae and emergent plant growth in Lake Jennings. The Order establishes an AMEL for total phosphorus of 0.025 mg/L which is the Basin Plan numerical phosphorus WQO for a standing body of water. The Basin Plan states, "*Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses. Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 milligrams per liter (mg/L) in any stream at the point where it enters any standing body of water, nor 0.025 mg/L in any standing body of water. A desired goal in order to prevent plant nuisance in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10% of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1, on a weight to weight basis shall be used.*"

The Order establishes an AMEL for total nitrogen of 3 mg/L which represents a nitrogen: phosphorus ratio (N:P ratio) of 120:1. The Basin Plan WQOs for biostimulatory substances do not include threshold values for nitrogen. Instead, the Basin Plan WQOs for biostimulatory substances allows the San Diego Water Board the flexibility to assess the N:P ratios on a site-by-site basis and establish project-specific N:P ratios for any given receiving water in lieu of a N:P ratio of 10:1. The historical N:P ratios in Lake Jennings have largely been a function of the imported water delivered to the reservoir and are not significantly influenced by tributary runoff. As a result, "natural" ratios of N:P do not exist within Lake Jennings within the meaning of the WQO. Lake Jennings N:P ratios reflect "managed" conditions that are dependent on the sources and quality of outside water supplies delivered to the Reservoir. Establishing an AMEL for total nitrogen of 3 mg/L is thus consistent with the Basin Plan mandate that N:P ratios in receiving waters should be identified and upheld as:

- Lake Jennings N:P ratios are a function of Helix WD's management actions (e.g., dependent on the supplies stored in the reservoir by Helix WD) and are not influenced by tributary runoff;
- Historic N:P ratios in Lake Jennings have exceeded 10:1 (e.g., phosphorus-limited conditions),
- Substituting advanced treated recycled water for imported water in Lake Jennings will sustain these high N:P ratios and historic phosphorus-limited conditions,

- Typical advanced treated recycled water total phosphorus concentrations will be less than 0.025 mg/L, resulting in N:P ratios that exceed 100:1; and
- The proposed NPDES permit monthly average effluent limits of 0.025 mg/L for total phosphorus and 3 mg/L for total nitrogen represent an N:P ratio of 120:1.

4.3.4.5. **Mercury**

Effluent limitations for mercury based on the Mercury Provisions are not required for the discharge to Sycamore Creek based on RPA results. The Order requires effluent monitoring for mercury in lieu of an effluent limitation for the discharge to Sycamore Creek.

The Mercury Provisions establishes a fish tissue based sport fishing WQO for mercury. This WQO applies to inland surface water bodies with designated beneficial uses that include WILD. The Mercury Provisions translate the fish-tissue based sport fishing into a water column concentration/water quality objective of 12 nanograms per liter (or 0.012 µg/L) for flowing water bodies such as rivers, streams, and creeks. This water column concentration/water quality objective of applies to Sycamore Creek (see Table 1 of the State Water Board Mercury Provisions).

Effluent analyses results from the AWP Demonstration Facility were used in the RPA for mercury. Only two effluent samples were analyzed for mercury. Both mercury concentrations were reported as ND with MDLs of 0.042 µg/L. Based on step 3 of section IV.D.2.c.1 of the Mercury Provisions, 0.021 µg/L was used as the highest observed annual average effluent concentration, which is one half of the MDL. The highest observed annual average ambient background concentration (B) for mercury in Sycamore Creek was determined to be 2.34 µg/L (for samples collected between 2019 and 2023). An effluent limitation for mercury based on the Mercury Provisions is not included in the Order for the discharge to Sycamore Creek. The Order, however, requires effluent monitoring for mercury in lieu of an effluent limitation because the effluent concentrations for mercury were ND.

The Mercury Provisions do not include a water column concentration/water quality objective for lakes and reservoirs, rather the Mercury Provisions specify that appropriate water column concentration/water quality objective be determined on a case-by-case basis. Consequently, the Order requires the Discharger to submit a work plan for collecting conducting mercury water column and fish tissue monitoring. Data collected will be used by the San Diego Water Board to determine an appropriate water column concentration/water quality objective for Lake Jennings and for assessing whether revised effluent limitations for mercury should be included in a future iteration of the Order. Nonetheless, the Order includes an effluent limitation for mercury based on the MCL pursuant to step 7 of the State Implementation Policy to ensure protection of the municipal and domestic supply beneficial use of Lake Jennings.

4.3.4.6. Water Quality Based Effluent Limitations

The Order establishes effluent limitations for un-ionized ammonia, nitrogen, phosphorus, and pH based on Basin Plan WQOs (shown in Table F-8 below) which are protective of beneficial uses and water quality of Lake Jennings. The AMEL of 0.025 mg/L for total phosphorus is based on the WQO for phosphorus, while the AMEL of 3 mg/L for total nitrogen to ensure historic N:P ratios in Lake Jennings are maintained. The Discharger predicted, using a water quality model of Lake Jennigs, that maintaining the historic N:P ratios would limit the potential biostimulatory impacts. A summary of applicable Basin Plan based effluent limitations is provided below:

Table F-8. Water Quality Based Effluent Limitations

Parameter	Units	Average Monthly	Maximum Daily
pH[1]	standard units	---	---
Ammonia, Un-Ionized (as N)[2]	mg/L	---	0.025
	lbs/day	---	
Total Phosphorus[2]	mg/L	0.025	---
	lbs/day		---
Total Nitrogen[2]	mg/L	3.0	---
	lbs/day		---

Notes for Table F-8:

1. Compliance with effluent limitations for pH measured at Monitoring Location INT-003.
2. Compliance with effluent limitations for un-ionized ammonia, nitrogen, and phosphorus measured at Monitoring Location EFF-001A.

4.3.4.6. Effluent Limitations Based on MCLs

As described in section 4.3.3. of this Fact Sheet, the Order establishes effluent limitations based on MCLs from title 22 CCR to ensure protection of the domestic and municipal supply beneficial use of Lake Jennings. The Basin Plan incorporates MCLs by reference as WQOs for waters designated for use as domestic or municipal water supply. The effluent limitations established based on MCLs from title 22 CCR are in Tables 5 through 9 and 11 of the Order and are from tables 64431-A, 64442, 64443, and 64533-A of title 22 CCR.

4.3.5. Action Levels (ALs) and Notification Levels (NLs)

ALs and NLs are health-based advisory levels established by the DDW for non-regulated chemicals in drinking water that do not have MCLs. Chemicals for which ALs and NLs are established may eventually be regulated by MCLs, through a formal regulatory process, depending on the extent of contamination occurrences, the levels observed, and the risk to human health.

Sources of drinking water in California are monitored periodically for specific chemicals and contaminants. This monitoring is particularly important when the drinking water source is vulnerable to contamination or there is a known presence

of contaminants. Title 22 CCR section 60320.320 requires monitoring of contaminants with ALs and NLs to be protective of public health. The initial source for this SWSAP is municipal wastewater; an atypical source of drinking water. It is prudent and consistent to have monitoring requirements specific to those additional chemicals and contaminants that may be present in municipal wastewater. The monitoring of additional chemicals addresses the uncertainty regarding the presence of unregulated contaminants, affirms the efficacy of the treatment processes, and could potentially help determine the origin of such chemicals if found in Lake Jennings. Section 3.3.1. of the MRP requires monitoring of the effluent for constituents with ALs and NLs pursuant to title 22 CCR section 60320.302 (h). The ALs and NLs are included in Table 13 of the Order.

4.3.6. **Whole Effluent Toxicity (WET)**

4.3.6.1. The Discharger is required to monitor for chronic toxicity pursuant to step 8 of section 1.3 of the State Implementation Policy because there is no chronic toxicity effluent data available for the demonstration facility or proposed facilities. As a result, there is insufficient information to determine reasonable potential for chronic toxicity. Chronic toxicity monitoring will be used to evaluate whether chronic toxicity limitations are still needed in future iterations of the Order.

Chronic toxicity testing evaluates the potential synergistic or additive toxic effects of effluent from POTWs on receiving waters. Effluent from POTWs maybe inconsistent and may have a mixture of known and unknown pollutants that could have synergistic or additive toxic effects on receiving waters. The mixture of known and unknown pollutants may come from nonresidential and residential sources in the Discharger's service area. Increased or unknown pollutants could be introduced into the Discharger's POTWs from nonresidential or residential sources in the future that have aggregate toxic effects. Additionally, if a toxic effect is discovered in the receiving water, the results of the whole effluent testing (WET)[60] may be useful for identifying the source of the toxicity.

4.3.6.2. The Order requires the Discharger to analyze chronic toxicity using USEPA's 2010 Test of Significant Toxicity (TST) hypothesis testing approach (described in section 3.5. of the MRP. The TST statistical approach is described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1. The TST null hypothesis shall be "mean discharge IWC response ≤ 0.75 × mean control response." A test that rejects this null hypothesis shall be reported as "Pass". A test that does not reject this null hypothesis shall be reported as "Fail". The Discharger must also report the "Percent Effect" as part of chronic toxicity result.

[60] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

4.3.6.3. The Basin Plan requires that compliance with narrative WQOs be evaluated with a 96-hour acute bioassay.[61] The Order does not establish either acute or chronic toxicity effluent limitations because there is no toxicity data available to conduct a RPA. The Order, however, requires chronic toxicity testing in lieu of acute toxicity testing. Chronic toxicity testing is more stringent than acute toxicity testing. 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 exposure 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.

4.4. Final Effluent Limitation Considerations

4.4.1. Satisfaction of Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict backsliding in NPDES permits as discussed in section 3.3.6. 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. The discharge from the ECAWP Facility to Lake Jennings is a new discharge that has not previously been subject to WDRs or NPDES permitting requirements. As a result, anti-backsliding requirements do not apply to the discharge to Lake Jennings.

The Order also establishes requirements for discharge of advanced treated recycled water from the ECAWP Facility to Sycamore Creek (Discharge Point 002 as defined in Table E-2 in the MRP). The ECWRF and ECAWP Facility are new treatment plants and the discharge of advanced treated recycled water to Sycamore Creek is a new discharge. As a result, anti-backsliding requirements do not apply to the discharge to Sycamore Creek.

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

4.4.2. Satisfaction of Antidegradation Policies

The Order must conform with antidegradation requirements discussed in section 3.3.5. 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

[61] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

Administrative Procedures Update (July 2, 1990), *Antidegradation Policy Implementation for NPDES Permitting*.

The Order complies with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16, and no degradation of the receiving water is expected.

As part of its ROWD, the Discharger conducted an antidegradation analysis in accordance with applicable guidance and policies. The anti-degradation analysis concluded that the discharge from the ECAWP Facility will not result in a lowering of water quality for any of the following parameters: physical parameters, dissolved minerals, oxygen parameters, pathogens, toxics, and phosphorus. Product water delivered to Lake Jennings (Discharge Point 001) is projected to contain concentrations of regulated constituents that are lower than or equivalent to imported water used to augment Lake Jennings. While a slight increase in total nitrogen concentrations within Lake Jennings are projected, any effects associated with increased nitrogen concentrations are considered to be minor and will not result in water quality lower than applicable standards. The proposed nitrogen concentrations are consistent with implementing the Basin Plan objective that historic phosphorus-limited conditions in Lake Jennings be upheld. Additionally, the Discharger is proposing the best practical treatment controls for total nitrogen in accordance with the Antidegradation Policy.

Advanced treated recycled water discharged to Sycamore Creek is also projected to contain lower concentrations of minerals, nutrients, and toxic compounds than previous discharges from the Ray Stoyer WRF.

In considering the Discharger's ROWD, including its antidegradation analysis, and applicable antidegradation policies, the San Diego Water Board independently concluded the proposed discharge will result in the best practicable treatment or control of the discharge necessary to ensure an absence of nuisance conditions, result in the highest water quality consistent with the maximum benefit to the people of the State, and will not unreasonably affect present and anticipated beneficial uses. Therefore, the requirements of the Order are consistent with federal and State antidegradation requirements.

4.4.3. Stringency of Requirements for Individual Pollutants

The Order contains both TBELs and WQBELs for individual pollutants. The Order establishes TBELs for BOD_5 and TSS which implement the minimum applicable federal technology-based requirements.

WQBELs have been derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs were approved pursuant to federal law and are applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the CTR implemented by the State Implementation Policy, which was approved by USEPA on May 18, 2000. Most beneficial uses and WQOs contained in the Basin Plan were approved under

State law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). The remaining WQOs and beneficial uses implemented by the Order were approved by USEPA and are applicable water quality standards pursuant to 40 CFR section 131.21(c)(2). Collectively, the Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4.5. Interim Effluent Limitations – Not Applicable

4.7. Land Discharge Specifications – Not Applicable

4.8. Rationale for DDW Specifications and Requirements

The Order includes treatment, design, and operational requirements from DDW's conditional acceptance letter, dated March 13, 2024, in accordance with CA Water Code section 13523. These requirements were included after DDW's review of the Discharger's Title 22 Engineering Report to ensure the Discharger complies with Surface Water Augmentation criteria in title 22 of the CCR.

5. RATIONALE FOR PROVISIONS

5.1. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in 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, the 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, the Order incorporates by reference Water Code section 13387(e).

5.2. Special Provisions

5.2.1. Reopener Provisions

The 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

coalitions as determined by the San Diego Water Board; revisions to sludge use or disposal practices; 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).

5.2.2. Special Studies and Additional Monitoring Requirements

5.2.2.1. Spill Prevention and Response Plans

The CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is illegal under the CWA. Further, the Basin Plan prohibits discharges of waste to land, except as authorized by WDRs or the terms described in 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 Prohibition 3.1 and 3.2 of the Order prohibits the discharge of advanced treated recycled water or effluent from the ECAWP Facility to a location other than Discharge Point No. 001 or 002.

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, the Order requires the Discharger to maintain and implement Spill Prevention and Response Plans.

5.2.2.2. 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 5.3.2.2 of the Order.

5.2.2.3. Reservoir Nutrient Management Plan

Section 5.3.2.3 of the Order requires the Discharger to develop and submit a reservoir nutrient management plan. The reservoir nutrient management plan must include preventive and corrective actions that the Discharger will implement to ensure that nutrients in advanced treated recycled water discharged to Lake Jennings do not stimulate algae and emergent plant growth to the extent that it causes nuisance conditions or adversely affects beneficial uses of the reservoir. The preventive and corrective actions must ensure that the nutrients in the discharge do not adversely affect any of the beneficial uses of the reservoir (which include municipal and domestic supply, marine habitat, and wildlife habitat). Preventive and corrective actions may include but are not limited to the following: additional treatment, aeration of the reservoir, additional

monitoring, notification of the public and regulatory agencies, management of vegetation within the reservoir, and decoupling the reservoir from the R.M Levy DWTP.

5.2.3. **Best Management Practices and Pollution Prevention**

In algaecide or aquatic herbicide applications, it is reasonable to conclude that some residual algaecides or aquatic herbicides will remain in the waters. These residual algaecides or aquatic herbicides may cause toxicity to aquatic life. However, information regarding the specific amount of algaecide or aquatic herbicide residues in the waters as a result of direct applications for weed control is not adequate to develop limitations for these algaecides and aquatic herbicides. Therefore, the Order contains monitoring triggers and/or monitoring requirements for these algaecides or aquatic herbicides. The monitoring triggers and monitoring data will be used to assess whether the discharges of these algaecide or aquatic herbicide residues have the reasonable potential to cause or contribute to an excursion of a water quality standard, including numeric and narrative objectives within a standard, in Sycamore Creek, a tributary of the San Diego River.

The Discharger is required to minimize the discharge of pollutants consistent with the requirements of section 2.4.5.1 of the State Implementation Policy. The goal of the pollutant minimization program is to reduce all potential sources of a priority pollutant through pollutant minimization strategies to maintain the effluent concentration at or below WQBELs.

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

5.2.4.1. **Publicly-Owned Treatment Works** - The Order requires the Discharge to submit a report certifying 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.

5.2.4.2. The Order includes provisions to ensure the Facilities are protected against the impact of storm events.

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

5.2.4.4. The Order includes a provision based on the requirements of 40 CFR section 122.41(e) to ensure the Facilities have adequate power.

5.2.4.5. Operation and Maintenance (O&M). Section 122.41(e) of 40 CFR requires proper O&M of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date O&M Manual is an integral part of a well-operated and maintained facility.

5.2.5. **Special Provisions for Publicly-Owned Treatment Works**

5.2.5.1. **Pretreatment Program**

The CWA section 307(b), and federal regulations, 40 CFR part 403, require POTWs to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which

will interfere with treatment plant operations or sludge disposal and prevent pass through of pollutants that exceed water quality objectives, standards, or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR part 403.

The Discharger is part of the C's Metropolitan Sewerage System. The City also has an interjurisdictional pretreatment agreement with the Discharger. As a result, the City issues permits to industries within the Discharger's sewershed. The Order contains pretreatment requirements and requires the Discharger to coordinate with the City in implementing a pretreatment program within the ECAWP JPA sewershed.

The Order also includes wastewater source control requirements based on title 22 CCR section 60320.306.

5.2.5.2. 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 Discharger is 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. The Discharger is required to comply with the standards and time schedules contained in 40 CFR part 503. Section 7.6. of this MRP requires the Discharger to submit an annual biosolids report.

Title 27 California Code of Regulations, division 2, subdivision 1, section 20005, establishes approved methods for the disposal of collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes. The Order includes requirements to ensure the Discharger disposes of solids in compliance with State and federal regulations.

5.2.5.3. Collection System

Order No. 2022-0103-DWQ, *Statewide Waste Discharge Requirements, General Order for Sanitary Sewer System* (Statewide General Order) became effective on June 5, 2023. The Statewide General Order provides a consistent statewide regulatory approach to address sanitary sewer spills. The Statewide General Order establishes waste discharge requirements that apply to publicly owned sanitary sewer systems greater than one mile in length, and other applicable sanitary sewer systems. The Statewide General Order also requires enrollees to develop and implement Sanitary Sewer Management Plans and report all sanitary sewer spills to the State Water Board's California Integrated Water Quality System (CIWQS) database.

On February 14, 2027, 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 Order) which prohibits discharges of sewage from a sanitary sewer system at any point upstream of a sewage treatment plant.

Regardless of the coverage obtained under the Statewide General Order or Regional General Order, the Discharger's sanitary sewer system is part of the treatment system that is subject to the Order. As such, pursuant to federal regulations, the Discharger 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 sanitary sewer system in violation of the Order [40 CFR section 122.41(d)].

The public can obtain access to sanitary sewer spill reports submitted under the Statewide General Order and Regional General Order from the CIWQS database.[62]

5.2.5.4. **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.

5.2.5.6. **Asset Management Plan**

Section 5.3.4.12. of the Order requires the Discharger 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,

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

operation and maintenance tasks, and long-range financial planning. Standard Provision 1.4. in Attachment D of the Order is based on the requirements of 40 CFR section 122.41(e) and requires the Discharger to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the Discharger to achieve compliance with the conditions of the Order. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the Discharger has 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 the Order to ensure compliance with Standard Provision 1.4. in Attachment D of the Order and the requirements of 40 CFR section 122.41(e).

6. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 CFR sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the San Diego Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. The reports required by the MRP are needed to ensure compliance with the Order, protect beneficial uses, and obtain other benefits as described in this Fact Sheet and the MRP. The purpose of the MRP is to determine and ensure compliance with effluent limitations and other requirements established in the Order, assess treatment efficiency, characterize effluents, and characterize the receiving waters and the effects of the discharge on the receiving waters. 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 the Order. Thus, the burdens, including costs estimated to be $2,200,000 to $2,800,000 per year, of the MRP required by the Order bear a reasonable relationship to the need for and benefits to be obtained from the MRP.

The Discharger is required to use drinking water methods approved by DDW for monitoring for MCLs, ALs, NLs, or other DDW specified contaminants. The Discharger is required to use Clean Water Act methods specified in 40 CFR part 136 for contaminants with TBELs and for parameters that do not have drinking water criteria or advisory levels. All analyses must be performed by a laboratory accredited by the State Water Board Environmental Laboratory Accreditation Program (ELAP) for the analytical method used. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for the Facilities.

6.1. Core Monitoring Requirements

6.1.1. Influent Monitoring

Influent monitoring is the collection and analysis of samples or measurements of wastewater prior to the treatment processes. 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 TBELs for percent removal of BOD_5 and TSS.

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 Facility, its treatment processes or operations, or its sludge processes?
4. Is the Facility complying with permit conditions including, but not limited to, biochemical oxygen demand (5-day @ 20 degrees Celsius (°C)) (BOD_5) and total suspended solids (TSS) percent removal limitations?

Refer to section 3.1. of the MRP of the Order.

6.1.2. Treatment Reliability and Process Control Monitoring

Treatment reliability and process control internal monitoring is the collection and analysis of samples or measurements of effluents from specific treatment processes to determine compliance with internal effluent limitations that apply to effluent from specific treatment processes, determine compliance with treatment requirements, and measure performance of individual treatment processes. Internal monitoring is required to determine compliance with effluent limitations that apply to effluent from specific treatment processes, determine compliance with treatment requirements, and measure performance of individual treatment processes.

Internal monitoring is necessary to address the following questions:

1. Is the Discharger's multi-barrier treatment facility effectively demonstrating the proper operation of the advanced treatment processes, pathogen microorganism control, and chemical and contaminant control?
2. Is the ECWRF complying with secondary treatment standards for BOD_5, TSS, and pH?

Refer to section 3.2. of the MRP of the Order.

6.1.3. Effluent Monitoring

Effluent monitoring is the collection and analysis of samples or measurements of effluents, after all treatment processes, to determine compliance with the conditions of the Order, to identify operational problems, and to provide sufficient data for conducting RPAs for subsequent Orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data. The Order also includes monitoring for chemical constituents with MCLs and DDW NLs based on Surface Water Augmentation criteria specified in title 22 CCR.

Effluent monitoring is necessary to address the following questions:

1. Does the effluent comply with permit effluent limitations and other requirements of the 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 the Order?

Refer to section 3.3. of the MRP of the Order.

6.1.4. Constituents of Emerging Concern Monitoring Requirements

CECs include a broad range of unregulated chemicals found in recycled water. The Order implements the monitoring requirements for CECs contained in the Recycled Water Policy, as amended on December 11, 2018. The monitoring requirements for CECs, surrogates, and bioanalytical screening tools are separated into three phases: 1) initial assessment monitoring phase, 2) baseline monitoring phase, 3) standard operation monitoring phase. The purpose of phased monitoring is to allow monitoring requirements for health-based CECs, performance indicator CECs, surrogates, and bioanalytical screening tools to be refined based on the monitoring results and findings of the previous phase. In addition, the Order requires monitoring of advanced treated recycled water for nitrosomorpholine (NMOR), acetone, sucralose and iohexol (indicator compounds), as specified in the DDW March 13, 2024, conditional acceptance letter.

Refer to section 3.4. of the MRP.

6.1.5. Whole Effluent Toxicity Testing Requirements

The Order requires monitoring for chronic toxicity as described in section 4.3.6. of this Fact Sheet. The chronic monitoring requirements in the Order are based on State Water Board Toxicity Provisions. The Order requires monitoring for chronic toxicity in lieu of acute toxicity because chronic toxicity is a more stringent requirement than acute toxicity. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. A chemical at a low concentration can have chronic effects but no acute effects until it gets to the higher level. Chronic toxicity is to be evaluated using USEPA's 2010 TST hypothesis testing approach and is expressed as "Pass" or "Fail" for the median monthly summary results and "Pass" or "Fail" and "Percent Effect" for each individual chronic toxicity result. The chronic toxicity requirements can be used a factor to determine compliance with the narrative WQO for toxicity in the Basin Plan for toxicity which states that, "*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*"

The Order requires the Discharger to submit 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 the Order. The Initial Investigation TRE Work Plan must describe steps the Discharger intends to follow if r chronic toxicity is detected. If a routine chronic toxicity test results in a "Fail" at the instream waste concentration, the Order requires the Discharger to conduct a maximum of two chronic toxicity tests in the same calendar month. A TRE is required when the Discharger has any combination of two or more failing chronic toxicity test results within a single calendar month or within two successive calendar months. In addition, the San Diego Water Board may require a TRE if other information indicates toxicity (e.g., results of additional monitoring, fish kills, intermittent recurring toxicity, etc.). If a TRE is required, the Discharger is required to submit a Detailed TRE work plan in accordance with USEPA guidance which shall include the following:

- Further steps taken by the Discharger to investigate, identify, and correct the causes of toxicity;
- Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and
- A schedule for these actions.

This provision also requires the Discharger to conduct the TRE/TIE in accordance with the submitted work plan.

Refer to section 3.5. of the MRP. Monitoring to assess the overall toxicity of the effluent is required to answer the following questions:

(1) Does the effluent comply with chronic toxicity water quality objectives contained in the *State Policy for Water Quality Control: Toxicity Provisions* (Toxicity Provisions) thereby ensuring that water quality standards are achieved in the receiving water?

(2) If the effluent does not comply with the chronic toxicity water quality objectives, are unmeasured pollutants causing risk to aquatic life?

(3) If the effluent does not comply with the chronic toxicity water quality objectives, are pollutants in combinations causing risk to aquatic life?

6.2. Receiving Water Monitoring Requirements

The receiving water monitoring requirements set forth below are designed to measure the effects of the discharge on the receiving waters. The Order also establishes fish and bioassessment monitoring requirements, which are described below.

The overall receiving water monitoring program is intended to answer the following questions:

(1) Do the receiving waters comply with receiving water quality standards?

(2) What are the effects of the discharge on the receiving waters?

(3) Are the receiving water conditions getting better or worse over time?

(4) Does the discharge cause or contribute to changes in biological productivity or Lake Jennings aesthetics?

(5) What are the impacts of the SWSAP on Lake Jennings?

(6) How has the frequency, extent, and magnitude of freshwater harmful algal blooms and associated toxins changed after introduction of advanced treated recycled water relative to a pre-advanced treated recycled water baseline?

(7) To what extent do any changes in biomass, composition, or toxins resulting after introduction of advanced treated recycled water impact raw source water quality (for drinking water treatment)?

Refer to section 4 of the MRP.

6.2.1. Surface Water Monitoring Requirements

6.2.1.1. Reservoir Monitoring

The Order establishes monitoring requirements to evaluate compliance with applicable WQOs and criteria, evaluate the impact of the discharge on biological productivity and limnology of Lake Jennings, and evaluate whether or not the discharge affects biostimulatory conditions within Lake Jennings.

6.2.1.2. Monitoring for Sycamore Creek and Downstream Surface Waters

The Order establishes monitoring requirements to evaluate compliance with applicable WQOs and criteria, evaluate the impact of the discharge on water quality within Sycamore Creek and downstream surface water bodies.

6.2.2. Fish Monitoring

Many pollutants discharged into receiving waters have the potential to bioaccumulate and persist in tissues of aquatic organisms, including fish. Chemical pollutants that bioaccumulate tend to biomagnify as they pass through[63] 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.

Additionally, Lake Jennings is designated for contact and non-contact recreation (REC-1 and REC-2) and supports a productive recreational fishery. The low concentrations of nutrients in the effluent has the potential to alter the biological productivity in Lake Jennings, which could reduce the available food for sportfish. Recreational fish catch statistics can be used as a surrogate for fishery health.

Fish monitoring is necessary to answer the following questions:

[63] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

- Do the concentrations of pollutants in fish used for human consumption bioaccumulate to levels that are harmful to human health or degrade[64] aquatic communities?
- Are the concentrations of pollutants in fish changing over time?
- Is the health of fish changing over time?
- Are the populations of selected fish species changing over time?
- Does Lake Jennings support the designated contact and non-contact recreation beneficial uses?

The Order requires creel censuses to evaluate changes to the recreational fisheries at Lake Jennings. Lake Jennings is designated for contact and non-contact recreation and hosts a productive recreational fishery. The low concentration of nutrients in advanced treated recycled water has the potential to alter the biological productivity in Lake Jennings, which could reduce the available food for sportfish. Recreational fish catch statistics can be used as a surrogate for fishery health.

The Order also requires fish liver tissue monitoring to determine if pollutants are bioaccumulating in fish species commonly targeted by recreational fishers, except for species commonly stocked at Lake Jennings (e.g., trout and catfish). Many pollutants discharged into receiving waters have the potential to bioaccumulate and persist in tissues of aquatic organisms, including fish. 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.

The Order also requires the Discharger to monitor fish tissue from any of the seven Santee Lakes once per year, and at Monitoring Location RSW-003A twice per year (Sycamore Creek). Fish tissue monitoring is necessary to monitor potential human health effects from the discharge. Further, fish tissue sampling, combined with benthic monitoring provides a reliable indication of the health of the receiving waters and the impacts of the discharge.

Refer to section 4.2. of the MRP.

6.2.3. Benthic Monitoring Requirements

The Order requires the Discharger to conduct benthic monitoring at Monitoring Locations RSW-003A and RSW-003. These monitoring requirements are included in the Order to evaluate the impact of the discharge on the benthic community within Sycamore Creek.

Refer to section 4.4. of the MRP.

[64] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

6.3. Regional Monitoring Requirements

The Discharger is required to participate in regional monitoring activities as directed by the San Diego Water Board. The intent of regional monitoring activities is to maximize efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region.

Refer to section 5 of the MRP.

6.4. Special Study Requirements

The Discharger must develop a work plan for a study to collect essential mercury and methyl mercury water quality data from Lake Jennings, along with fish tissue mercury data, to calculate a site-specific bioaccumulation factor. The order does not specify a final due date for the study, as the work plan will propose a suitable schedule to assess the impacts of advanced treated recycled water discharged into Lake Jennings once it has reached a steady state condition. This schedule will also account for the time needed for fish to develop in the new steady state conditions, ensuring an accurate bioaccumulation factor for Lake Jennings moving forward. It is anticipated that the schedule for the work plan may extend beyond the expiration date of the Order and into the next permit cycle or beyond**.**

6.5. 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 Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) In, The Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories in accordance with the waiver issued by USEPA to the State Water Board. 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 Discharger is required to 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.

7. 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 30-day period for public review and comment on the Tentative Order.

7.1. Notification of Interested Parties

The San Diego Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations Notification was provided by posting a Notice of Public Hearing and Comment and the tentative WDRs on the San Diego Water Board's website for the duration of the public comment period. The Tentative Order was posted on the San Diego Water Board website and emailed to the Discharger and all known interested parties on July 31, 2025.

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/.

7.2. 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 September 1, 2025.

7.3. 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:	November 12, 2025
Time:	9:00 AM
Location:	San Diego Regional Water Quality Control Board San Diego Water Board Meeting Room 2375 Northside Drive, Suite 108 San Diego, CA 92108

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

7.4. 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 title 23 CCR, sections 2050. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of the Order at the following address, except that if the thirtieth day following the date of the 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

7.5. 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.

7.6. 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.

7.7. Additional Information

Requests for additional information or questions regarding the Order should be directed to Mr. Brandon Bushnell by email at brandon.bushnell@waterboards.ca.gov or by phone at (619) 521-8044