
Los Angeles Regional Water Quality Control Board

October 11, 2017

Mr. Robb Whitaker, General Manager
Water Replenishment District of Southern California
4040 Paramount Boulevard
Lakewood, CA 90712

Dear Mr. Whitaker:

ADOPTED WASTE DISCHARGE REQUIREMENTS (WDRs) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT, WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA, GROUNDWATER RELIABILITY IMPROVEMENT PROJECT-ADVANCED WATER TREATMENT FACILITY (GRIP-AWTF), NPDES PERMIT NO CA0064645, CI-10317

Our letter dated September 22, 2017, transmitted the revised tentative Waste Discharge Requirements (WDRs) and NPDES Permit for the GRIP-AWTF.

In accordance with administrative procedures, this Regional Water Board at a public hearing held on October 5, 2017, reviewed the revised tentative requirements, considered all the factors in the case, and adopted WDRs and NPDES Order No. **R4-2017-0187**.

The complete adopted Order will be sent only to the Discharger. However, this document is available on the Regional Water Board's website for your review. The Regional Water Board's web address is www.waterboards.ca.gov/losangeles/.

If you have any questions, please contact Raul Medina at (213) 620-2160 or via email at raul.medina@waterboards.ca.gov or Cris Morris, Unit Chief of the Municipal Permitting (POTW) Unit at (213) 620-2083 or via email at cris.morris@waterboards.ca.gov.

Sincerely,



Cris Morris, P.E., Chief
Municipal Permitting Unit

Enclosures

cc: See Mailing List

Mailing List

Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
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Kurt Souza, Chi Diep, State Water Resources Control Board, Drinking Water Division
Department of Fish and Game, Region 5
California State Parks and Recreation
State Coastal Conservancy
Los Angeles County, DPW, Watershed Division
Los Angeles County, Department of Health Services
Heal the Bay
Environment Now
Los Angeles Waterkeeper
Natural Resources Defense Council
Southern California Coastal Water Research Project
Friends of the Los Angeles River
Los Angeles and San Gabriel Rivers Watershed Council
Sierra Club
Ms. Belinda Faustinos, San Gabriel and lower Los Angeles Rivers and Mountains
Conservancy

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

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**ORDER R4-2017-0187
NPDES NO. CA0064645**

**WASTE DISCHARGE REQUIREMENTS
FOR THE WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
GROUNDWATER RELIABILITY IMPROVEMENT PROJECT
ADVANCED WATER TREATMENT FACILITY**

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

Table 1. Discharger Information

Discharger/Permittee	Water Replenishment District of Southern California
Name of Facility	Groundwater Reliability Improvement Project – Advanced Water Treatment Facility (GRIP–AWTF)
Facility Address	4320 San Gabriel River Parkway
	Pico Rivera, California 90660
	Los Angeles County

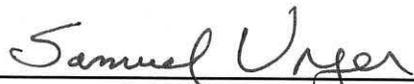
Table 2. Discharge Location

Discharge Point	Discharge Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Blended Tertiary treated Water	33.93052°	-118.10774°	San Gabriel River
001A	Blended Tertiary treated Water	33.99417°	-118.07333°	San Gabriel River
001B	Blended Tertiary treated Water	33.96972°	-118.08861°	San Gabriel River

Table 3. Administrative Information

This Order was adopted on:	October 5, 2017
This Order shall become effective on:	December 1, 2017
This Order shall expire on:	November 30, 2022
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	180 days prior to the Order expiration date
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	Major

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



Samuel Unger, P.E., Executive Officer

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I. FACILITY INFORMATION

Information describing the Groundwater Reliability Improvement Project – Advanced Water Treatment Facility (GRIP–AWTF or Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility’s permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

- A. Legal Authorities.** This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (CWC) (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 U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for 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.
- C. Provisions and Requirements Implementing State Law.** Some of the provisions/requirements in this Order and the Monitoring and Reporting Program (MRP) are included to implement state law only. These provisions/requirements are not mandated or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies available for NPDES violations.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- E. Consideration of Public Comment.** The Regional Water Board, in a public hearing, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of blended tertiary treated water (San Jose Creek WRP tertiary treated effluent plus GRIP-AWTF advanced treated recycled water) at a location different from that described in this Order is prohibited.

- B. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.F. of Attachment D, Standard Provisions.
- C. The monthly average effluent dry weather discharge flow rate from the facility shall not exceed the 14.8 million gallons per day (mgd) design capacity.
- D. The Permittee shall not cause degradation of any water supply, except as consistent with State Water Resources Control Board (State Water Board) Resolution No. 68-16.
- E. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivisions (l) and (m), of the CWC.
- F. The discharge of any substances in concentrations toxic to animals or plants is prohibited.
- G. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001, 001A, and 001B

1. Final Effluent Limitations – Discharge Points 001, 001A, and 001B

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001, 001A, and 001B into the San Gabriel River, with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Effluent Limitations for Discharge Points 001, 001A, and 001B						
Turbidity ¹	NTU	--	--	0.2 ¹	--	0.5 ¹
pH	standard units	--	--	--	6.5	8.5
Temperature	°F	--	--	86 ²		
Total coliform ³	MPN or CFU/100 mL	23 ³	2.2 ³	240 ³		

¹ For the protection of the water contact recreation beneficial use and human health, the effluent discharged from the AWTF to water courses shall have received adequate treatment, per California Code of Regulations, title 22, sections 60301.320(b) and 60320.108(b), so that the turbidity of the treated effluent does not exceed any of the following: (a) 0.2 Nephelometric turbidity units (NTUs) more than 5 percent of the time (72 minutes) within a 24-hour period; and (b) 0.5 NTU at any time.

² The temperature of the effluent discharged from the AWTF shall not exceed 86°F except as a result of external ambient temperature.

³ The effluent discharged from the AWTF to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the effluent from the AWTF shall be considered adequately disinfected (per California Code of Regulations, title 22, sections 60301.230(b) and 60320.108(b)) if: (1) the median number of total coliform bacteria in the disinfected effluent does not exceed a 7-day median of 2.2 Most Probable

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Residual Chlorine	mg/L	--	--	0.1		
	lbs/day ⁴	--	--	12		
2,3,7,8-TCDD (Dioxin)	pg/L	0.014	--	0.028		
	lbs/day ⁴	1.7E-09	--	3.5E-09		
Chronic Toxicity ^{5,6}	Pass or Fail, % Effect (Test of Significant Toxicity, (TST))	Pass ⁷	--	Pass or % Effect <50		

Number (MPN) or Colony Forming Unit (CFU) per 100 milliliters utilizing the bacteriological results of the last seven (7) days for which an analysis has been completed, (2) the number of total coliform bacteria does not exceed 23 MPN or CFU per 100 milliliters in more than one sample within any 30-day period, and (3) no sample shall exceed 240 MPN or CFU of total coliform bacteria per 100 milliliters. Samples shall be collected at a time when the flow from AWTF and its characteristics are most demanding on treatment facilities and disinfection processes.

- 4 The mass emission rates are based on the plant design flow rate of 14.8 mgd, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day, or Flow (mgd) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.
- 5 The median monthly effluent limitation (MMEL) shall be reported as “Pass” or “Fail.” The maximum daily effluent limitation (MDEL) shall be reported as “Pass” or “Fail” and “% Effect.” The MMEL for chronic toxicity shall only apply when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.”
- 6 A numeric WQBEL is established because effluent data showed that there is reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The Chronic Toxicity final effluent limitation is protective of both the numeric acute toxicity and the narrative toxicity Basin Plan water quality objectives. These final effluent limitations will be implemented using the *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA 2002, EPA-821-R-02-013), current USEPA guidance in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June /2010) and *EPA Regions 8, 9, and 10 Toxicity Training Tool* (January 2010), <http://www2.epa.gov/region8/epa-regions-8-9-and-10-toxicity-training-tool-january-2010>.
- 7 This is a Median Monthly Effluent Limitation.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Effluent Limitations for Discharge Point 001						
Ammonia Nitrogen (as N) (ELS Absent, year round)	mg/L	5.5	--	8.0		
	lbs/day ⁴	679	--	987		
Copper (dry-weather only) ⁸	µg/L	--	--	18		
	lbs/day ⁴	--	--	--		
Effluent Limitations for Discharge Points 001A and 001B						
Total Dissolved Solids	mg/L	750	--	--		
	lbs/day ⁴	92,574	--	--		
Sulfate	mg/L	300	--	--		
	lbs/day ⁴	37,030	--	--		
Chloride	mg/L	180 ⁹	--	--		
	lbs/day ⁴	22,218	--	--		
Boron	mg/L	1.0	--	--		
	lbs/day ⁴	123	--	--		
Ammonia Nitrogen (as N) (ELS Present, April 1 – September 30)	mg/L	4.0	--	6.0		
	lbs/day ⁴	494	--	741		
Ammonia Nitrogen (as N) (ELS Absent, October 1 – March 31)	mg/L	4.9	--	6.8		
	lbs/day ⁴	605	--	839		
Nitrate + Nitrite (as N)	mg/L	8	--	--		
	lbs/day ⁴	987	--	--		
Nitrite (as N)	mg/L	1.0	--	--		
	lbs/day ⁴	123	--	--		
Lead (wet-weather only) ¹⁰	µg/L	--	--	166		
	lbs/day ⁴	--	--	--		

⁸ Dry-weather effluent limitations apply when the maximum daily flow measured at the San Gabriel River, United States Geological Survey gauging station 11087020 is less than 260 cubic feet per second.

⁹ In accordance with the Resolution 97-02, adopted by the Regional Water Board on January 27, 1997, the chloride limitation has been increased from 150 to 180 mg/L.

¹⁰ Wet-weather effluent limitations apply when the maximum daily flow measured at the San Gabriel River, United States Geological Survey gauging station 11087020 is equal to or greater than 260 cubic feet per second.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Radioactivity ¹¹						
Combined Radium-226 and Radium 228	pCi/L	5 ¹¹	--	--		
Gross Alpha particle activity (excluding radon and uranium)	pCi/L	15 ¹¹	--	--		
Uranium	pCi/L	20 ¹¹	--	--		
Gross Beta/photon ¹² emitters	millirem/year	4 ¹¹	--	--		
Strontium-90	pCi/L	8 ¹¹	--	--		
Tritium	pCi/L	20,000 ¹¹	--	--		

- b. To protect the underlying ground water basins, pollutants shall not be present in the advanced treated recycled water discharged at concentrations that pose a threat to ground water quality.

B. Land Discharge Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives (WQOs) contained in the Basin Plan and are a required part of this Order. The discharge of the blended tertiary treated water shall not cause the following in San Gabriel River:

- For waters designated with a warm freshwater habitat (WARM) beneficial use, the temperature of the receiving water at any time or place and within any given 24-hour period shall not be altered by more than 5°F above the natural temperature and shall not be raised above 86°F due to the discharge of the blended tertiary treated water at the receiving water station located downstream of the discharge. Natural conditions shall be determined on a case-by-case basis.

¹¹ The radioactivity of the wastes discharged shall not exceed the limits specified in title 22, chapter 15, article 5, sections 64442 and 64443, of the California Code of Regulations (CCR), or subsequent revisions.

¹² If the results of testing for all beta and photon emitters is less than or equal to 50 pCi/L, the facility is in compliance and the value shall be reported as <4 millirem/year. If the test results for all beta and photon emitters are greater than 50 pCi/L, the Permittee must have the samples further analyzed for the *individual* nuclides. If the sum of the fractions of the detected nuclides is <1, the facility is in compliance. The procedures for calculating the sum of fractions is presented in the Compliance Determination, section VII.P.

If the receiving water temperature, downstream of the discharge, exceeds 86°F as a result of the following:

- a. High temperature in the ambient air; or,
 - b. High temperature in the receiving water upstream of the discharge,
- then the exceedance shall not be considered a violation.
2. The pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of the discharged blended tertiary treated water. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of the discharged blended tertiary treated water. Natural conditions shall be determined on a case-by-case basis.
 3. The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the discharged blended tertiary treated water.
 4. The total residual chlorine shall not exceed 0.1 mg/L in the receiving waters and shall not persist in the receiving water at any concentration that causes impairment of beneficial uses as a result of the discharged blended tertiary treated water.
 5. The *Escherichia coli* (*E. coli*) concentration in the receiving water shall not exceed the following, as a result of the discharged blended tertiary treated water:
 - a. Geometric Mean Limits
E. coli density shall not exceed 126/100 mL.
 - b. Single Sample Limits
E. coli density shall not exceed 235/100 mL.
 6. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits, as a result of the discharged blended tertiary treated water:
 - a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%.
 - b. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.
 7. The discharged blended tertiary treated water shall not produce concentrations of substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.
 8. The discharged blended tertiary treated water shall not cause concentrations of contaminants to occur at levels that are harmful to human health in waters which are existing or potential sources of drinking water.
 9. The concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses as a result of the discharged blended tertiary treated water.
 10. The discharged blended tertiary treated water shall not contain substances that result in increases in BOD, which adversely affect the beneficial uses of the receiving waters.
 11. The discharged blended tertiary treated water shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

12. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions as a result of the discharged blended tertiary treated water.
13. The discharged blended tertiary treated water shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.
14. The discharged blended tertiary treated water shall not alter the natural taste, odor, or color of fish, shellfish, or other surface water resources used for human consumption.
15. The discharged blended tertiary treated water shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges, or other pests.
16. The discharged blended tertiary treated water shall not result in visible floating particulates, foams, or oil and grease in the receiving waters.
17. The discharged blended tertiary treated water shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; or cause aesthetically undesirable discoloration of the receiving waters.
18. The discharged blended tertiary treated water shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life as a result of the discharged blended tertiary treated water.
19. Chronic Toxicity Narrative Receiving Water Quality Objective
 - a. There shall be no chronic toxicity in ambient waters as a result of discharged blended tertiary treated water.
 - b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.
 - c. If the chronic toxicity median monthly threshold at the immediate downstream receiving water location is not met and the toxicity cannot be attributed to upstream toxicity, as assessed by the Permittee, then the Permittee shall initiate accelerated monitoring according to Attachment E – MRP section V.A.7.
 - d. If the chronic toxicity median monthly threshold of the receiving water at both upstream and downstream stations is not met, but the effluent chronic toxicity median monthly effluent limitation was met, then accelerated monitoring need not be implemented.
20. The discharged blended tertiary treated water shall not cause the ammonia water quality objective in the Basin Plan to be exceeded in the receiving waters. Compliance with the ammonia water quality objectives shall be determined by comparing the receiving water ammonia concentration to the ammonia water quality objective in the Basin Plan. The ammonia water quality objective can also be calculated using the pH and temperature of the receiving water at the time of collection of the ammonia sample.

B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded except as consistent with State Water Board Resolution No. 68-16, exceed WQOs, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
 - a. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by section 13050 of the CWC.
 - b. The provisions of this order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
 - c. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the CWA, related to oil and hazardous substances liability.
 - d. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities or penalties to which the Permittee is or may be subject to under section 311 of the CWA, related to oil and hazardous substances liability.
 - e. The Permittee shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the federal CWA and amendments thereto.
 - f. These requirements do not exempt the operator of the facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this facility; and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
 - g. A copy of these waste discharge specifications shall be maintained at the discharge Facility so as to be available at all times to operating personnel.
 - h. If there is any storage of hazardous or toxic materials or hydrocarbons at this Facility and if the Facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
 - i. The Permittee shall file with the Regional Water Board a report of waste discharge at least 120 days before making any proposed change in the character, location or volume of the discharge.
 - j. In the event of any change in name, ownership, or control of the advanced water treatment facilities, the Permittee shall notify the Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board, 30 days prior to taking effect.

- k. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this Order.
- l. The Permittee shall notify the Executive Officer in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical,
 - ii. Frequency of use,
 - iii. Quantities to be used,
 - iv. Proposed discharge concentrations, and
 - v. USEPA registration number, if applicable.
- m. Violation of any of the provisions of this Order may subject the Permittee to any of the penalties described herein or in Attachment D of this Order, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.
- n. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- o. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation, or some combination thereof, depending on the violation, or upon the combination of violations.
- p. CWC section 13385(h)(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars (\$3,000) for each serious violation. Pursuant to CWC section 13385(h)(2), a "serious violation" is defined as any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant by 20 percent or more, or for a Group I pollutant by 40 percent or more. Appendix A of 40 CFR part 123.45 specifies the Group I and II pollutants. Pursuant to CWC section 13385.1(a)(1), a "serious violation" is also defined as "a failure to file a discharge monitoring report required pursuant to section 13383 for each complete period of 30 days following the deadline for submitting the report, if the report is designed to ensure compliance with limitations contained in waste discharge requirements that contain effluent limitations."
- q. CWC section 13385(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars (\$3,000) for each violation whenever a person violates a waste discharge requirement effluent limitation in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three violations within that time period.

- r. Pursuant to CWC section 13385.1(d), for the purposes of section 13385.1 and subdivisions (h), (i), and (j) of section 13385, "effluent limitation" means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location. An effluent limitation may be final or interim, and may be expressed as a prohibition. An effluent limitation, for these purposes, does not include a receiving water limitation, a compliance schedule, or a best management practice.
- s. CWC section 13387(e) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order shall be punished by a fine of not more than twenty-five thousand dollars (\$25,000), imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for 16, 20, or 24 months, or by both that fine and imprisonment. For a subsequent conviction, such a person shall be punished by a fine of not more than twenty-five thousand dollars (\$25,000) per day of violation, by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for two, three, or four years, or by both that fine and imprisonment.
- t. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order that may endanger health or the environment, the Permittee shall notify the Chief of the Watershed Regulatory Section at the Regional Water Board by telephone (213) 576-6616 or by fax at (213) 576-6660 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing to the Regional Water Board within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. The written notification shall also be submitted via email with reference to CI-10317 to losangeles@waterboards.ca.gov. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

- a. This Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to:
 - i. Violation of any term or condition contained in this Order;
 - ii. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts; or
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Permittee for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

- b. 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 testing, monitoring of 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.
- c. This Order may be modified, in accordance with the provisions set forth in 40 CFR parts 122 and 124 to include requirements for the implementation of a watershed protection management approach.
- d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order have or will have a reasonable potential to cause, or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Permittee for an Order modification, revocation and issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- f. This Order may be modified, in accordance with the provisions set forth in 40 CFR parts 122 to 124, to include new minimum levels (MLs).
- g. If an applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Water Board may institute proceedings under these regulations to modify or revoke and reissue the Orders to conform to the toxic effluent standard or prohibition.
- h. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments, thereto, the Regional Water Board will revise and modify this Order in accordance with such standards.
- i. This Order may be reopened and modified, to add or revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, or the adoption/revision of any of the San Gabriel River Watershed Total Maximum Daily Loads (TMDLs).
- j. This Order may be reopened and modified, to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.
- k. 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.

summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. Pollutant Minimization Program (PMP)

Reporting protocols in MRP section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a reported ML and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a PMP as follows:

The Permittee shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as DNQ 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; or, results of benthic or aquatic organism tissue sampling) that a pollutant is present in the effluent above an effluent limitation and either of the following is true:

- i. The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or,
- ii. The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.

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

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

- i. 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.
- ii. Quarterly monitoring for the reportable pollutant(s) in the influent to the advanced water treatment facility.
- iii. 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.
- iv. Implementation of appropriate cost-effective control measures for the reportable pollutant(s), consistent with the control strategy.
- v. An annual status report that shall be sent to the Regional Water Board including:
 - (a) All PMP monitoring results for the previous year.

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

4. Construction, Operation and Maintenance Specifications

- a. The AWTF shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to California Code of Regulations (CCR), title 23, division 3, chapter 26 (CWC sections 13625 – 13633).
- b. The Discharger shall provide safeguards to assure that, should there be a reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order/Permit. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

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

6. Spills or Unauthorized Discharges of Tertiary Treated Recycled Water

a. Major Spills (more than 50,000 gallons)

The Permittee shall immediately (but no later than two hours) notify the Regional Water Board and County Health or the local health department, if applicable, by telephone or electronic means of an unauthorized discharge of more than fifty thousand (>50,000) gallons of tertiary recycled water. The DDW must be contacted if a drinking water source is threatened by the spill. If the environment is endangered by the spill, the California State Department of Fish and Wildlife must be contacted. Written confirmation must be provided electronically (e.g., email or fax) to all agencies within three (3) business days from the date of notification. The phone number for reporting spills to the Regional Water Board is (213) 576-6657. The phone numbers for after hours and weekend reporting of spills to the Regional Water Board are (213) 305-2284 and (213) 305-2253.

Information provided shall include the date and time the spill began and ended, the location of the spill, if the spill entered a storm drain or receiving water, the estimated volume of the spill or flow if the spill is ongoing, the estimated time of repair, the cause of the spill, the agencies involved with repair and clean-up, and corrective actions taken or plans for corrective actions.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data

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

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee may be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee may be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month with respect to the AMEL.

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Permittee will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Permittee may collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" section above, will be used for compliance determination.

In the event of noncompliance with an AMEL, the sampling frequency for that parameter shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.

D. Average Weekly Effluent Limitation (AWEL)

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. 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 Permittee 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 with respect to the AWEL.

A calendar week will begin on Sunday and end on Saturday. Partial calendar weeks at the end of calendar month will be carried forward to the next month in order to calculate and report a consecutive seven-day average value on Saturday.

E. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge on a calendar day exceeds the MDEL for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for that day for that parameter. If no sample (daily discharge) is taken over a calendar day, no compliance determination can be made for that day with respect to effluent violation determination, but compliance determination can be made for that day with respect to reporting violation determination.

F. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a potential violation will be flagged and the Permittee 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 non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a potential violation will be flagged and the Permittee 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 non-compliance with the instantaneous maximum effluent limitation).

H. 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, a potential violation will be flagged and the Permittee 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 Permittee will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median effluent limitation.

I. Median Monthly Effluent Limitation (MMEL)

If the median of daily discharges over a calendar month exceeds the MMEL for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). However, a potential violation of the MMEL will be considered one violation for the purpose of assessing State mandatory minimum penalties. If no sample (daily discharge) is taken over a calendar month, no compliance determination can be made for that month with respect to effluent violation determination, but compliance determination can be made for that month with respect to reporting violation determination.

J. Chronic Toxicity

The discharge is subject to determination of “Pass” or “Fail” and “Percent Effect” from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1. The null hypothesis (Ho) for the TST statistical approach is: Mean discharge In-stream Waste Concentration (IWC) response $\leq 0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as “Pass.” A test result that does not reject this null hypothesis is reported as “Fail.” The relative “Percent Effect” at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$. This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations - in the case of Whole Effluent Toxicity (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 MDEL for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST statistical approach, results in “Fail” and the “Percent Effect” is ≥ 0.50 .

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

The chronic toxicity MDEL and MMEL are set at the IWC for the discharge (100% effluent) and expressed in units of the TST statistical approach (“Pass” or “Fail”, “Percent Effect”). All NPDES effluent compliance monitoring for the chronic toxicity MDEL and MMEL shall be reported using only the 100% effluent concentration and negative control, expressed in units of the TST. The TST hypothesis (Ho) (see above) is statistically analyzed using the IWC and a negative control. Effluent toxicity tests shall be run using a multi-concentration test design when required by Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (USEPA 2002, EPA-821-R-02-013). The Regional Water Board’s review of reported toxicity test results will include review of concentration-response patterns as appropriate (see Fact Sheet discussion at IV.C.5). As described in the bioassay laboratory audit correspondence from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the No Observable Effect Concentration (NOEC) and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results. Standard Operating Procedures used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent (and receiving water) toxicity test measurement results from the TST statistical approach, including those that incorporate a consideration of concentration-response patterns, must be submitted to the Regional Water Board (40 CFR section 122.41(h)). The Regional Water Board will make a final determination as to whether a toxicity test result is valid, and may consult with the Permittee, the USEPA, the State Water Board’s Quality Assurance Officer, or the State Water Board’s Environmental Laboratory Accreditation

Program (ELAP) as needed. The Board may consider the results of any TIE/TRE studies in an enforcement action.

K. Percent Removal

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

$$\text{Percent Removal (\%)} = [1 - (C_{\text{Effluent}}/C_{\text{Influent}})] \times 100\%$$

When preferred, the Permittee may substitute mass loadings and mass emissions for the concentrations.

L. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

M. Compliance with Single Constituent Effluent limitations

Permittees may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see section B “Multiple Sample Data Reduction” above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

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

Permittees are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB’s) 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.

O. Compliance with 2,3,7,8-TCDD Equivalents

TCDD equivalents shall be calculated using the following formula, where the MLs, and toxicity equivalency factors (TEFs) are as provided in the table below. The Permittee shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Permittee shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{Dioxin Concentration} = \sum_{1}^{17} (TEQi) = \sum_{1}^{17} (Ci)(TEFi)$$

where:

Ci = individual concentration of a dioxin or furan congener

TEFi = individual TEF for a congener

MLs and TEFs

Congeners	MLs (pg/L)	TEFs
2,3,7,8-TetraCDD	10	1.0
1,2,3,7,8-PentaCDD	50	1.0
1,2,3,4,7,8-HexaCDD	50	0.1
1,2,3,6,7,8-HexaCDD	50	0.1
1,2,3,7,8,9-HexaCDD	50	0.1
1,2,3,4,6,7,8-HeptaCDD	50	0.01
OctaCDD	100	0.0001
2,3,7,8-TetraCDF	10	0.1
1,2,3,7,8-PentaCDF	50	0.05
2,3,4,7,8-PentaCDF	50	0.5
1,2,3,4,7,8-HexaCDF	50	0.1
1,2,3,6,7,8-HexaCDF	50	0.1
1,2,3,7,8,9-HexaCDF	50	0.1
2,3,4,6,7,8-HexaCDF	50	0.1
1,2,3,4,6,7,8-HeptaCDFs	50	0.01
1,2,3,4,7,8,9-HeptaCDFs	50	0.01
OctaCDF	100	0.0001

P. Compliance with Gross Beta/photon Emitters

The monthly average effluent limitation for gross beta/photon is equal to 4 millirem/year. If the results of testing for all beta and photon emitters is less than or equal to 50 picoCuries per liter (pCi/L), the facility is in compliance and the value shall be reported as <4 millirem/year. If the test results for all beta and photon emitters are greater than 50 pCi/L, the Permittee must have the samples further analyzed for the *individual* nuclides. The calculation for the sum of the fractions is presented below.

The maximum contaminant level (MCL) for gross beta/photon is equal 4 millirem per year. A millirem is a dose energy to the body. USEPA regulates 179 man-made nuclides, and each of them has a concentration of radiation measured in pCi/L, which produces the 4 millirem dose. These concentrations are listed on table, *Derived Concentrations of (pCi/L) of Beta and Photon Emitters in Drinking Water*, shall be used to determine compliance.

Derived Concentrations (pCi/l) of Beta and Photon Emitters in Drinking Water

Yielding a Dose of 4 mrem/yr to the Total Body or to any Critical Organ as defined in NBS Handbook 69

Nuclide	pCi/l	Nuclide	pCi/l	Nuclide	pCi/l	Nuclide	pCi/l	Nuclide	pCi/l	Nuclide	pCi/l
H-3	20,000	Ni-65	300	Nb-95	300	Sb-124	60	Nd-147	200	Os-191	600
Be-7	6,000	Cu-64	900	Nb-97	3,000	Sb-125	300	Nd-149	900	Os-191m	9,000
C-14	2,000	Zn-65	300	Mo-99	600	Te-125m	600	Pm-147	600	Os-193	200
F-18	2,000	Zn-69	6,000	Tc-96	300	Te-127	900	Pm-149	100	Ir-190	600
Na-22	400	Zn-69m	200	Tc-96m	30,000	Te-127m	200	Sm-151	1,000	Ir-192	100
Na-24	600	Ga-72	100	Tc-97	6,000	Te-129	2,000	Sm-153	200	Ir-194	90
Si-31	3,000	Ge-71	6,000	Tc-97m	1,000	Te-129m	90	Eu-152	200	Pt-191	300
P-32	30	As-73	1,000	Tc-99	900	Te-131m	200	Eu-154	60	Pt-193	3,000
S-35 inorg	500	As-74	100	Tc-99m	20,000	Te-132	90	Eu-155	600	Pt-193m	3,000
Cl-36	700	As-76	60	Ru-97	1,000	I-126	3	Gd-153	600	Pt-197	300
Cl-38	1,000	As-77	200	Ru-103	200	I-129	1	Gd-159	200	Pt-197m	3,000
K-42	900	Se-75	900	Ru-105	200	I-131	3	Tb-160	100	Au-196	600
Ca-45	10	Br-82	100	Ru-106	30	I-132	90	Dy-165	1,000	Au-198	100
Ca-47	80	Rb-86	600	Rh-103m	30,000	I-133	10	Dy-166	100	Au-199	600
Sc-46	100	Rb-87	300	Rh-105	300	I-134	100	Ho-166	90	Hg-197	900
Sc-47	300	Sr-85m	20,000	Pd-103	900	I-135	30	Er-169	300	Hg-197m	600
Sc-48	80	Sr-85	900	Pd-109	300	Cs-131	20,000	Er-171	300	Hg-203	60
V-48	90	Sr-89	20	Ag-105	300	Cs-134	80	Tm-170	100	Tl-200	1,000
Cr-51	6,000	Sr-90	8	Ag-110m	90	Cs-134m	20,000	Tm-171	1,000	Tl-201	900
Mn-52	90	Sr-91	200	Ag-111	100	Cs-135	900	Yb-175	300	Tl-202	300
Mn-54	300	Sr-92	200	Cd-109	600	Cs-136	800	Lu-177	300	Tl-204	300
Mn-56	300	Y-90	60	Cd-115	90	Cs-137	200	Hf-181	200	Pb-203	1,000
Fe-55	2,000	Y-91	90	Cd-115m	90	Ba-131	600	Ta-182	100	Bi-206	100
Fe-59	200	Y-91m	9,000	In-113m	3,000	Ba-140	90	W-181	1,000	Bi-207	200
Co-57	1,000	Y-92	200	In-114m	60	La-140	60	W-185	300	Pa-230	600
Co-58	300	Y-93	90	In-115	300	Ce-141	300	W-187	200	Pa-233	300
Co-58m	9000	Zr-93	2,000	In-115m	1,000	Ce-143	100	Re-186	300	Np-239	300
Co-60	100	Zr-95	200	Sn-113	300	Ce-144	300	Re-187	9,000	Pu-241	300
Ni-59	300	Zr-97	60	Sn-125	60	Pr-142	90	Re-188	200	Bk-249	2,000
Ni-63	50	Nb-93m	1,000	Sb-122	90	Pr-143	100	Os-185	200		

The sum of the fraction method is used because each photon emitter targets a different organ of the body, which results in a different magnitude of risk. The sum of the beta and photon emitters shall not exceed 4 millirem/year (40 CFR 141.66(d)(2)).

Each nuclide has a different concentration that produces 4 millirem dose because different radionuclides have different energy levels. Some nuclides need to be in a higher concentration to give the same 4 millirem dose.

The laboratory shall measure the nuclide concentration in the water, and compare this result to the concentration allowed for that particular nuclide (see table below). The comparison results in a fraction. This is shown in calculation below:

Fraction of the maximum

$$4 \text{ millirem/year exposure limit} = \frac{pCi/L \text{ found in sample (from laboratory results)}}{pCi/L \text{ equivalent from 4 millirem of exposure (from conversion table)}}$$

Each fraction must then be converted to a dose equivalent of 4 millirem/year by multiplying the fraction by 4. The results for each emitter must be summed to determine compliance.

A sample calculation is presented in the table below:

Emitter	X	Y	X/Y	4(X/Y)
	Lab Analysis (pCi/L)	Conversion from table (pCi/4millirem)	Calculate Fraction	Calculate Total (millirem)
Cs-134	5,023	20,000	0.25115	1.0
Cs-137	30	200	0.150	0.6

Emitter	X	Y	X/Y	4(X/Y)
	Lab Analysis (pCi/L)	Conversion from table (pCi/4millirem)	Calculate Fraction	Calculate Total (millirem)
Sr-90	4	8	0.5	2.0
I-131	2	3	0.7	2.8
Sum of the Fractions			1.60115	6.4

The system is in violation of the gross beta/photon effluent limitation because the “sum-of-the-fractions” is 6.4 millirem, which means that the sum of the annual dose equivalent to the total body, or to any internal organ, exceeds 4 millirem/year.

Q. Mass Emission Rate

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.34}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined effluent discharged as follows:

$$\text{Daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of component effluent discharged. 'Qi' and 'Ci' are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined effluent discharged.

R. Bacterial Standards and Analysis

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

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

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling. The geometric mean values should be calculated based on a statistically sufficient

number of samples and should not be less than 5 samples equally spaced over a 30-day period.

2. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total, fecal coliform, and *E.coli*, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.
3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, unless alternate methods have been approved by USEPA pursuant to 40 CFR part 136, or improved methods have been determined by the Executive Officer and/or USEPA.
4. Detection methods used for *E. coli* shall be those presented in Table 1A of 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, or in the USEPA publication EPA 600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

S. Single Operational Upset (SOU)

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

1. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. A Permittee may assert SOU to limit liability only for those violations which the Permittee submitted notice of the upset as required in Provision V.E.2(b) of Attachment D – Standard Provisions.
3. For purpose outside of CWC section 13385 subdivisions (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Permittees to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
4. For purpose of CWC section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Permittees to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC section 13385 (f)(2).

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

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

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

Average Monthly Effluent Limitation (AMEL)

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

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Carcinogenic

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

Coefficient of Variation (CV)

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

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

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

Dilution Credit

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the

dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)

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

Enclosed Bays

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

Estimated Chemical Concentration

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

Estuaries

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

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Maximum Daily Effluent Limitation (MDEL)

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

Median

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

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

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

Mixing Zone

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

Not Detected (ND)

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

Persistent Pollutants

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

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the WQBEL. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

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

Reporting Level (RL)

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

Source of Drinking Water

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

Standard Deviation (σ)

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

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

where:

x is the observed value;

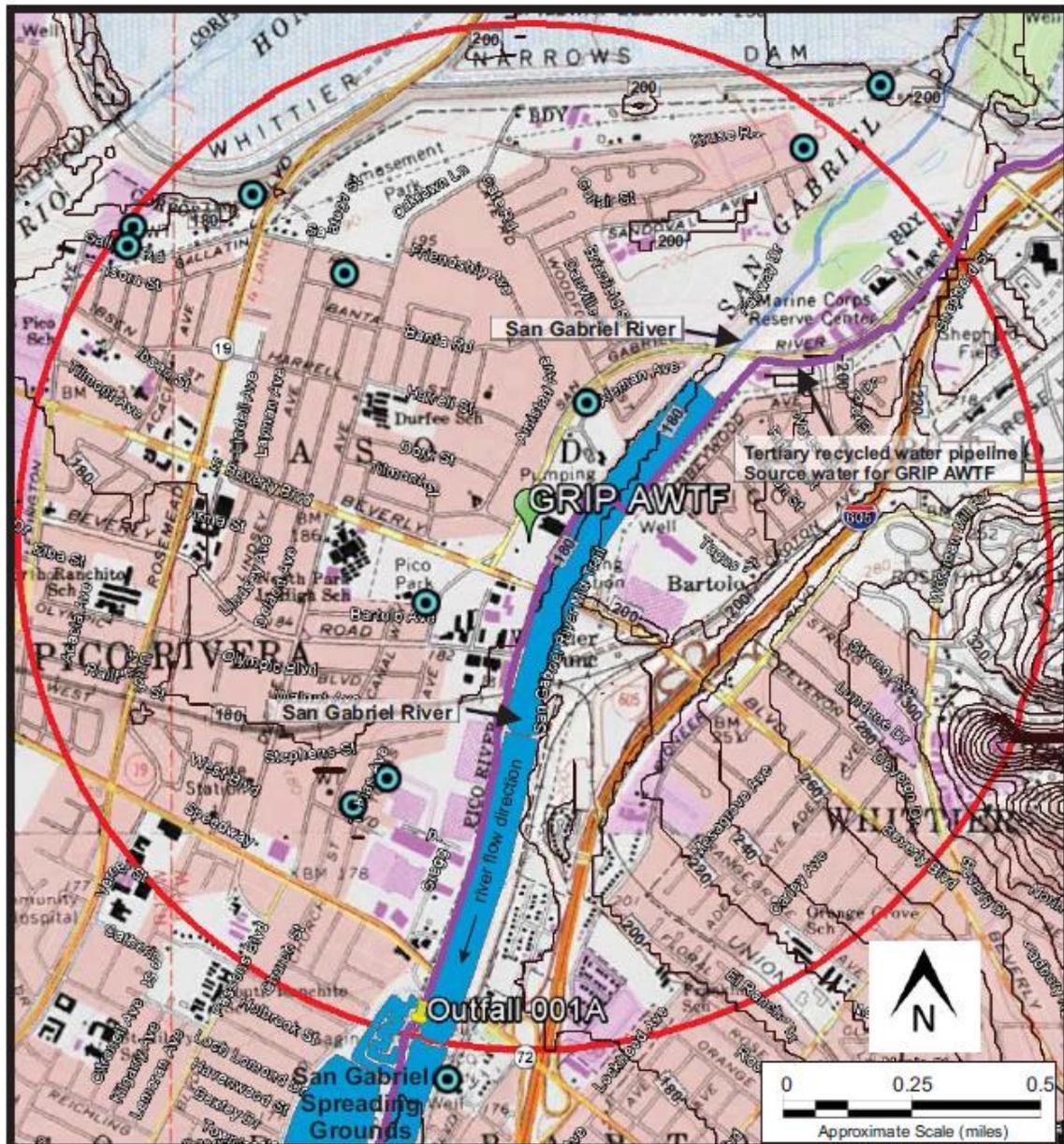
μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

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

ATTACHMENT B – MAP

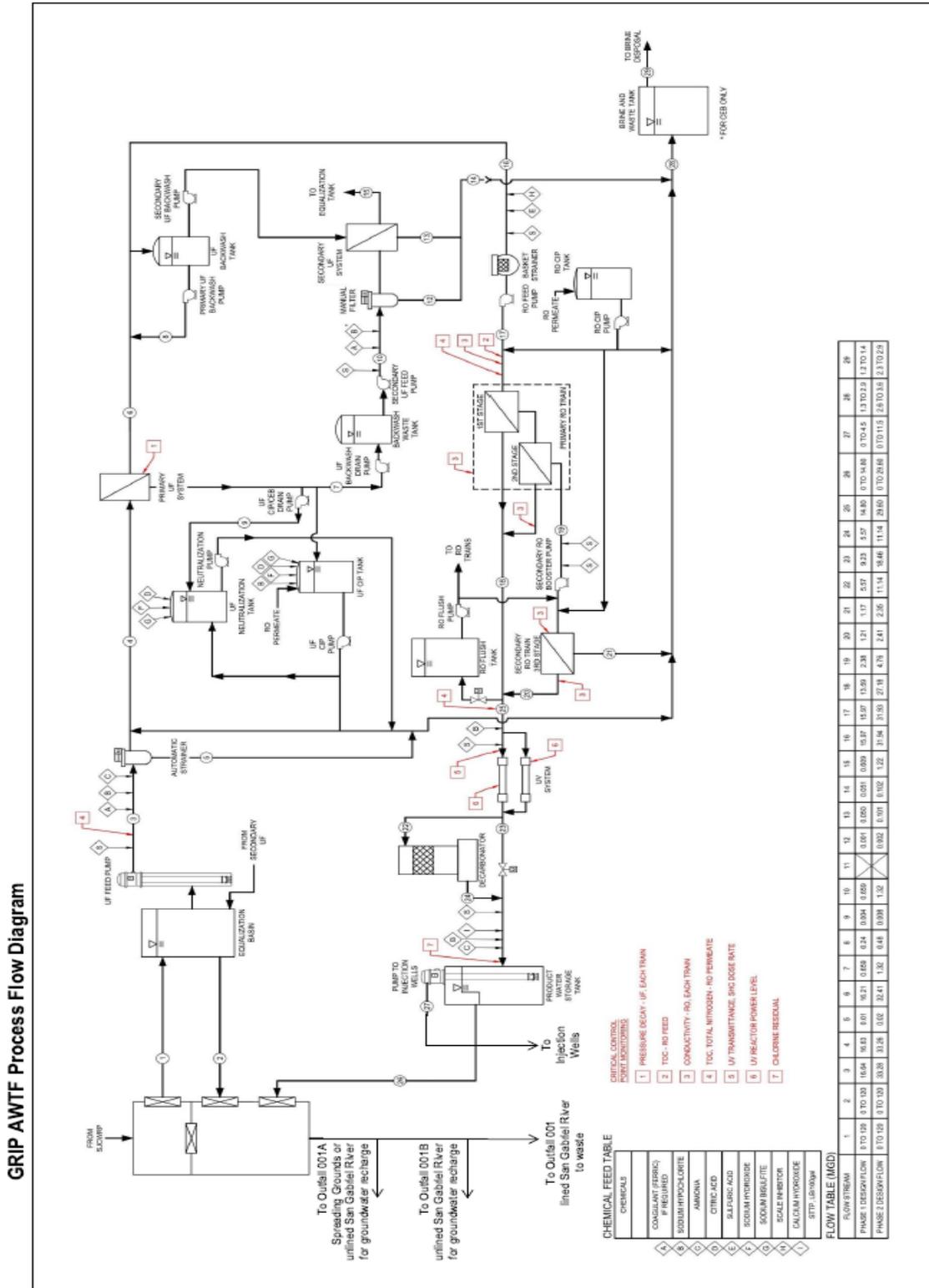


Map showing location of GRIP Advanced Water Treatment Facility (AWTF) with 1 mile radius, topography, water wells, surface water bodies, and recycled water pipeline.

LAT / LON of GRIP AWTF: 34.009296, -118.069391

-  1 mile radius from GRIP AWTF
-  Drinking Water Well
-  Recycled Water Pipeline
-  Land surface elevation contour, feet mean sea level. 20 foot contour interval

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 CFR § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Proper Operation and Maintenance

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

D. Property Rights

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

E. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 CFR § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 CFR § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 CFR § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 CFR § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 CFR § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

F. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.F.3, I.F.4, and I.F.5 below. (40 CFR § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.F.5 below. (40 CFR § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.F.3 above. (40 CFR § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. As of December 21, 2020, all notices must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). As of December 21, 2020, all notices must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall

comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

G. 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 § 122.41(n)(1).)

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)
- B. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when:
 - 1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
 - 2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3).

IV. STANDARD PROVISIONS – RECORDS

- A. Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
 - 6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)
- B. Claims of confidentiality for the following information will be denied (40 CFR § 122.7(b)):
 - 1. The name and address of any permit applicant or Discharger (40 CFR § 122.7(b)(1)); and
 - 2. Permit applications and attachments, permits and discharge data. (40 CFR § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and

reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 CFR § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. All reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127.
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board.
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted.

I. Other Information

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

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). USEPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.
- B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who *negligently* violates sections 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA,

or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two years, or both. Any person who *knowingly* violates such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who *knowingly* violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions (40 CFR part 122.41(a)(2); CWC section 13385 and 13387).

- C. Any person may be assessed an administrative penalty by the Administrator of USEPA, the Regional Water Board, or State Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000. (40 CFR part 122.41(a)(3))
- D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. (40 CFR part 122.41(j)(5)).
- E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. (40 CFR part 122.41(k)(2)).

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs) – Not Applicable

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP), CI-10317

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 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

- A.** All samples shall be representative of the treated discharge under conditions of peak load. Quarterly analyses and sampling shall be performed during the 1st quarter (January, February, and March) the 2nd quarter (April, May, and June), the 3rd quarter (July, August, and September), and the 4th quarter (October, November, and December). Semiannual analyses and sampling shall be performed during the 1st quarter (January, February, and March) and the 3rd quarter (July, August, and September). Annual analyses shall be performed during the 3rd quarter (July, August, and September) with the exception of bioassessment per MRP section IX, if applicable. Should there be instances when monitoring could not be done during these specified months, the Permittee must notify the Regional Water Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of monthly, quarterly, semiannual, and annual analyses shall be reported as due date specified in Table E-9 of MRP.
- B.** Pollutants shall be analyzed using the analytical methods described in 40 CFR parts 136.3, 136.4, and 136.5 or 141 when approved by this Regional Water Board and the State Water Board; or where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.
- C.** Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports. A copy of the laboratory certification shall be provided in the Annual Report due to the Regional Water Board each time a new certification and/or renewal of the certification is obtained.
- D.** Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR part 136.3 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board. All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Permittee shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Water Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.
- E.** The Permittee shall calibrate and perform maintenance procedures on all monitoring instruments to ensure accuracy of measurements, or shall ensure that both equipment activities will be conducted.
- F.** For any analyses performed for which no procedure is specified in the United States Environmental Protection Agency (USEPA) guidelines, or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.
- G.** Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program (ELAP),

Division of Drinking Water (DDW) or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this Monitoring and Reporting Program.”

- H. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and the Reporting Level (RL) [the applicable minimum level (ML) or reported Minimum Level (RML)] for each pollutant. The MLs are those published by the State Water Resources Control Board (State Water Board) in the *Policy for the Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (State Implementation Policy or SIP)*, February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the RL.
- I. The Permittee shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, and obtains approval for a higher ML from the Executive Officer, as provided for in section K, below. If the effluent limitation is lower than all the MLs in Appendix 4, SIP, the Permittee must select the method with the lowest ML for compliance purposes. The Permittee shall include in the Annual Summary Report a list of the analytical methods employed for each test.
- J. The Permittee shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section K, below, the Permittee’s laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.
- K. In accordance with section 2.4.3 of the SIP, the Regional Water Board Executive Officer, in consultation with the State Water Board’s Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the Permittee’s permit in any of the following situations:
 - 1. When the pollutant under consideration is not included in Appendix 4, SIP;
 - 2. When the Permittee and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board;
 - 3. When the Permittee agrees to use an ML that is lower than those listed in Appendix 4;
 - 4. When the Permittee demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,
 - 5. When the Permittee uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-approved method 1613 for dioxins, and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Permittee, the Regional

Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

If there is any conflict between foregoing provisions and the SIP, the provisions stated in the SIP (section 2.4) shall prevail.

- L. If the Permittee samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with limitations set forth in this Order.
- M. The Permittee shall develop and maintain a record of all spills or bypasses of tertiary treated recycled water from GRIP-AWTF and its conveyance pipeline according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report.
- N. For all bacteriological analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for *enterococcus*). The detection methods used for each analysis shall be reported with the results of the analyses.
 - 1. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, unless alternate methods have been approved in advance by the USEPA pursuant to 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board.
 - 2. Detection methods used for E.coli shall be those presented in Table 1A of 40 CFR part 136, or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, or in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure*, or any improved method determined by the Regional Water Board to be appropriate.
- O. The Permittee shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

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

II. MONITORING LOCATIONS

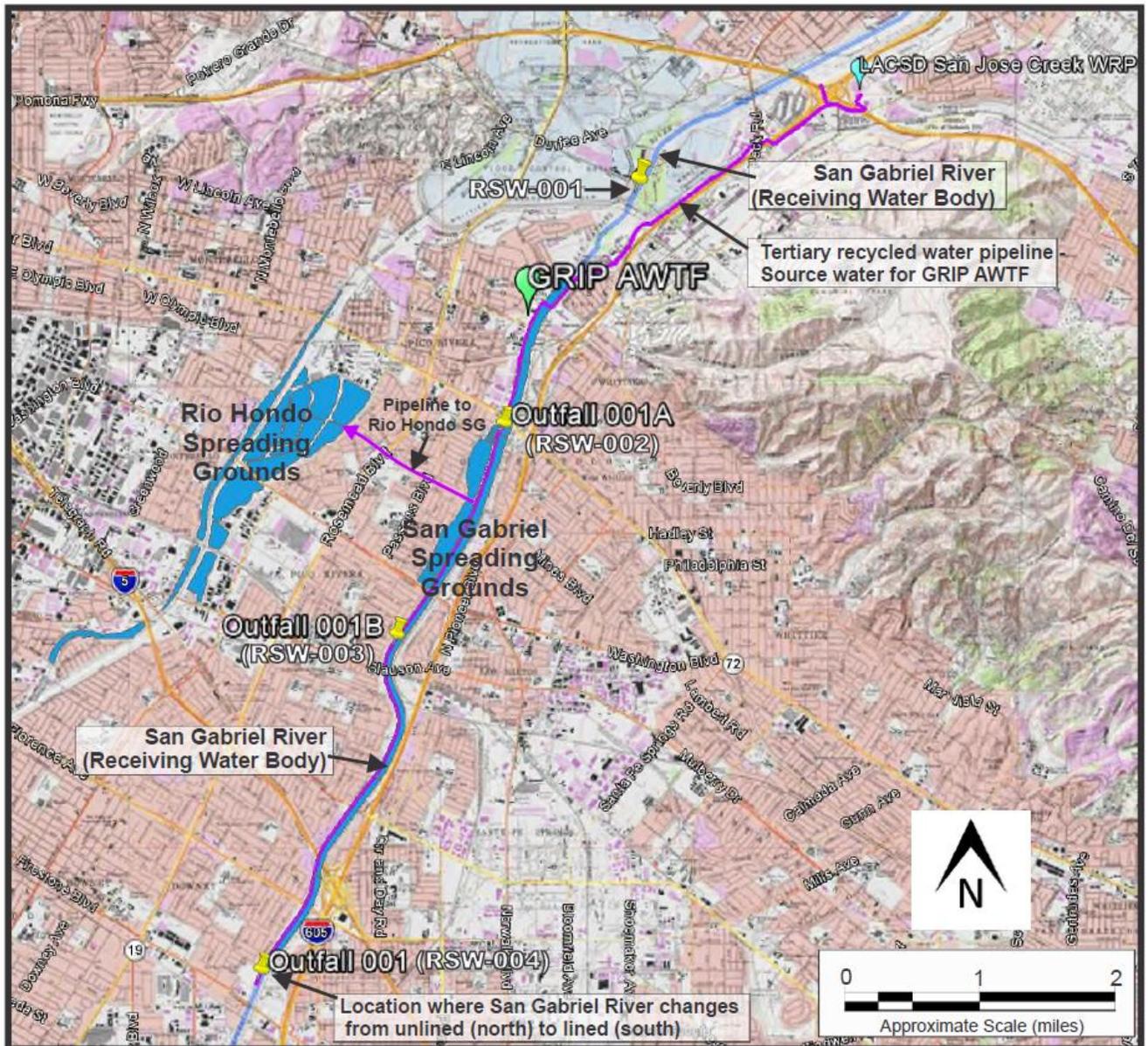
The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Influent Monitoring Station		
--	INF-001	The tertiary treated effluent from SJCWRP (East and/or West) is the influent source water of the GRIP-AWTF. The calculated flow-weighted concentrations of the effluent reported for EFF-001, EFF001A, and EFF-001B from the San Jose Creek WRP NPDES Permit No. CA0053911 is the influent concentration that will be reported for the GRIP-AWTF.
Effluent Monitoring Station		
001, 001A and 001B	EFF-001	The effluent sampling station shall be located downstream of any in-plant return flows and the final disinfection process, upstream of the diversion structure where it blends with the San Jose Creek WRP's tertiary treated effluent, and where representative samples of the AWTF discharge can be obtained. Latitude: 34.00930° Longitude: -118.06939°
Receiving Water Monitoring Stations		
--	RSW-001	San Gabriel River, 100 feet downstream of the Whittier Narrows WRP Discharge Point 001 (R-A). This existing station (aka RSW-002 (RA) of Whittier Narrows WRP) will serve as the upstream monitoring station for the GRIP-AWTF. Latitude: 33.02236° Longitude: -118.05483°
001A	RSW-002	It is located in Reach 2 of the San Gabriel River at the headworks of the San Gabriel River Spreading Grounds. ((aka RSW-006 (R12) of SJCWRP)) Latitude: 33.99386° Longitude: -118.07346°
001B	RSW-003	Discharge Point No.001B (nearby Rubber Dam No. 4) is located at the San Gabriel River bank, approximately 1475 feet upstream of Slauson Avenue. ((aka RSW-007 (R13) of the SJCWRP)) Latitude: 33.96947° Longitude: -118.08878°
001	RSW-004	It is located in Reach 2 of the San Gabriel River as defined in the Basin Plan, approximately 940 feet upstream of the division between Reach 1 and Reach 2. ((aka RSW-005 (R2) of SJCWRP)) Latitude: 33.92953° Longitude: -118.10781°
TMDL Stream Flow Monitoring Station		
--	RSW-004D	San Gabriel River, above the Whittier Narrows Dam, at USGS Gauging Station #11087020 located in San Gabriel River Reach 3 above Whittier Narrows Dam. This gauging station is operated and maintained by the USGS. Latitude: 34.03417° Longitude: -118.03722°

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

Figure E-1. GRIP-AWTF Discharge Points and Receiving Water Stations



Basemaps: USGS 7.5 Minute Quadrangles: Baldwin Park, El Monte, La Habra, Los Angeles, South Gate, Whittier

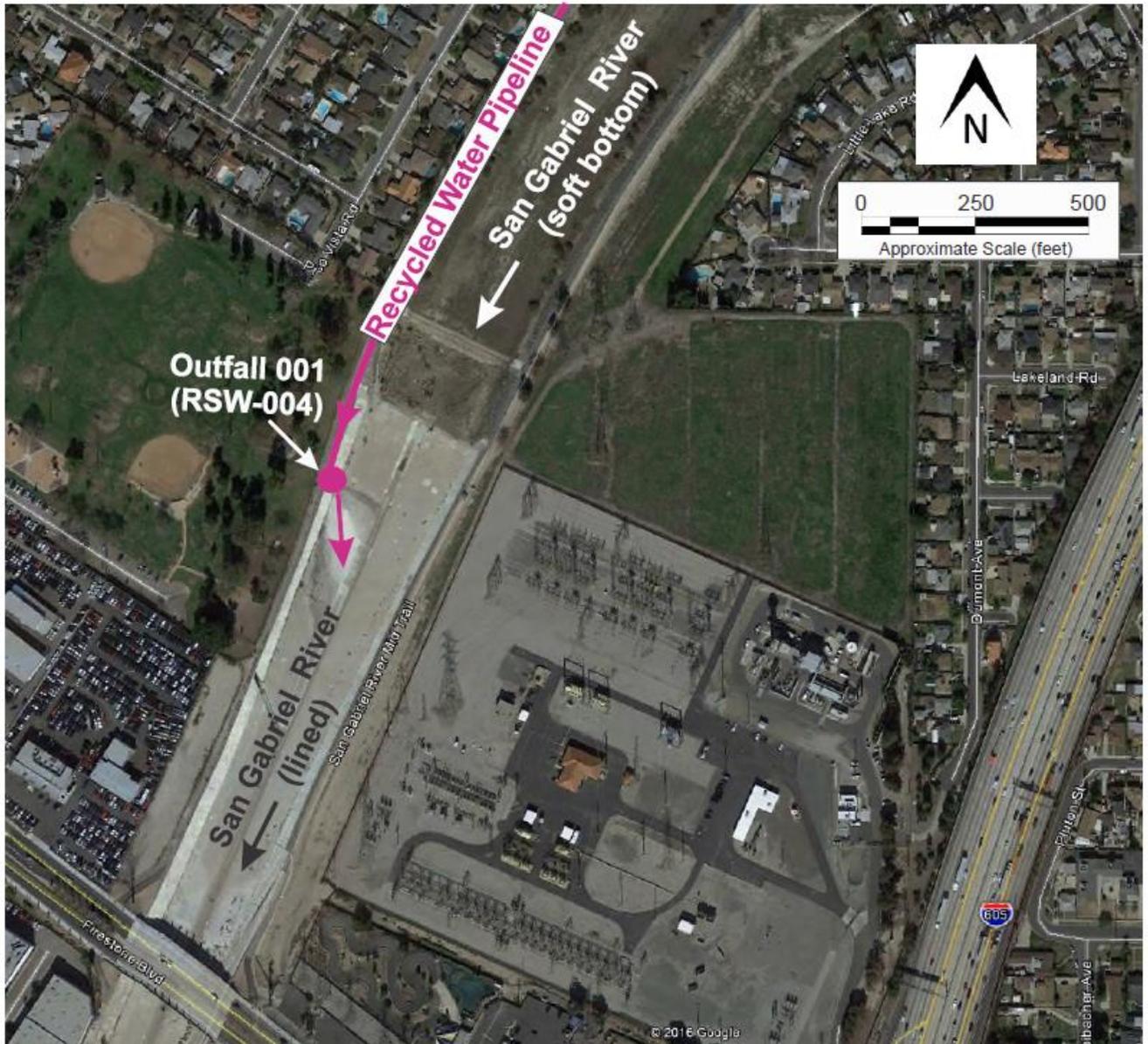
Figure E-2. Receiving Water Location RSW-002 near Discharge Point 001A



Figure E-3. Receiving Water Location RSW-003 near Discharge Point 001B



Figure E-4. Receiving Water Location RSW-004 near Discharge Point 001



III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

The Discharger shall monitor influent to the facility at INF-001 described in Table E-1. Monitoring requirements listed below may duplicate existing requirements under Waste Discharge Requirements Order No. R4-2015-0070 (NPDES Permit No. CA0053911) for the San Jose Creek WRPs. The San Jose Creek WRPs tertiary treated effluent is the influent water for the GRIP-AWTF. Therefore, flow-weighted calculations that were reported to comply with Table E-4 of the San Jose Creek WRPs permit will be accepted as equivalent to the influent monitoring requirements of the GRIP-AWTF for the parameters listed below.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	recorder	continuous ¹	1
pH	pH unit	calculated	weekly	2
Copper	µg/L	calculated	quarterly	2
Lead	µg/L	calculated	quarterly	2
Remaining USEPA priority pollutants ³ excluding asbestos and PCBs	µg/L	calculated	semiannually	2

IV. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to:

1. Determine compliance with National Pollutant Discharge Elimination System (NPDES) permit conditions and water quality standards.
2. Assess plant performance, identify operational problems and improve plant performance.
3. Provide information on advanced treated recycled water characteristics and flows for use in interpreting water quality and biological data.
4. Determine reasonable potential analysis for toxic pollutants.
5. Determine TMDL effectiveness in waste load allocation compliance.

A. Minimum Level (ML) and Analytical Method Selection

1. Minimum Level (ML) and Analytical Method Selection

USEPA published regulations for the Sufficiently Sensitive Methods Rule (SSM Rule) which became effective September 18, 2015. For the purposes of the NPDES program,

¹ Total daily flow, monthly average flow, and instantaneous peak daily flow (24-hr basis) shall be reported. Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

² Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

³ Priority pollutants are those constituents referred to in 40 CFR part 401.15; a list of these pollutants is provided as Appendix A to 40 CFR part 423.

when more than one test procedure is approved under 40 C.F.R. part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board, for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). Both 40 C.F.R sections 122.21(e)(3) and 122.44(i)(1)(iv) apply to the selection of a sufficiently sensitive analytical method for the purposes of monitoring and reporting under NPDES permits, including review of permit applications. A USEPA-approved analytical method is sufficiently sensitive where:

- a. The ML is at or below both the level of the applicable water quality criterion/objective and the permit limitation for the measured pollutant or pollutant parameter; or
 - b. In permit applications, the ML is above the applicable water quality criterion/objective, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
 - c. The method has the lowest ML of the USEPA-approved analytical methods where none of the USEPA-approved analytical methods for a pollutant can achieve the MLs necessary to assess the need for effluent limitations or to monitor compliance with a permit limitation.
2. The MLs in SIP Appendix 4 remain applicable. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the SIP. For instance, USEPA Method 1631E for mercury is not currently listed in SIP Appendix 4, but it is published with an ML of 0.5 ng/L that makes it a sufficiently sensitive analytical method. Similarly, USEPA Method 245.7 for mercury is published with an ML of 5 ng/L.

B. Monitoring Location EFF-001

1. The Permittee shall monitor the AWTF effluent discharge at EFF-001. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total flow	mgd	recorder	continuous ⁴	4
Turbidity	NTU	recorder	continuous ⁴	5

⁴ Where continuous monitoring of a constituent is required, the following shall be reported:
 Total flow – Total daily and peak daily flow (24-hr basis);
 Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded 0.2 NTU, flow proportioned average daily value. Grab sample shall be collected to determine compliance with the 0.5 NTU limit. A flow-weighted 24-hour composite sample may be used in place of the recorder to determine the flow-proportioned average daily value.

⁵ Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total residual chlorine	mg/L	recorder	continuous ⁶	--
Total residual chlorine	mg/L	grab	daily ⁷	5
Total coliform	MPN/100mL or CFU/100ml	grab	daily ⁸	5
E. coli	MPN/100mL or CFU/100ml	grab	weekly	5
Temperature	°F	grab	weekly	5
pH	pH units	grab	weekly	5
Settleable Solids	mL/L	grab	quarterly	5
Total Suspended Solids (TSS)	mg/L	24-hour composite	quarterly	5
BOD ₅ 20°C	mg/L	24-hour composite	quarterly	5
Oil and grease	mg/L	grab	semiannually	5
Dissolved oxygen	mg/L	grab	monthly	5
Total Dissolved Solids	mg/L	24-hour composite	monthly	5
Sulfate	mg/L	24-hour composite	monthly	5
Chloride	mg/L	24-hour composite	monthly	5
Boron	mg/L	24-hour composite	monthly	5
Ammonia Nitrogen	mg/L	24-hour composite	monthly	5
Nitrite nitrogen	mg/L	24-hour composite	monthly	5
Nitrate nitrogen	mg/L	24-hour composite	monthly	5
Organic nitrogen	mg/L	24-hour composite	monthly	5
Total kjeldahl nitrogen	mg/L	24-hour composite	monthly	5
Total nitrogen	mg/L	24-hour composite	monthly	5
Total phosphorus	mg/L	24-hour composite	monthly	5
Orthophosphate-P	mg/L	24-hour composite	monthly	5
Surfactants (MBAS)	mg/L	24-hour composite	quarterly	5
Surfactants (CTAS)	mg/L	24-hour composite	quarterly	5
Total hardness (CaCO ₃)	mg/L	24-hour composite	monthly	5

⁶ Total residual chlorine (TRC) shall be recorded continuously. The recorded data shall be maintained by the Permittee for at least five years. The Permittee shall extract the maximum daily peak, and average daily from the recorded media and shall be reported on the monthly monitoring reports. In addition, calibration records for the TRC analyzer shall be submitted quarterly. The continuous monitoring data are not intended to be used for compliance determination purposes.

⁷ Daily samples shall be collected at monitoring location EFF-001, Monday through Friday only, except for holidays. Analytical results of daily grab samples will be used to determine compliance with total residual chlorine effluent limitation. Furthermore, additional monitoring requirements specified in section IV.B.2 shall be followed.

⁸ Daily grab samples shall be collected at monitoring location EFF-001, Monday through Friday only, except for holidays.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Chronic toxicity	Pass or Fail, % Effect (TST)	24-hour composite	monthly	5,9
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	pCi/L	24-hour composite	semiannually	10
Copper	µg/L	24-hour composite	monthly	5
Lead	µg/L	24-hour composite	monthly	5
Cyanide	µg/L	grab	semiannually	5
Antimony	µg/L	24-hour composite	semiannually	5
Arsenic	µg/L	24-hour composite	semiannually	5
Beryllium	µg/L	24-hour composite	semiannually	5
Cadmium	µg/L	24-hour composite	semiannually	5
Total Chromium	µg/L	grab	semiannually	5
Chromium III	µg/L	calculation	semiannually	5
Chromium VI	µg/L	grab	semiannually	5
Mercury ¹¹	µg/L	24-hour composite	semiannually	5
Nickel	µg/L	24-hour composite	semiannually	5
Selenium	µg/L	24-hour composite	semiannually	5
Silver	µg/L	24-hour composite	semiannually	5
Thallium	µg/L	24-hour composite	semiannually	5
Zinc	µg/L	24-hour composite	semiannually	5

⁹ The Permittee shall conduct whole effluent toxicity monitoring as outlined in section V. Please refer to section V.A.7 of this MRP for the accelerated monitoring schedule. The median monthly summary result shall be reported as “Pass” or “Fail.” The maximum daily single result shall be reported as “Pass” or “Fail” and “% Effect.” When there is a discharge on more than one day in a calendar month period, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.”

¹⁰ Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If Radium-226 & 228 exceeds the stipulated criteria, analyze for Tritium, Strontium-90 and Uranium.

¹¹ The effluent samples shall be analyzed for mercury using EPA method 1631E, per 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
2,3,7,8-TCDD ¹²	pg/L	24-hour composite	semiannually	5
Perchlorate	µg/L	grab	annually	13
1,4-Dioxane	µg/L	grab	annually	13
1,2,3-Trichloropropane	µg/L	grab	annually	13
Methyl tert-butyl-ether (MTBE)	µg/L	grab	annually	13
Iron	mg/L	24-hour composite	semiannually	5
Fluoride	mg/L	24-hour composite	semiannually	5
Chlorpyrifos ¹⁴	µg/L	24-hr composite	annually	5
Diazinon ¹⁴	µg/L	24-hr composite	annually	5
Total trihalomethanes ¹⁵	µg/L	grab/calculated sum	semiannually	5
PCBs as aroclors ¹⁶	µg/L	24-hour composite	annually	5
PCBs as congeners ¹⁷	pg/L	24-hour composite	annually	5

¹² In accordance with the SIP, the Discharger shall conduct monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water Station RSW-001, located upstream of discharge point 001A. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result (C_i) and their corresponding Toxicity Equivalence Factor (TEF_i), (i.e., TEQ_i = C_i x TEF_i). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{i=1}^{17} (\text{TEQ}_i) = \sum_{i=1}^{17} (C_i)(\text{TEF}_i)$$

¹³ Emerging chemicals include 1,4-dioxane (USEPA 8270M test method), perchlorate (USEPA 314 test method, or USEPA method 331 if a detection limit of less than 6 µg/L is achieved), 1,2,3-trichloropropane (USEPA 504.1, 8260B test method, or USEPA 524.2 in SIM mode), and methyl tert-butyl ether (USEPA 8260B test method or USEPA method 624 if a detection level of less than 5 µg/L is achieved, and if the Permittee received ELAP certification to run USEPA method 624).

¹⁴ Chlorpyrifos and Diazinon may be analyzed using USEPA method 8141A or EPA 525.2. Chlorpyrifos, Diazinon, and chronic effluent toxicity shall be sampled on the same day or as close to concurrently as possible.

¹⁵ Total trihalomethanes is the sum of concentrations of the trihalomethane compounds: bromodichloromethane, bromoform, chloroform, and dibromochloromethane.

¹⁶ PCBs as Aroclors is the sum of PCB 1016, PCB 1221, PCB 1232, PCB 1242, PCB 1248, PCB 1254, and PCB 1260 when monitoring using USEPA method 608.

¹⁷ PCBs as congeners shall mean the sum of 41 congeners when monitoring using USEPA proposed method 1668c. PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified, or quantified as co-elutions as appropriate. PCBs as congeners shall be analyzed using method EPA 1668c for three years and may be discontinued for the remaining life of this Order if none of the PCB congeners are detected using method EPA 1668c.

USEPA recommends that until USEPA proposed method 1668c for PCBs is incorporated into 40 CFR 136, Permittees should use for discharge monitoring reports/State monitoring reports: (1) USEPA method 608 for monitoring data, reported as aroclor results, that will be used for assessing compliance with WQBELs (if

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Remaining USEPA priority pollutants ¹⁸ excluding asbestos and PCBs	µg/L	24-hour composite; grab for VOCs	semiannually	5

2. Total Residual Chlorine Additional Monitoring

Continuous monitoring of total residual chlorine at the current location shall serve as an internal trigger for the increased grab sampling at EFF-001 if either of the following occurs, except as noted in item c:

- a. Total residual chlorine concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or
- b. Total residual chlorine concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.
- c. Additional grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Testing

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

The chronic toxicity IWC for this discharge is 100 percent effluent.

2. Sample Volume and Holding Time

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

3. Chronic Freshwater Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity <1 parts per thousand, the Permittee shall conduct the following chronic toxicity tests on effluent samples at the in-stream waste concentration for the discharge in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002;

applicable) and (2) USEPA proposed method 1668c for monitoring data, reported as 41 congener results, that will be used for informational purposes.

¹⁸ Priority pollutants are those constituents referred to in 40 CFR part 401.15; a list of these pollutants is provided as Appendix A to 40 CFR part 423.

Table IA, 40 CFR part 136). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

- a. A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).
- b. A static renewal toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
- c. A static toxicity test with the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

4. **Species Sensitivity Screening**

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

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

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

5. **Quality Assurance and Additional Requirements**

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

- a. The discharge is subject to determination of "Pass" or "Fail" and "Percent Effect" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, Table A-1 and Appendix B, Table B-1. The null hypothesis (H_0) for

the TST approach is: Mean discharge IWC response $\leq 0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as “Pass.” A test result that does not reject this null hypothesis is reported as “Fail.” The relative “Percent Effect” at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) \div Mean control response) \times 100. This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations - in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is “Pass” or “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

- b. The Median Monthly Effluent Limit (MMEL) for chronic toxicity only applies when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.”
- c. 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-4, below), then the Permittee must re-sample and re-test within 14 days.

Table E-4. USEPA Test Methods and Test Acceptability Criteria

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

- d. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
- e. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using EC25¹⁹.
- f. The Permittee shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).

¹⁹ EC25 is a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g., death, immobilization, or serious incapacitation) in 25 percent of the test organisms.

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

The Permittee shall prepare and submit a copy of the Permittee's initial investigation TRE work plan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The Permittee shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version, or EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, April 1989). At a minimum, the TRE Work Plan must contain the provisions in Attachment G that are relevant to the GRIP-AWTF. This work plan shall describe the steps that the Permittee intends to follow if toxicity is detected. At minimum, the work plan shall include:

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

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

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

8. **TRE Process**

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

- a. **Preparation and Implementation of Detailed TRE Work Plan.** The Permittee shall immediately initiate a TRE using, according to the type of treatment facility, USEPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) or EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, April 1989). and, within 15 days, submit to the Executive Officer a Detailed TRE Work Plan, which shall follow the TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:
 - i. Further actions by the Permittee to investigate, identify, and correct the causes of toxicity.
 - ii. Actions the Permittee will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.
 - iii. A schedule for these actions, progress reports, and the final report.
- b. **TIE Implementation.** The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Chronic TIE Manual: Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.
- c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
- d. The Permittee shall continue to conduct routine effluent monitoring for compliance determination purposes while the TIE and/or TRE process is taking place. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.
- e. The Regional Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.
- f. The Board may consider the results of any TIE/TRE studies in an enforcement action.

9. Reporting

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

- a. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-9.
- b. A summary of water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
- c. The statistical analysis used in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1.
- d. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TIE/TRE report, the Permittee shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.
- e. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
- f. Tabular data and graphical plots clearly showing the laboratory's performance for the reference toxicant, for each solution, for the previous 20 tests and the laboratory's performance for the control mean, control standard deviation, and control coefficient of variation, for each solution, for the previous 12-month period.
- g. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon request from the Regional Water Board Chief Deputy Executive Officer or the Executive Officer.

B. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Permittee must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.
 - a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

C. Chlorine Removal

1. Except with prior approval from the Executive Office of the Regional Water Board, chlorine shall not be removed from bioassay samples. Chlorine may be removed from the facility’s effluent bioassay samples in the laboratory when the recycled water demand is high and there is no effluent water available for sampling over the weir after the dechlorination process.

VI. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)

VII. RECYCLING MONITORING REQUIREMENTS (NOT APPLICABLE)

VIII. RECEIVING WATER MONITORING REQUIREMENTS

Monitoring requirements listed below duplicates the existing requirements under Waste Discharge Requirements Order No. R4-2015-0070 (NPDES Permit No. CA0053911) for the San Jose Creek WRPs. The San Jose Creek WRPs receiving water monitoring stations for Discharge Points 001, 001A, and 001B are identical to the receiving water monitoring stations for the GRIP–AWTF permit. GRIP-AWTF’s receiving water monitoring station RSW-001 is also the same receiving water monitoring station for the Whittier Narrows WRP’s RSW-002 (RA). To avoid duplication of sampling and monitoring activities, the receiving water monitoring activities are not required if the activities performed under San Jose Creek WRP’s Order No. R4-2015-0070 and Whittier Narrow WRP’s Order No. Order R4-2014-0213-A01 satisfy the requirements of this Order. The Permittee shall ensure that the receiving water monitoring required by this Order is completed. The results of all required receiving water monitoring, whether conducted by the Permittee or the Joint Outfall System, shall be submitted as required by this Order.

A. Monitoring Location RSW-002, RSW-003, and RSW-004

1. The Discharger shall monitor San Gabriel River at RSW-002, RSW-003, and RSW-004. Table E-5 is a replicate of the stated receiving water monitoring requirements for RSW-002, RSW-003 and RSW-004 of the San Jose Creek WRP’s NPDES permit. When the San Jose Creek WRP NPDES permit is renewed or revised, the new receiving water monitoring requirement for the same monitoring locations stated above for San Jose Creek WRP receiving water monitoring will replace the receiving water monitoring requirements in Table E-5, below.

Table E-5. Receiving Water Monitoring Requirements at RSW-002, RSW-003, and RSW-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total flow	cfs	flow meter/recorder	monthly	--
Turbidity	NTU	grab	monthly	20

²⁰ Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total residual chlorine	mg/L	grab	monthly	20
E. coli	MPN/100ml or CFU/100ml	grab	monthly	20
Temperature	°F	grab	monthly	20
pH	pH units	grab	monthly	20
Settleable Solids	mL/L	grab	monthly	20
Total Suspended Solids	mg/L	grab	monthly	20
BOD ₅ 20°C	mg/L	grab	monthly	20
Oil and grease	mg/L	grab	quarterly	20
Dissolved oxygen	mg/L	grab	monthly	20
Conductivity	µmhos/cm	grab	monthly	20
Total Dissolved Solids	mg/L	grab	monthly	20
Sulfate	mg/L	grab	monthly	20
Chloride	mg/L	grab	monthly	20
Boron	mg/L	grab	monthly	20
Ammonia nitrogen	mg/L	grab	monthly	20
Nitrate + nitrite (as N)	mg/L	grab	monthly	20
Nitrite (as N)	mg/L	grab	monthly	20
Organic nitrogen	mg/L	grab	monthly	20
Total kjeldahl nitrogen (TKN)	mg/L	grab	monthly	20
Total nitrogen	mg/L	grab	monthly	20
Total phosphorus	mg/L	grab	monthly	20
Orthophosphate-P	mg/L	grab	monthly	20
Surfactants (MBAS)	mg/L	grab	quarterly	20
Surfactants (CTAS)	mg/L	grab	quarterly	20
Total hardness (CaCO ₃)	mg/L	grab	monthly	20
Chronic toxicity ²¹	Pass or Fail, % Effect (TST)	grab	quarterly	20
Copper	µg/L	grab	semiannually	20
Lead	µg/L	grab	monthly	20
Cyanide	µg/L	grab	semiannually	20

²¹ The Permittee shall conduct whole effluent toxicity monitoring as outlined in section V. Please refer to section V.A.7 of this MRP for the accelerated monitoring schedule. The median monthly summary result is a threshold value for a determination of meeting the narrative receiving water objective and shall be reported as “Pass” or “Fail.” The maximum daily single result is a threshold value for a determination of meeting the narrative receiving water objective and shall be reported as “Pass or Fail” and “% Effect.” Up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.” If the chronic toxicity median monthly threshold at the immediate downstream receiving water location is not met and the toxicity cannot be attributed to upstream toxicity, as assessed by the Permittee, then the Permittee shall initiate accelerated monitoring. For example, if the chronic toxicity median monthly threshold of the receiving water at both upstream and downstream stations is not met, but the effluent chronic toxicity median monthly effluent limitation was met, then accelerated monitoring need not be implemented.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Antimony	µg/L	grab	semiannually	20
Arsenic	µg/L	grab	semiannually	20
Beryllium	µg/L	grab	semiannually	20
Cadmium	µg/L	grab	semiannually	20
Chromium III	µg/L	calculation	semiannually	20
Chromium VI	µg/L	grab	semiannually	20
Mercury ²²	µg/L	grab	semiannually	20
Nickel	µg/L	grab	semiannually	20
Selenium	µg/L	grab	monthly	20
Silver	µg/L	grab	semiannually	20
Thallium	µg/L	grab	semiannually	20
Zinc	µg/L	grab	semiannually	20
Methyl tert-butyl-ether (MTBE)	µg/L	grab	annually	23
Perchlorate	µg/L	grab	annually	23
1,2,3-Trichloropropane	µg/L	grab	annually	23
1,4-Dioxane	µg/L	grab	annually	23
Methoxychlor	µg/L	grab	semiannually	20
Chlorpyrifos ²⁴	µg/L	grab	semiannually	20
Diazinon ²⁴	µg/L	grab	semiannually	20
2,3,7,8-TCDD ²⁵	pg/L	grab	semiannually	20
Fluoride	mg/L	grab	semiannually	20
Barium	mg/L	grab	semiannually	20
PCBs as aroclors ¹⁶	µg/L	grab	annually	20
PCBs as congeners ¹⁷	pg/L	grab	annually	20

²² The samples shall be analyzed for mercury using EPA method 1631E, per 40 CFR part 136.

²³ Emerging chemicals include 1,4-dioxane (USEPA 8270M test method), perchlorate (USEPA 314 test method, or USEPA method 331 if a detection limit of less than 6 µg/L is achieved), 1,2,3-trichloropropane (USEPA 504.1, 8260B test method, or USEPA 524.2 in SIM mode), and methyl tert-butyl ether (USEPA 8260B test method or USEPA method 624 if a detection level of less than 5 µg/L is achieved, and if the Permittee received ELAP certification to run USEPA method 624).

²⁴ Chlorpyrifos and Diazinon may be analyzed using USEPA methods 8141A and 525.2. Chlorpyrifos and Diazinon sampling shall be conducted concurrently with the receiving water chronic toxicity sampling.

²⁵ In accordance with the SIP, the Discharger shall conduct monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water Station RSW-001, located upstream of discharge point 001A. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result (C_i) and their corresponding Toxicity Equivalence Factor (TEF_i), (i.e., TEQ_i = C_i x TEF_i). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{1}^{17}(\text{TEQ}_i) = \sum_{1}^{17}(\text{C}_i)(\text{TEF}_i)$$

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Remaining USEPA priority pollutants ²⁶ excluding asbestos and PCBs	µg/L	grab	semiannually	20

B. Monitoring Location RSW-001 (aka Whittier Narrows WRP’s RSW-002 (RA))

1. The Discharger shall monitor San Gabriel River at RSW-001. Table E-6 is a replicate of the stated receiving water monitoring requirements for RSW-002 (RA) of the Whittier Narrows WRP’s NPDES permit. When the Whittier Narrows WRP’s NPDES permit is renewed or revised, the new receiving water monitoring requirement for RSW-002 (RA) of the Whittier Narrows WRP will replace the receiving water monitoring requirements in Table E-6, below.

Table E-6. Receiving Water Monitoring Requirements at RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total flow ²⁷	cfs	calculation	monthly	--
Turbidity	NTU	grab	monthly	20
Total residual chlorine	mg/L	grab	monthly	20
E. coli	MPN/100ml or CFU/100ml	grab	monthly	20
Temperature	°F	grab	monthly	20
pH	pH units	grab	monthly	20
Settleable Solids	mL/L	grab	monthly	20
Total Suspended Solids	mg/L	grab	monthly	20
BOD ₅ 20°C	mg/L	grab	monthly	20
Oil and grease	mg/L	grab	monthly	20
Dissolved oxygen	mg/L	grab	monthly	20
Conductivity	µmho/cm	grab	monthly	20
Total Dissolved Solids	mg/L	grab	monthly	20
Sulfate	mg/L	grab	monthly	20
Chloride	mg/L	grab	monthly	20
Boron	mg/L	grab	monthly	20
Ammonia nitrogen	mg/L	grab	monthly	20
Nitrate nitrogen	mg/L	grab	monthly	20
Nitrite nitrogen	mg/L	grab	monthly	20
Organic nitrogen	mg/L	grab	monthly	20
Total kjeldahl nitrogen (TKN)	mg/L	grab	monthly	20
Total nitrogen	mg/L	grab	monthly	20
Total phosphorus	mg/L	grab	monthly	20

²⁶ Priority pollutants are those constituents referred to in 40 CFR part 401.15; a list of these pollutants is provided as Appendix A to 40 CFR part 423.

²⁷ Flow at receiving water stations RSW-001 cannot be measured or estimated because of soft bottom nature of the channel. Therefore, total flow is not required to be reported.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Orthophosphate-P	mg/L	grab	monthly	20
Surfactants (MBAS)	mg/L	grab	monthly	20
Surfactants (CTAS)	mg/L	grab	monthly	20
Total hardness (CaCO ₃)	mg/L	grab	monthly	20
Chronic toxicity ²¹	Pass or Fail, % Effect (TST)	grab	quarterly	20
Cadmium	µg/L	grab	monthly	20
Copper	µg/L	grab	monthly	20
Lead	µg/L	grab	monthly	20
Mercury ²²	µg/L	grab	monthly	20
Zinc	µg/L	grab	monthly	20
Antimony	µg/L	grab	quarterly	20
Arsenic	µg/L	grab	quarterly	20
Beryllium	µg/L	grab	quarterly	20
Chromium III	µg/L	calculation	quarterly	20
Chromium VI	µg/L	grab	quarterly	20
Nickel	µg/L	grab	quarterly	20
Selenium	µg/L	grab	quarterly	20
Silver	µg/L	grab	quarterly	20
Thallium	µg/L	grab	quarterly	20
Cyanide	µg/L	grab	quarterly	20
Methyl tert-butyl-ether (MTBE)	µg/L	grab	annually	23
Perchlorate	µg/L	grab	annually	23
1,2,3-Trichloropropane	µg/L	grab	annually	23
1,4-Dioxane	µg/L	grab	annually	23
Diazinon ²⁸	µg/L	grab	quarterly	20
2,3,7,8-TCDD ²⁵	µg/L	grab	quarterly	20
Iron	µg/L	grab	semiannually	20
Fluoride	mg/L	grab	semiannually	20
Barium	µg/L	grab	quarterly	20
Methoxychlor	µg/L	grab	quarterly	20
2,4-D	µg/L	grab	quarterly	20
2,4,5-TP (Silvex)	µg/L	grab	quarterly	20
PCBs as aroclors ¹⁶	µg/L	grab	annually	20
PCBs as congeners ¹⁷	µg/L	grab	annually	20
Remaining USEPA priority pollutants ²⁶ excluding asbestos and PCBs	µg/L	grab	semiannually	20

- Receiving water samples shall not be taken during or within 48-hours following the flow of rainwater runoff into the San Gabriel River. Sampling may be rescheduled within the

²⁸ Diazinon sampling shall be conducted concurrently with the receiving water chronic toxicity sampling.

same calendar month, at receiving water stations, if weather and/or flow conditions would endanger personnel collecting receiving water samples. The monthly monitoring report shall note such occasions.

C. Ammonia Receiving Water Monitoring Requirements

1. To ensure that downstream receiving waters are protected at all times, the Discharger shall ensure that the ammonia concentrations are monitored at RSW-002, RSW-003, and RSW-004, 100 feet from the discharge outfall. The purpose of the monitoring locations is to ensure that ammonia water quality objectives are met in the receiving water, even immediately downstream of the discharge when there has been little time for uptake or volatilization of ammonia in the receiving water. Concurrent sampling of ammonia, pH, and temperature will be required at these monitoring locations. The Discharger shall compare the ammonia results to Basin Plan ammonia water quality objectives, based on the real-time pH and temperature data collected at the time of ammonia sampling.
2. The Discharger shall ensure that San Gabriel River at RSW-002, RSW-003, and RSW-004 are monitored, depending on where discharge is occurring at the time of sampling. The monitoring requirement specified in Table E-5 will satisfy the monitoring requirement in Table E-7, below, and is not meant to be a duplicative requirement. The parameters shall be reported as follows:

Table E-7. Ammonia Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature	°F	grab	monthly	20
pH	pH units	grab	monthly	20
Ammonia Nitrogen	mg/L	grab	monthly	20
Chronic toxicity ²¹	Pass or Fail, %Effect (TST)	grab	quarterly	20

D. TMDL Stream Flow Monitoring RSW-004D

1. The Discharger shall report the maximum daily flow at San Gabriel River located at USGS station 11087020 (RSW-004D). This information is necessary to determine the wet-weather condition of the river as defined by *San Gabriel Metals TMDL*. If the gauging station is not operational, an estimated maximum daily flow may be submitted.

Table E-8. TMDL Stream Flow Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Maximum Daily Flow	cfs	Flow meter/recorder	daily	N/A

IX. OTHER MONITORING REQUIREMENTS

A. Watershed Monitoring – (Not applicable)

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

1. The Permittee shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled “Summary of Non-Compliance” which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.
4. The Permittee shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
5. Each monthly monitoring report shall include a determination of compliance with receiving water ammonia water quality objectives at either RSW-002, RSW-003, or RSW-004, depending on which station is downstream of the plant discharge at the time of sampling. Any exceedances of an ammonia water quality objective shall be noted in the “Summary of Non-Compliance” section of the monitoring report.

B. Self-Monitoring Reports (SMRs)

1. The Permittee shall electronically submit SMRs using the State Water Board’s California Integrated Water Quality System (CIWQS) Program website http://www.waterboards.ca.gov/water_issues/programs/ciwqs/. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit monthly, quarterly, semiannual, annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Permittee samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with limitations set forth in this Order.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-9. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR

Sampling Frequency	Monitoring Period Begins On...	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	1 st day of calendar month through last day of calendar month	By the 30 th day of the third month after the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	June 30 September 30 December 31 March 31
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	September 30 March 31
Annually	January 1 following (or on) permit effective date	January 1 through December 31	April 30

4. Reporting Protocols. The Permittee shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136 or 40 CFR part 141 when approved by this Regional Water Board and the State Water Board.

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

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

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
 - d. Permittees are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and section VII of this Order. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
 6. Multiple Sample Data. When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall

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

- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
7. The Permittee shall submit SMRs in accordance with the following requirements:
- a. The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Permittee 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 Permittee shall electronically submit the data in a tabular format as an attachment.
 - b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at:
<http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring>.

D. Other Reports

1. The Discharger shall report the results of any special studies, chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. The Permittee shall submit reports in compliance with SMR reporting requirements described in subsection X.B. above.

2. Annual Summary Report

By April 30 of each year, the Permittee shall submit an annual report containing a discussion of the previous year’s influent/effluent analytical results and receiving water monitoring data. The annual report shall contain an overview of any plans for upgrades to the treatment plant’s diversion system, the treatment processes, or the outfall system. The Permittee shall submit annual report to the Regional Water Board in accordance with the requirements described in subsection X.B.7 above.

3. Each annual monitoring report shall contain a separate section titled "Reasonable Potential Analysis" which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement: "The analytical results for this sampling period did/did not trigger reasonable potential." If reasonable potential was triggered, then the following information should also be provided:
 - a. A list of the pollutant(s) that triggered reasonable potential.
 - b. The Basin Plan or CTR criteria that was exceeded for each given pollutant.
 - c. The concentration of the pollutant(s).
 - d. The test method used to analyze the sample.
 - e. The date and time of sample collection.
4. The Permittee shall submit to the Regional Water Board, together with the monitoring report required by this permit after the facility becomes operational, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.
5. The Regional Water Board requires the Permittee to file with the Regional Water Board, within 90 days after the effective date of this Order, or within 90 days after the facility becomes operational, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:
 - a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.
 - b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
 - c. Describe facilities and procedures needed for effective preventive and contingency plans.
 - d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4B190140003
Discharger/Permittee	Water Replenishment District of Southern California
Name of Facility	Groundwater Reliability Improvement Project – Advanced Water Treatment Facility (GRIP-AWTF)
Facility Address	4320 San Gabriel River Parkway
	Pico Rivera, California 90660
	Los Angeles County
Facility Contact, Title and Phone	Ken Ortega, Assistant General Manager (562) 921-5521
Authorized Person to Sign and Submit Reports	Robb Whitaker, General Manager (562) 921-5521
Mailing Address	4040 Paramount Boulevard Lakewood, California 90712
Billing Address	4040 Paramount Boulevard Lakewood, California 90712
Type of Facility	AWTF
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	Producer/User
Facility Permitted Flow	14.8 mgd
Facility Design Flow	14.8 mgd
Watershed	San Gabriel River
Receiving Water	San Gabriel River
Receiving Water Type	Inland surface water

- A.** The Water Replenishment District of Southern California (hereinafter Discharger or Permittee) is the owner of the Groundwater Reliability Improvement Project – Advanced Water Treatment Facility (GRIP–AWTF) (hereinafter Facility), an Advanced Water Treatment Facility.

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

- B.** The Facility discharges blended tertiary treated water (San Jose Creek WRPs and advanced treated recycled water from GRIP-AWTF) to the San Gabriel River, a water of the United States. This is a new discharge. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C.** When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.
- D.** The Discharger filed a report of waste discharge and submitted an application for a waste discharge requirements (WDRs) and NPDES permit on January 11, 2017. Supplemental information was requested on February 2, 2017 and received on February 17, 2017. The application was deemed complete on March 13, 2017. A site visit was conducted on May 22, 2017, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- E.** Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

A. Description of Advanced Water Treatment and Controls

1. The Discharger owns the GRIP-AWTF, an advanced water treatment facility located at 4320 San Gabriel River Parkway, Pico Rivera, California. Attachment B shows the location of the facility. The GRIP-AWTF receives the tertiary treated effluent from the San Jose Creek Water Reclamation Plants (San Jose Creek WRP or SJCWRP), East and West facilities. Depending on the availability of the tertiary treated effluent and operational conditions, the influent to the GRIP-AWTF may consist entirely of the SJCWRP East tertiary treated effluent, SJCWRP West tertiary treated effluent, or the combined tertiary treated effluent from the SJCWRP East and West.
2. The influent to the GRIP-AWTF will flow through a 66-inch pipeline that is located just east of the GRIP-AWTF site. A diversion structure is built on the 66-inch line to divert the flows to the GRIP-AWTF Equalization Tank.
3. Treatment at the GRIP-AWTF consists of ultrafiltration (UF), reverse osmosis (RO), ultraviolet advanced oxidation processes (UVAOP), chlorination and dechlorination.
4. The diversion structure contains three motorized 66-inch slide gates to control the flow. Under normal AWTF operations, the valves are set to divert all flow from SJCWRP into the Equalization Tank.
5. During normal operation, the main line slide gate in the diversion structure to the 66-inch conveyance pipeline that conveys the blended tertiary treated water to the San Gabriel River discharge outfalls or the Montebello Forebay Spreading Grounds, is closed and all

of the flow is diverted to the influent equalization basin. The UF feed pumps transfer the tertiary treated effluent to the treatment train consisting of UF, RO, UVAOP, chlorination and dechlorination. Secondary UF filtrate, which is the water recovered from the UF backwash water for the purpose of achieving a higher plant recovery rate, is returned to the equalization tank. The advanced treated recycled water which has undergone UF, RO, UVAOP and chlorination flows into the product water storage tank from which some of the advanced treated recycled water is pumped to the supplemental recharge wells, which will be covered under a separate permit. The advanced treated recycled water that is not pumped to the supplemental recharge wells is dechlorinated and flows by gravity to the diversion structure through the open advanced treated water gate. The equalization tank discharges a certain volume of its contents (i.e., tertiary treated effluent and secondary UF filtrate) over a weir to the diversion structure where it is blended with the advanced treated recycled water. The blended water then flows back into the 66-inch conveyance pipeline to the San Gabriel River discharge outfalls or the Montebello Forebay Spreading Grounds. The flow schematic diagram of the treatment is located in Attachment C. The flow from the equalization tank, which includes secondary UF filtrate, to the diversion structure are not to be considered an untreated waste, overflow, spill, or bypass.

6. The blended tertiary treated water in the conveyance pipeline can be discharged into the discharge outfalls (Discharge Points 001, 001A, and 001B) at the San Gabriel River.
7. GRIP-AWTF's brine wastes and other similar waste streams (e.g., UF backwash) will be discharged to the Los Angeles County Sanitation District's (LACSD's) sewer system, in Beverly Boulevard.

B. Discharge Points and Receiving Waters

1. The GRIP-AWTF discharges the blended tertiary treated water via three Discharge Points 001, 001A, and 001B to the San Gabriel River, above the Estuary. These three discharge points are the same permitted discharge points used by the San Jose Creek WRPs, which is covered under a separate NPDES Permit CA0053911, Order No. R4-2015-0070. The description of each discharge point are as follows:

a. Discharge Point 001

Discharge to San Gabriel River of the blended tertiary treated water (approximate coordinates: Latitude 33.93052° and Longitude -118.10774°). Discharge Point 001 is located approximately eight miles south of the San Jose Creek WRP, and north of Firestone Boulevard. From this point, blended tertiary treated water flows directly into a lined, low flow channel (San Gabriel River) and travels about nine miles prior to reaching the estuary. It is located in Reach 2 of the San Gabriel River as defined in the Basin Plan, approximately 940 feet upstream of the division between Reach 1 and Reach 2. However, the TMDL for Metals and Selenium in the San Gabriel River (SGR Metals TMDL) considers Discharge Point 001 to be in Reach 1 of the San Gabriel River. For the purposes of this Order, Discharge Point 001 is considered to lie in Reach 1. TMDL implementation guidance makes this assumption, a concrete apron at the outfall in Reach 2 ensures all discharge is to Reach 1, and water quality objectives and beneficial uses are judged to be fully protected at and downstream from the outfall into Reach 1. The GRIP-AWTF discharge is expected to flow into the San Gabriel River via Discharge Points 001A and/or 001B and fully percolate into the unlined portions of the San Gabriel River prior to reaching the lined portion at Discharge Point 001. The GRIP-AWTF's discharge via Discharge Point 001 is expected to be infrequent and small in volume, if any.

Figure E-4 shows the location of Discharge Point 001.

b. Discharge Point 001A

Discharge to San Gabriel River of the blended tertiary treated water (approximate coordinates; Latitude 33.99417° and Longitude -118.07333°). Discharge Point 001A discharges into Reach 2, unlined portion of the San Gabriel River.

Figure E-2 shows the location of Discharge Point 001A.

c. Discharge Point 001B

Discharge to San Gabriel River of the blended tertiary treated water (approximate coordinates: Latitude 33.96972° and Longitude -118.08861°). Discharge Point 001B discharges into Reach 2, unlined portion of the San Gabriel River. Discharge Point 001B is approximately 1.9 miles southwest of Discharge Point 001A. Discharge Point 001B is just downstream of Rubber Dam No. 4 and is located approximately 1,475 feet upstream of Slauson Avenue.

Figure E-3 shows the location of Discharge Point 001B.

During dry weather (May 1 – October 31), the primary sources of water flow in San Gabriel River, downstream of the discharge outfalls, are the San Jose Creek WRP tertiary treated effluent, GRIP-AWTF's advanced treated recycled water, and other NPDES-permitted discharges, including urban runoff conveyed through the municipal separate storm sewer systems (MS4). Storm water and dry weather urban runoff from MS4 are regulated under an NPDES permit, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles (LA Municipal Permit), NPDES Permit No. CAS004001.

The Los Angeles County Flood Control District channelized portions of the San Gabriel River serves to convey and control floodwater and to prevent damage to homes located adjacent to the river. Although this is not the main purpose, the San Gabriel River conveys treated wastewater along with floodwater and urban runoff.

The San Gabriel River is unlined near the points of discharge, except at Discharge Point 001. Groundwater recharge occurs, both incidentally and through separate WRRs, in these unlined areas of the San Gabriel River where the underlying sediments are highly conducive to percolation and groundwater recharge. The Water Replenishment District of Southern California recharges the Rio Hondo and San Gabriel Spreading Grounds, located in the Montebello Forebay, using the Title 22 recycled water purchased from JOS's Whittier Narrows, Pomona, and San Jose Creek WRPs, imported water (when available) purchased from the Metropolitan Water District of Southern California, stormwater, and local urban runoff.

The blended tertiary treated water released out of Discharge Points 001A and 001B will intentionally percolate into the aquifers for groundwater recharge through the unlined (soft bottom) reaches of the San Gabriel River (considered part of the spreading grounds). Only a very small portion of the blended tertiary treated water, if any, released from Discharge Outfall 001 will be discharged to the lined reaches of the San Gabriel River.

The closest downstream outfall to GRIP AWTF is Discharge Point 001A, which has a drop down gate that can be opened or closed to control discharge of the blended tertiary treated water either to the spreading grounds recharge facilities or to a soft bottom reach of the San Gabriel River. Located approximately 1.9 miles southwest of Discharge Point 001A is Discharge Point 001B, which will discharge directly to a soft bottom reach of the

San Gabriel River. The flows from Discharge Points 001A and 001B will contribute to groundwater recharge. Discharge Point 001 is located approximately 2.9 miles southwest of Discharge Point 001B and at the southern end of the LACSD's pipeline. Discharge Point 001 will discharge to the lined reach of the San Gabriel River and therefore will not contribute to groundwater recharge.

The San Gabriel River in-channel spreading grounds are controlled by seven rubber dams located in the river channel and comprise approximately 200 wetted acres with a storage capacity of approximately 1,000 AF.

The recharge activity is regulated under WRRs Order No. 91-100, adopted by the Board on September 9, 1991. This order was amended on April 2, 2009, by Order No. R4-2009-0048 and April 10, 2014, by Order No. R4-2009-0048-A-01. However, the discharge of the blended tertiary treated water into the San Gabriel River is currently not regulated by this WRR Order.

Notwithstanding that segments located further downstream of the discharge are concrete lined, the watershed supports a diversity of wildlife, particularly an abundance of avian species such as the *Least Bell's Vireo*, *Tricolored Blackbird*, and *California Gnatcatcher*. Aquatic life, such as fish, invertebrates, and algae also exist in the San Gabriel River Watershed.

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

The discharged effluent at Discharge Points 001, 001A, and 001B is a blend of the SJCWRPs' tertiary treated effluent and the GRIP-AWTF's advanced treated recycled water.

Since the GRIP-AWTF is a new facility, there is no available data for the GRIP-AWTF effluent discharge. Therefore, there are no historic monitoring data presented in this section.

D. Compliance Summary

This is a new discharge. Therefore, there are no compliance issues at this time.

E. Planned Changes

The GRIP-AWTF infrastructure is designed with a provision to expand to an ultimate production capacity of 29.6 mgd.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

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

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

1. **Water Quality Control Plan.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (Basin Plan) on June 4, 1994 that designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. On May 26, 2000, the USEPA approved the revised Basin Plan except for the implementation plan for potential MUN-designated water bodies. On August 22, 2000, the City of Los Angeles, City of Burbank, City of Simi Valley, and the County Sanitation Districts of Los Angeles County challenged USEPA’s water quality standards action in the U.S. District Court. On December 18, 2011, the court issued an order remanding the matter to USEPA to take further action on the 1994 Basin Plan consistent with the court’s decision. On February 15, 2002, USEPA revised its decision and approved the 1994 Basin Plan in whole. In its February 15, 2002 letter, USEPA stated:

“EPA bases its approval on the court’s finding that the Regional Board’s identification of waters with an asterisk (“*”) in conjunction with the implementation language at page 2-4 of the 1994 Basin Plan, was intended “to only conditionally designate and not finally designate as MUN those water bodies identified by an (“*”) for the MUN use in Table 2-1 of the Basin Plan, without further action.” Court Order at p. 4. Thus, the waters identified with an (“*”) in Table 2-1 do not have MUN as a designated use until such time as the State undertakes additional study and modifies its Basin Plan. Because this conditional use designation has no legal effect, it does not constitute a new water quality standard subject to EPA review under section 303(c)(3) of the Clean Water Act (“CWA”). 33 U.S.C. § 1313(c)(3).”

USEPA’s decision has no effect on the MUN designations of groundwater. Beneficial uses applicable to San Gabriel River are as follows:

Table F-2. Basin Plan Beneficial Uses – Receiving Waters

Discharge Point	Receiving Water Name	Beneficial Use(s)
001A and 001B	San Gabriel River Reach 2 (Whittier Narrows Dam-Firestone Boulevard) (Hydro. Unit No. 405.15) WBD No. 180701060606	<p><u>Existing:</u> Water Contact Recreation (REC-1¹), Non-contact Water Recreation (REC-2), Wildlife Habitat (WILD) and rare, threatened, or endangered species (RARE)</p> <p><u>Intermittent:</u> Ground Water Recharge (GWR) and Warm Freshwater Habitat (WARM)</p> <p><u>Potential:</u> Industrial service supply (IND), industrial process supply (PROC), and Municipal and Domestic Supply (MUN²)</p>

¹ Access prohibited by Los Angeles County Department of Public Works in the concrete-channelized areas.

² The potential MUN beneficial use for the water body is consistent with Regional Water Board Resolution 89-03; however, the Regional Water Board has only conditionally designated the MUN beneficial uses and at this time cannot establish effluent limitation designed to protect the conditional designation.

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	San Gabriel River Reach 1 (Firestone Boulevard- Estuary) (Hydro. Unit No. 405.15) WBD No. 180701060606	<u>Existing:</u> REC-1 ¹ and REC-2 <u>Intermittent:</u> none <u>Potential:</u> WARM, WILD, and MUN ²
001	San Gabriel River Estuary (Hydro. Unit No. 405.15) WBD No. 180701060606	<u>Existing:</u> IND, navigation (NAV), REC-1, REC-2, commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat(MAR), WILD, RARE, migration of aquatic organism (MIGR), and spawning, reproduction, and/or early development (SPWN) <u>Intermittent:</u> none <u>Potential:</u> Shellfish harvesting (SHELL)

Table F-3. Basin Plan Beneficial Uses – Ground Waters

Discharge Point	Basin Name	Beneficial Use(s)
001, 001A, 001B	San Gabriel Valley (Main San Gabriel Basin) DWR Basin No. 4-13	<u>Existing:</u> MUN, IND, PROC, and Agricultural Supply (AGR)
001, 001A, 001B	Coastal Plain of Los Angeles (Central Basin) DWR Basin No. 4-11.04	<u>Existing:</u> MUN, IND, PROC, and AGR

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA 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, U.S. EPA 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.
3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes

implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels implemented by the Basin Plan that are designed to protect human health and ensure that water is safe for domestic use.
5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes (40 CFR section 131.21, 65 Federal Register 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
6. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs) for individual pollutants.

WQBELs have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and WQOs contained in the Basin Plan and the Ocean 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).
7. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16 (“Statement of Policy with Respect to Maintaining High Quality of Waters in California”). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.
8. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. 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.
9. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent

limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

10. **Water Rights.** Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a surface or subterranean stream, the Permittee must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change from the State Water Board. The State Water Board retains the jurisdictional authority to enforce such requirements under CWC section 1211.
11. **Water Recycling.** In accordance with statewide policies concerning water reclamation³, this Regional Water Board strongly encourages, wherever practical, water recycling, water conservation, and use of storm water and dry-weather urban runoff. However, those recycling efforts shall consider the necessity of a water rights 1211 application which would be necessary if the additional recycling would reduce the current discharge flow rate to the affected water body. These reports shall be included in the annual reports submittal, as described in the MRP.
12. **Monitoring and Reporting.** 40 CFR part 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.

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

The State Water Board proposed the California 2012 Integrated Report from a compilation of the adopted Regional Water Boards' Integrated Reports containing CWA section 303(d) List of Impaired Waters and section 305(b) Reports following recommendations from the Regional Water Boards and information solicited from the public and other interested persons. The Regional Water Boards' Integrated Reports were used to revise their 2010 303(d) List. On April 8, 2012, the State Water Board adopted the California 2012 Integrated Report. On June 26, 2015, the USEPA approved California's 2012 Integrated Report Section 303(d) List of Impaired Waters requiring Total Maximum Daily Loads (TMDLs) for the Los Angeles Region. The CWA section 303(d) list can be found at the following link:

http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml

The San Gabriel River and its tributaries are in the California 2012 Integrated Report. The following pollutants were identified as impacting the receiving waters:

San Gabriel River Reach 1 (Estuary to Firestone Blvd.) Hydrologic unit 405.15, Calwater Watershed 18070104

Pollutants: Coliform bacteria and pH.

San Gabriel River Reach 2 (Firestone Blvd. to Whittier Narrows Dam) Hydrologic unit 405.15, Calwater Watershed 18070104

Pollutants: Coliform bacteria, cyanide and lead.

³ See, e.g., CWC sections 13000 and 13550-13557, State Water Board Resolution No. 77-1 (Policy with Respect to Water Reclamation in California), and State Water Board Resolution No. 2009-0011 (Recycled Water Policy).

San Gabriel River Estuary Hydrologic unit 405.15, Calwater Watershed 18070104

Pollutants: Copper, dioxin, nickel, and dissolved oxygen.

E. Other Plans, Polices and Regulations

1. **Sources of Drinking Water Policy.** On May 19, 1988, the State Water Board adopted Resolution No. 88-63, Sources of Drinking Water (SODW) Policy, which established a policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with the State Water Board's SODW Policy, on March 27, 1989, the Regional Water Board adopted Resolution No. 89-03, Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B).

Consistent with Regional Water Board Resolution No. 89-03 and State Water Board Resolution No. 88-63, in 1994 the Regional Water Board conditionally designated all inland surface waters in Table 2-1 of the 1994 Basin Plan as existing, intermittent, or potential for Municipal and Domestic Supply (MUN). However, the conditional designation in the 1994 Basin Plan included the following implementation provision: "no new effluent limitations will be placed in Waste Discharge Requirements as a result of these [potential MUN designations made pursuant to the SODW policy and the Regional Water Board's enabling resolution] until the Regional Water Board adopts [a special Basin Plan Amendment that incorporates a detailed review of the waters in the Region that should be exempted from the potential MUN designations arising from SODW policy and the Regional Water Board's enabling resolution]." On February 15, 2002, the USEPA clarified its partial approval (May 26, 2000) of the 1994 Basin Plan amendments and acknowledged that the conditional designations do not currently have a legal effect, do not reflect new water quality standards subject to USEPA review, and do not support new effluent limitations based on the conditional designations stemming from the SODW Policy until a subsequent review by the Regional Water Board finalizes the designations for these waters. This permit is designed to be consistent with the existing Basin Plan.

2. **Title 22 of the California Code of Regulations (CCR Title 22).** The California Department of Public Health (CDPH) established primary and secondary maximum contaminant levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water. These MCLs are codified in Title 22. The Basin Plan (Chapter 3) incorporates Title 22 primary MCLs by reference. This incorporation by reference is prospective, including future changes to the incorporated provisions as the changes take effect. Title 22 primary MCLs have been used as bases for effluent limitations in WDRs and NPDES permits to protect groundwater recharge beneficial use when that receiving groundwater is designated as MUN. Also, the Basin Plan specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses."

On June 18, 2014, title 22 Groundwater Replenishment Reuse Projects, of the title 22 CCR, division 4, chapter 3, article 5.1. *Indirect Potable Reuse: Groundwater Replenishment – Surface Application* of CWC became in effect. This regulates the use of recycled water for surface spreading for the purposes of recharging the groundwater. The AFTW's advanced treated recycled water will intentionally percolate into the aquifers for groundwater recharge through the unlined (soft bottom) reaches of the San Gabriel River (which is considered part of the Montebello Forebay Spreading Grounds).

3. **Secondary Treatment Regulations.** 40 CFR part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment using the parameters BOD, TSS and pH. These limitations, established by USEPA, are not incorporated into this Order because the San Jose Creek WRPs have already met the minimum levels of treatment for a secondary treated effluent. However effluent limitations for pH, per Basin Plan, are retained because the San Gabriel River is impaired for pH.
4. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR part 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Water Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 in State Water Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity. General NPDES Permit No. CAS000001 was revised on April 1, 2014, and became effective on July 1, 2015.

The storm water onsite will be captured using a combination of porous pavement, bio retention basins and a below ground infiltration basin. Since not all storm water is captured and contained at the site, a separate storm water permit is required.

Once the Discharger enrolls for coverage under the Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit), the SWPPP requirements of the Industrial General Permit shall supersede the requirements of this provision.

5. **Sanitary Sewer Overflows (SSOs) - (NOT APPLICABLE)**
6. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region following the USEPA guidance in *Watershed Protection: A Project Focus* (EPA841-R-95-003, August 1995). The objective of the WMA is to provide a more comprehensive and integrated strategy resulting in water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically-defined drainage basin or watershed. The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available. The WMA integrates activities across the Regional Water Board's diverse programs, particularly permitting, planning, and other surface water-oriented programs that have tended to operate somewhat independently of each other.

The accompanying Order fosters the implementation of this approach by protecting beneficial uses in the watershed and requiring the Discharger to participate with other stakeholders, in the development and implementation of a watershed-wide monitoring program. The Monitoring and Reporting Program (Attachment E) requires the Discharger to undertake the responsibilities delineated under an approved watershed-wide monitoring plan in the implementation of the Watershed-wide Monitoring Program for the San Gabriel River, which was approved by the Regional Water Board on September 25, 2006.

The Regional Water Board has prepared and periodically updates its Watershed Management Initiative Chapter, the latest is updated December 2007. This document

contains a summary of the region's approach to watershed management. It addresses each watershed and the associated water quality problems and issues. It describes the background and history of each watershed, current and future activities, and addresses TMDL development. The information can be accessed on our website:

http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/index.shtml.

7. **Relevant TMDLs.** Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality standards and then to establish TMDLs for each waterbody for each pollutant of concern. TMDLs identify the maximum amount of pollutants that can be discharged to waterbodies without causing violations of water quality standards.

- a. **San Gabriel River and Tributaries Metals TMDL** - On March 26, 2007, USEPA established the San Gabriel River watershed metals TMDLs. This Order includes effluent limitations for metals established by USEPA TMDLs. These effluent limitations are consistent with the concentration-based Waste Load Allocations (WLA) established for the POTWs and other point sources in these TMDLs.

On June 6, 2013, The Regional Water Board adopted Resolution No. R13-004, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate Implementation Plans for the Total Maximum Daily Loads for Metals in Los Cerritos Channel and for Metals and Selenium in the San Gabriel River and Impaired Tributaries*. Attachment A to Resolution R13-004 specifies the implementation plan for the San Gabriel River and Impaired Tributaries. The resolution was approved by the State Water Board and Office of Administrative Law on March 4, 2014 and October 21, 2014, respectively.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

The variety of potential pollutants found in discharges from the Facility presents a potential for aggregate toxic effects to occur. Whole effluent toxicity (WET) is an indicator of the combined effect of pollutants contained in the discharge. Chronic toxicity is a more stringent requirement than acute toxicity. Therefore, chronic toxicity is considered pollutant of concern for protection and evaluation of narrative Basin Plan Objectives.

A. Discharge Prohibitions

Effluent and receiving water limitations in this Board Order are based on the CWA, Basin Plan, State Water Board's plans and policies, and USEPA guidance and regulations. This Order authorizes the discharge of blended tertiary treated water (San Jose Creek WRP tertiary treated effluent plus GRIP-AWTF advanced treated recycled water) from Discharge Points 001, 001A, and 001B. It does not authorize any other types of discharges.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Permittee to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level - referred to as "secondary treatment" - that all POTWs were required to meet by July 1, 1977. More specifically, section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in section 304(d)(1). Based on this statutory requirement, USEPA developed national secondary treatment regulations which are specified in 40 CFR part 133. These technology-based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of Biochemical Oxygen Demand (BOD₅20°C), Total Suspended Solids (TSS), and pH.

The San Jose Creek WRP, a POTW, supplies the tertiary treated effluent water to the GRIP-AWTF. The GRIP-AWTF further treats this influent water using an advanced treatment system (i.e., ultrafiltration, reverse osmosis, ultraviolet advanced oxidation, chlorination and dechlorination).

2. Applicable TBELs

The GRIP-AWTF is not subject to technology-based regulations set forth in 40 CFR part 133 because the minimum level of effluent quality and the removal efficiency for BOD₅20°C, and TSS have already been attained at the San Jose Creek WRP. Although the pH TBEL is also not applicable to this advanced treatment facility, the effluent limitations for pH are included because the San Gabriel River is impaired for pH as listed on the 303(d) list. The effluent limitation for pH, per Basin Plan (expressed in standard units) is 6.5 and 8.5 as instantaneous minimum and instantaneous maximum, respectively.

C. Water Quality-Based Effluent Limitations (WQBELs)

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. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed starting from section IV.C.2.

Section 122.44(d)(1)(i) of 40 C.F.R. 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, water quality-based effluent limitations (WQBELs) must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

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

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. The Basin Plan establishes the beneficial uses for surface water bodies in the Los Angeles region. The beneficial uses of the San Gabriel River affected by the discharge have been described previously in this Fact Sheet.
- b. The Basin Plan also specifies narrative and numeric WQOs applicable to surface water as shown in the following discussions.

i. **pH**

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of “pure” water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR part 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the facility demonstrates that (1) inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan which reads “the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.”

ii. **Residual Chlorine**

Disinfection of effluent with chlorine produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life, and short term exposure to chlorine may cause fish kills. The limit for residual chlorine is based on the Basin Plan water quality objective, “Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses.”

It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective of beneficial uses as a daily maximum limitation.

iii. **TDS, Chloride, Sulfate, and Boron**

The effluent limitations applicable to Discharge Points 001A and 001B for TDS, sulfate, and boron are based on Basin Plan objectives for the San Gabriel River (between Valley Boulevard and Firestone Boulevard). The effluent limitation for TDS, Sulfate, and Boron are 750 mg/L, 300 mg/L, and 1.0 mg/L, respectively. The chloride limit is 180 mg/L, consistent with Regional Water Board Resolution No. 97-02, *Amendment to the Water Quality Control Plan to incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters*. Resolution 97-02 was adopted by Regional Water Board on January 27, 1997; approved by the State Water Board in Resolution 97-94; and, approved by OAL on January 8, 1998; and served to revise the chloride water quality objective in the San Gabriel River and other surface waters

According to the Basin Plan, there is no water quality objective assigned for TDS, sulfate, chloride, and boron at Discharge Point 001 that discharges into the San Gabriel River between Firestone Boulevard and San Gabriel River Estuary.

It is practicable to express these limits as monthly averages, since they are not expected to cause acute effects on beneficial uses. Limits based upon the Basin Plan Objectives have been included in this Order because, based upon Best Professional Judgment, these constituents are always present in potable water which is the supply source of the wastewater entering the treatment plant. They may be present in concentrations which meet California drinking water standards but exceed the Basin Plan Objectives. Therefore, limitations are warranted to protect the beneficial uses of the receiving water.

iv. **Nitrogen Compounds/Nutrient Compounds**

Nitrate Nitrogen ($\text{NO}_3^- \text{--N}$), Nitrite Nitrogen ($\text{NO}_2^- \text{--N}$), Total Inorganic Nitrogen ($\text{NO}_2^- + \text{NO}_3^- \text{ as N}$) – Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments.

- (a) **Algae.** Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

The limitations for biostimulatory substances are based on the Basin Plan water quality objective, “Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses,” and other relevant information and are intended to be protective of the beneficial uses, pursuant to 40 CFR part 122.44(d). Total inorganic nitrogen will be the indicator parameter intended to control algae, pursuant to 40 CFR part 122.44(d)(1)(vi)(C).

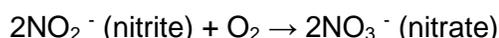
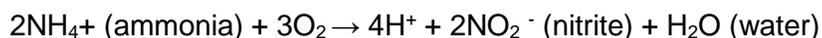
- (b) **Concentration-based limit.** The effluent limitation at Discharge Points 001A and 001B for total inorganic nitrogen ($\text{NO}_2^- \text{--N} + \text{NO}_3^- \text{--N}$) of 8 mg/L is based on Basin Plan water quality objective for the San Gabriel River Watershed between Valley Boulevard and Firestone Boulevard.

There is no applicable Basin Plan water quality objective for total inorganic nitrogen at the San Gabriel River between Firestone Boulevard and San Gabriel River Estuary, for Discharge Point 001.

- (c) **Nitrite as Nitrogen**

For discharges to Discharge Points 001A and 001B to San Gabriel River, a final nitrite limitation of 1.0 mg/L is based upon best professional judgment, and Basin Plan water quality objective for nitrite nitrogen,

because in the process of reducing ammonia concentrations by a process such as nitrification-denitrification, the ammonia and organic nitrogen are oxidized to nitrite before final conversion to nitrate. As previously stated, this effluent wastewater from the San Jose Creek WRPs will become the influent water to the GRIP-AWTF. Therefore there is reasonable potential for nitrite to be present in the discharge if the oxidation process is not complete.



- (d) **Mass-based limit.** The mass emission rates are based on the plant design flow rate of 14.8 mgd

v. **Total Ammonia**

Ammonia is a pollutant routinely found in the wastewater effluent of POTWs, in landfill-leachate, and in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. Groundwater recharge is a beneficial use in these reaches. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream. As previously stated, this effluent wastewater from the San Jose Creek WRPs will become the influent water to the GRIP AWTF

(a) **San Gabriel River Ammonia**

The 1994 Basin Plan contained water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board, with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of Aquatic Life*. Resolution No. 2002-011 was approved by the State Water Board, OAL, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively, and is now in effect.

On December 1, 2005, the Regional Water Board adopted Resolution No. 2005-014, *An Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise Early Life Stage Implementation Provision of the Freshwater Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) for Protection of Aquatic Life*. This amendment contains ammonia objectives to protect Early Life Stages (ELS) of fish in inland surface water supporting aquatic life. This resolution was approved by the USEPA on April 5, 2007. This amendment revised

the implementation provision included as part of the freshwater ammonia objectives relative to the protection of ELS of fish in inland surface waters.

On June 7, 2007, the Regional Water Board adopted Resolution No. 2007-005, *Amendments to the Water Quality Control Plan-Los Angeles Region-To Incorporate Site-Specific Objectives for Select Inland Surface Waters in the San Gabriel River, Los Angeles River and Santa Clara River Watersheds*. This amendment to the Basin Plan incorporates site-specific 30-day average objectives (30-day SSO) for ammonia along with corresponding site-specific early life stage implementation provisions for select waterbody reaches and tributaries in the Santa Clara, Los Angeles, and San Gabriel River watersheds. The State Water Board, OAL, and USEPA approved this Basin Plan amendment on January 15, 2008, May 12, 2008, and March 30, 2009, respectively. Resolution No. 2007-005 became effective on April 23, 2009.

The procedures for calculating the ammonia nitrogen effluent limitation based on Basin Plan amendment is discussed below:

(1) Translation of Ammonia Nitrogen Objectives into Effluent Limitations Applicable to Discharge Points 001A and 001B

The GRIP-AWTF is a new facility and has not started discharge. There are no available effluent data that can be used to calculate the ammonia nitrogen effluent limitations. The San Jose Creek WRP and the GRIPAWTF shares the same discharge outfalls, namely, Discharge Points 001, 001A and 001B. Since the combined effluent from the San Jose Creek WRP (East and West) will be the same quality of water going into the GRIP-AWTF as influent water, this permit will assume, based on best professional judgment, the ammonia nitrogen effluent limitations established for Discharge Points 001A and 001B for the San Jose Creek WRP will be the same for the GRIP-AWTF. Once the GRIP-AWTF has established its own dataset for pH and temperature, which is the key parameter required to calculate the ammonia nitrogen, this permit may be reopened to incorporate the effluent limitations for ammonia nitrogen. The calculation presented here is the same calculation that was performed for the San Jose Creek WRP permit.

Step 1 – Identify applicable water quality criteria.

From the Discharger's effluent, the following data are separated by time of year when ELS are present (from April 1 to September 30) and when ELS are absent (from October 1 to March 31) are summarized below:

ELS Present:

pH = 7.2 at 50th percentile and temperature = 27°C

pH = 7.36 at 90th percentile and temperature = 27°C

From Table 3-1 of the Basin Plan, using 90th percentile pH 7.36;

One-hour Average Objective for Waters not Designated COLD and/or
MIGR = 24.25 mg/L

30-day Average Objective

The 30-day average ammonia SSO replaces Table 3-2 of the Basin Plan.

Substitute the 50th percentile pH = 7.2 and temperature = 27°C into the formula below.

The 30-day average SSO ELS present will be calculated using the formula stated in the Resolution No. 2007-005 for San Gabriel River, Reaches 2 and 3 (Confluence with San Jose Creek to Firestone Blvd.) (including all San Jose Creek WRP discharges):

ELS Present (from April 1-September 30)

$$CCC = \left(\frac{0.0676}{1+10^{7.688-pH}} + \frac{2.912}{1+10^{pH-7.688}} \right) * 0.89 * \text{MIN}(2.85, 2.37 * 10^{0.028*(25-T)})$$

Where T = temperature expressed in °C.

Substituting the values of pH and temperature in the above formula, the 30-day Average SSO ELS Present = 4.1 mg/L

From Basin Plan amendment Resolution No. 2002-011;

4-day Average Objective = 2.5 times the 30-Day Ave. Obj.

4-day Average Objective = 2.5 x 4.1 = 10.26 mg/L

ELS Absent:

pH = 7.2 at 50th percentile and temperature = 23.9°C

pH = 7.42 at 90th percentile and temperature = 23.9°C

From Table 3-1 of the Basin Plan, using 90th percentile pH 7.42;

One-hour Average Objective for Waters not Designated COLD and/or MIGR = 22.34 mg/L

30-day Average Objective

The 30-day average ammonia SSO replaces Table 3-2 of the Basin Plan.

Substitute the 50th percentile pH = 7.2 and temperature = 23.9°C in the formula below.

The 30-day average SSO ELS absent will be calculated using the formula stated in the Resolution No. 2007-005 for San Gabriel River, Reaches 2 and 3 (Confluence with San Jose Creek to Firestone Blvd.) (including all San Jose Creek WRP discharges):

ELS Absent (from October 1-March 31)

$$CCC = \left(\frac{0.0676}{1+10^{7.688-pH}} + \frac{2.912}{1+10^{pH-7.688}} \right) * 0.89 * 2.37 * 10^{0.028*(25-\text{Max}(T,7))}$$

Substituting the values of pH and temperature in the above formula, the 30-day Average SSO ELS absent = 4.98 mg/L

From Basin Plan amendment Resolution No. 2002-011;

4-day Average Objective = 2.5 times the 30-Day Ave. Obj.

4-day Average Objective = 2.5 x 4.98 = 12.45 mg/L

Step 2 – For each water quality objective, calculate the effluent concentration allowance (ECA) using the steady-state mass balance model. Since mixing has not been allowed by the Regional Water Board, this equation applies:

$$ECA = WQO$$

Step 3 – Determine the Long-Term Average discharge condition (LTA) by multiplying each ECA with a factor (multiplier) that adjust for variability. By using Table 3-6, calculated CV (i.e., standard deviation/mean for ammonia), the following are the ECA.

ECA multiplier when CV = 0.1953 (ELS Present)

$$\text{One-hour Average} = 0.6269$$

$$\text{Four-day Average} = 0.7859$$

$$\text{30-day Average} = 0.9144$$

Using the LTA equations:

ELS Present:

$$LTA_{1\text{-hour}/99} = ECA_{1\text{-hour}} \times ECA \text{ multiplier}_{1\text{-hour}99}$$

$$= 24.25 \times 0.6269 = 15.20 \text{ mg/L}$$

$$LTA_{4\text{-day}/99 \text{ ELS Present}} = ECA_{4\text{-day}} \times ECA \text{ multiplier}_{4\text{-day}99}$$

$$= 10.26 \times 0.7859 = 8.07 \text{ mg/L}$$

$$LTA_{30\text{-day}/99 \text{ ELS Present}} = ECA_{30\text{-day}} \times ECA \text{ multiplier}_{30\text{-day}99}$$

$$= 4.1 \times 0.9144 = 3.75 \text{ mg/L}$$

ECA multiplier when CV = 0.1859 (ELS Absent)

$$\text{One-hour Average} = 0.6769$$

$$\text{Four-day Average} = 0.8187$$

$$\text{30-day Average} = 0.9286$$

ELS Absent:

$$LTA_{1\text{-hour}/99} = ECA_{1\text{-hour}} \times ECA \text{ multiplier}_{1\text{-hour}99}$$

$$= 22.34 \times 0.6769 = 15.12 \text{ mg/L}$$

$$LTA_{4\text{-day}/99 \text{ ELS Absent}} = ECA_{4\text{-day}} \times ECA \text{ multiplier}_{4\text{-day}99}$$

$$= 12.45 \times 0.8187 = 10.196 \text{ mg/L}$$

$$LTA_{30\text{-day}/99 \text{ ELS Absent}} = ECA_{30\text{-day}} \times ECA \text{ multiplier}_{30\text{-day}99}$$

$$= 4.98 \times 0.9286 = 4.63 \text{ mg/L}$$

Step 4 – Select the (most limiting) of the LTAs derived in Step 3 (LTA_{\min})

$$\text{ELS Present } LTA_{\min} = 3.75 \text{ mg/L}$$

$$\text{ELS Absent } LTA_{\min} = 4.63 \text{ mg/L}$$

Step 5 – Calculate water quality based effluent limitation MDEL and AMEL by multiplying LTA_{\min} as selected in Step 4, with a factor (multiplier) found in Table 3-7.

Monthly sampling frequency (n) is 30 times per month or less, and the minimum LTA is the $LTA_{30\text{-day}/99}$, therefore $n = 30$, ELS Present CV = 0.1953, and ELS Absent CV=0.1859.

CV = 0.1953

ELS Present multiplier

MDEL multiplier = 1.5951

AMEL multiplier = 1.0651

ELS Present:

$MDEL = LTA_{min} \times MDEL \text{ multiplier}_{99} = 3.75 \times 1.5951 = 6.0 \text{ mg/L}$

$AMEL = LTA_{min} \times AMEL \text{ multiplier}_{95} = 3.75 \times 1.0651 = 4.0 \text{ mg/L}$

ELS Absent:

CV = 0.1859

ELS Absent multiplier

MDEL multiplier = 1.4774

AMEL multiplier = 1.0536

$MDEL = LTA_{min} \times MDEL \text{ multiplier}_{99} = 4.63 \times 1.4774 = 6.8 \text{ mg/L}$

$AMEL = LTA_{min} \times AMEL \text{ multiplier}_{95} = 4.63 \times 1.0536 = 4.9 \text{ mg/L}$

Table F-4. Summary of Ammonia Effluent Limitations for Discharge Points 001A and 001B

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia Nitrogen (ELS Present)	mg/L	4.0	--	6.0		
	lbs/day ⁴	494	--	741		
Ammonia Nitrogen (ELS Absent)	mg/L	4.9	--	6.8		
	lbs/day ⁴	605	--	839		

(2) Translation of Ammonia Nitrogen Objectives into Effluent Limitations Applicable to Discharge Point 001

The GRIP AWTF is a new facility and has not started discharge. There are no available effluent data that can be used to calculate the ammonia nitrogen effluent limitations. The San Jose Creek WRP and the GRIP-AWTF shares the same discharge outfalls, namely, Discharge Points 001, 001A and 001B. Since the combined effluent from the San Jose Creek WRP (East and West) will be the same quality of water going into the GRIP-AWTF as influent water, this permit will assume, based on best professional judgment, the ammonia nitrogen effluent limitations established for Discharge Point 001 for the San Jose Creek WRP will be

⁴ The mass emission rates are based on the plant design flow rate of 14.8 mgd, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day, or Flow (mgd) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

the same for the GRIP-AWTF. Once the GRIP-AWTF has established its own dataset for pH and temperature, this permit may be reopened to incorporate the effluent limitations for ammonia nitrogen. The calculation presented here is the same calculation that was performed for the San Jose Creek WRP permit.

Step 1 – Identify applicable water quality criteria.

From the Permittee’s effluent, the following data are summarized below:

ELS Absent (year round):

pH = 7.3 at 50th percentile and temperature = 26.1°C

pH = 7.5 at 90th percentile and temperature = 26.1°C

From Table 3-1 of the Basin Plan, using 90th percentile pH 7.5;

One-hour Average Objective for Waters not Designated COLD and/or MIGR = 19.89 mg/L

The Facility discharges into a receiving waterbody that has “MIGR” beneficial use designation. According to the Basin Plan, it is assumed that salmonids may be present in waters designated in the Basin Plan as “COLD” or “MIGR.” However, in the USEPA approval letter dated June 19, 2003, of the 2002 Ammonia Basin Plan Amendment, USEPA discussed it clearly that the acute criteria are dependent on pH and whether sensitive coldwater fish are present. Although the Estuary has an MIGR, it has no COLD beneficial use designation. There are no coldwater fish present in the receiving water. Therefore, the receiving water will be designated as “Waters not Designated Cold or MIGR.” The one-hour average objective is pH dependent and fish species salmonids present but not temperature.

30-day Average Objective

The 30-day average ammonia SSO replaces Table 3-2 of the Basin Plan.

Substitute the 50th percentile pH = 7.3 and temperature = 26.1°C in the formula below.

The 30-day average SSO ELS absent will be calculated using the formula stated in the Resolution No. 2007-005 for San Gabriel River, Reach 1 (Firestone Boulevard to Willow Street or start of Estuary):

ELS Absent (year round)

$$CCC = \left(\frac{0.0676}{1 + 10^{7.688 - \text{pH}}} + \frac{2.912}{1 + 10^{\text{pH} - 7.688}} \right) * 0.854 * 3.34 * 10^{0.028 * (25 - \text{Max}(T, 7))}$$

Substituting the values of pH and temperature in the above formula, the 30-day Average SSO ELS absent = 5.54 mg/L

From Basin Plan amendment Resolution No. 2002-011;

4-day Average Objective = 2.5 times the 30-Day Ave. Obj.

4-day Average Objective = 2.5 x 5.54 = 13.86 mg/L

Step 2 – For each water quality objective, calculate the effluent concentration allowance (ECA) using the steady-state mass balance model. Since mixing has not been allowed by the Regional Water Board, this equation applies:

$$ECA = WQO$$

Step 3 – Determine the Long-Term Average discharge condition (LTA) by multiplying each ECA with a factor (multiplier) that adjust for variability. By using Table 3-6, calculated CV (i.e., standard deviation/mean for ammonia), the following are the ECA.

ECA multiplier when CV = 0.1859 (ELS Absent)

$$\text{One-hour Average} = 0.6540$$

$$\text{Four-day Average} = 0.8039$$

$$\text{30-day Average} = 0.9223$$

Using the LTA equations:

$$\begin{aligned} LTA_{1\text{-hour}/99} &= ECA_{1\text{-hour}} \times ECA \text{ multiplier}_{1\text{-hour}/99} \\ &= 19.89 \times 0.6540 = 13.01 \text{ mg/L} \end{aligned}$$

$$\begin{aligned} LTA_{4\text{-day}/99} &= ECA_{4\text{-day}} \times ECA \text{ multiplier}_{4\text{-day}/99} \\ &= 13.86 \times 0.8039 = 11.14 \text{ mg/L} \end{aligned}$$

$$\begin{aligned} LTA_{30\text{-day}/99} &= ECA_{30\text{-day}} \times ECA \text{ multiplier}_{30\text{-day}/99} \\ &= 5.66 \times 0.9223 = 5.22 \text{ mg/L} \end{aligned}$$

Step 4 – Select the (most limiting) of the LTAs derived in Step 3 (LTA_{min})

$$LTA_{min} = 5.22 \text{ mg/L}$$

Step 5 – Calculate water quality based effluent limitation MDEL and AMEL by multiplying LTA_{min} as selected in Step 4, with a factor (multiplier) found in Table 3-7.

Monthly sampling frequency (n) is 30 times per month or less, and the minimum LTA is the $LTA_{30\text{-day}/99}$, therefore $n = 30$, $CV = 0.1859$.

$$CV = 0.1859$$

$$\text{MDEL multiplier} = 1.529$$

$$\text{AMEL multiplier} = 1.059$$

$$\text{MDEL} = LTA_{min} \times \text{MDEL multiplier}_{99} = 5.22 \times 1.529 = 8.0 \text{ mg/L}$$

$$\text{AMEL} = LTA_{min} \times \text{AMEL multiplier}_{95} = 5.22 \times 1.059 = 5.5 \text{ mg/L}$$

Table F-5. Summary of Ammonia Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia Nitrogen (ELS Absent, year round)	mg/L	5.5	--	8.0		
	lbs/day ⁴	679	--	987		

(3) Receiving Water Ammonia Nitrogen Limitation

On March 2, 2011, the Regional Water Board approved the ammonia nitrogen receiving water monitoring location based on the study conducted by the San Jose Creek WRP. As previously stated, the GRIP-AWTF receiving water monitoring stations are identical to the San Jose Creek WRP where the effluent are discharged to Discharge Points 001, 001A, and 001B. The study concluded that the ammonia nitrogen compliance monitoring shall be conducted 100 feet below the outfall. To ensure that downstream receiving waters are protected at all times, the Discharger shall monitor the ammonia concentrations at RSW-002, RSW-003, and RSW-004 as described in the MRP, 100 feet from the discharge outfall. The purpose of the monitoring location is to ensure that ammonia water quality objectives are met in the receiving water, even immediately downstream of the discharge when there has been little time for uptake or volatilization of ammonia in the receiving water. Concurrent sampling of ammonia, pH, and temperature will be required at this monitoring location. The Discharger shall compare the ammonia results to Basin Plan ammonia water quality objectives, based on the real-time pH and temperature data collected at the time of ammonia sampling.

The above receiving water ammonia nitrogen monitoring is already being conducted by JOS. It is not the intent of this permit to duplicate this requirement. However, all relevant reports shall be included in the GRIP-AWTF's regular CIWQS monitoring report submittal.

vi. **Coliform**

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

(a) Effluent Limitations:

- (1) The 7 day median number of total coliform bacteria at some point in the treatment process must not exceed a Most Probable Number (MPN) or Colony Forming Unit (CFU) of 2.2 per 100 milliliters,
- (2) The number of total coliform bacteria must not exceed an MPN or CFU of 23 per 100 milliliters in more than one sample within any 30-day period, and
- (3) No sample shall exceed an MPN or CFU of 240 total coliform bacteria per 100 milliliters.

These disinfection-based effluent limitations for total coliform are for human health protection and for ground water recharge beneficial use protection, and are consistent with requirements per title 22 California Code of Regulations sections 60301.230(b) and 60320.108(b) established by the Division of Drinking Water. The AWTF's advanced treated recycled water that is discharged to the San Gabriel River is recharged intentionally to the groundwater aquifer for eventual use as potable water supply. The unlined (soft bottom) reaches of the San Gabriel River are considered part of the spreading grounds at the Montebello

Forebay Spreading Grounds. These limitations for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

(b) Receiving Water Limitation

(1) Geometric Mean Limits

E.coli density shall not exceed 126/100 mL.

(2) Single Sample Limits

E.coli density shall not exceed 235/100 mL.

These receiving water limitations are based on Resolution No. R10-005, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Freshwaters Designated for Water Contact Recreation by Removing the Fecal Coliform Objective, adopted by the Regional Water Board on July 8, 2010, and became effective on December 5, 2011.

vii. **Temperature**

USEPA document, Quality Criteria for Water 1986 [EPA 440/5-86-001, May 1, 1986], also referred to as the Gold Book, discusses temperature and its effects on beneficial uses, such as recreation and aquatic life.

- The Federal Water Pollution Control Administration in 1967 called temperature “a catalyst, a depressant, an activator, a restrictor, a stimulator, a controller, a killer, and one of the most important water quality characteristics to life in water.” The suitability of water for total body immersion is greatly affected by temperature. Depending on the amount of activity by the swimmer, comfortable temperatures range from 20°C to 30°C (68 °F to 86 °F).
- Temperature also affects the self-purification phenomenon in water bodies and therefore the aesthetic and sanitary qualities that exist. Increased temperatures accelerate the biodegradation of organic material both in the overlying water and in bottom deposits which makes increased demands on the dissolved oxygen resources of a given system. The typical situation is exacerbated by the fact that oxygen becomes less soluble as water temperature increases. Thus, greater demands are exerted on an increasingly scarce resource which may lead to total oxygen depletion and obnoxious septic conditions. Increased temperature may increase the odor of water because of the increased volatility of odor-causing compounds. Odor problems associated with plankton may also be aggravated.
- Temperature changes in water bodies can alter the existing aquatic community. Coutant (1972) has reviewed the effects of temperature on aquatic life reproduction and development. Reproductive elements are noted as perhaps the most thermally restricted of all life phases assuming other factors are at or near optimum levels. Natural short-term temperature fluctuations appear to cause reduced reproduction of fish and invertebrates.

The Basin Plan lists temperature requirements for the receiving waters. Based on the requirements of the Basin Plan and a white paper developed by Regional Water Board staff entitled Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles

Region, a maximum effluent temperature limitation of 86°F is included in the Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature which was formerly used in permits was not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective. It is impracticable to use a 7-day average or a 30-day average limitation for temperature, because it is not as protective as of beneficial uses as a daily maximum limitation is. A daily maximum limit is necessary to protect aquatic life and is consistent with the fishable/swimmable goals of the CWA.

Table 4 – Effluent Limitations of this Order contains 86°F as temperature effluent limitation. It also carries a footnote that states:

“The temperature of wastes discharged shall not exceed 86°F except as a result of external ambient temperature.”

The above effluent limitation for temperature has been quoted in all recent NPDES permits adopted by this Regional Water Board. Section V.A.1. of the Order explains how compliance with the receiving water temperature limitation will be determined.

viii. **Turbidity**

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. For the protection of the water contact recreation and ground water recharge beneficial uses, the discharge to the San Gabriel River shall have received adequate treatment, so that the turbidity of the advanced treated recycled water does not exceed: (a) 0.2 Nephelometric turbidity units (NTU) more than 5 percent of the time within a 24 hour period; and (b) 0.5 NTU at any time. This requirement is based on section 60301.320(b) of title 22, chapter 3, “Filtered Wastewater” of the CCR and section 60320.108(b)). The AWTF’s advanced treated recycled water that is discharged to the San Gabriel River is recharged intentionally to the groundwater aquifer for eventual use as potable water supply. The unlined (soft bottom) reaches of the San Gabriel River are considered part of the spreading grounds at the Montebello Forebay Spreading Grounds.

ix. **Radioactivity**

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The effluent limitation for radioactivity which reads, “Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Sections 64442 and 64443, of the California Code of Regulations, or subsequent revisions,” is based on the Basin Plan incorporation of Title 22, Drinking Water Standards, by reference, to protect the surface water MUN beneficial use. However, the Regional Water Board has new information about the appropriate designated uses for the water body, and based on the current designated uses, a limit for Radioactivity is unnecessary and inappropriate unless discharge is to a reach used for groundwater

recharge, where Title 22-based limits apply. Therefore, the accompanying Order will contain the limit for radioactivity to protect the GWR beneficial use.

c. CTR and SIP

The CTR and the SIP specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis (RPA) to determine the need for effluent limitations for priority pollutants. The TSD specifies the procedures to conduct reasonable potential analyses for non-priority pollutants.

3. Determining the Need for WQBELs

The Regional Water Board developed WQBELs for copper and lead that have available WLAs established in the *San Gabriel Metals TMDL*. The effluent limitations for these pollutants were established regardless of whether or not there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. The Regional Water Board developed WQBELs for these pollutants pursuant to 40 CFR section 122.44(d)(1)(vii)B, which does not require or contemplate a reasonable potential analysis (RPA). The NPDES regulations at 40CFR 122.44(d)(1)(vii)(B) require that NPDES permits include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. Thus, consistent with the federal requirement and with the NPDES Permit Writers' Manual (EPA-833-K-10-001, September 2010), final effluent limitations have been included in this Order for copper and lead for which a WLA has been assigned to the permitted facility through a TMDL.

For those priority pollutants that have no assigned WLAs under a TMDL, in accordance with Section 1.3 of the SIP, Regional Water Board staff conducted an RPA for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background concentration in the receiving water for each constituent, based on data provided by the Permittee. The monitoring data cover the period from January 1, 2011 to December 2016.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Permittee will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Since the tertiary treated effluent from the

San Jose Creek WRP (East and/or West) will be the same quality of water that is delivered to the GRIP-AWTF as influent water, during this permit cycle only, this permit will assume for the purposes of determining RPA, and based on best professional judgment, the data established for Discharge Points 001, 001A, and 001B for the San Jose Creek WRP will be the same for the GRIP-AWTF. Once the GRIP-AWTF has established its own dataset, the effluent limitations may be recalculated using the GRIP-AWTF data and the permit may be reopened to incorporate the new effluent limitations for GRIP-AWTF, if warranted.

The RPA was performed for the priority pollutants regulated in the CTR using the available data from the San Jose Creek WRP. Based on the SIP RPA, pollutants that demonstrate reasonable potential to cause or contribute to an exceedance of the CTR criteria are copper and lead, (Tier 3, TMDL). The following priority pollutants also show reasonable potential: 2,3,7,8-TCDD (Tier 1). The following Table summarizes results from RPA.

Table F-6. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
1	Antimony	4300	0.98	2.9	No	C>B, C>MEC
2	Arsenic	150	2.2	3.3	No	C>B, C>MEC
3	Beryllium	Narrative	ND	--	No	C>B, C>MEC
4	Cadmium	4.39	0.11	0.18	No	C>B, C>MEC
5a	Chromium III	378.6	1.63	0.33	No	C>B, C>MEC
5b	Chromium VI	11	1.7	2.2	No	C>B, C>MEC
6	Copper	18	9.6	9.7	Yes	TMDL WLA
7	Lead	166	0.8	5.4	Yes	TMDL WLA
8	Mercury	0.051	0.003	ND	No	C>B, C>MEC
9	Nickel	97	10.6	5.5	No	C>B, C>MEC
10	Selenium	5	0.8	1.1	No	C>B, C>MEC
11	Silver	10	0.03	0.04	No	C>B, C>MEC
12	Thallium	6.3	ND	ND	No	C>B, C>MEC
13	Zinc	187	77.8	124	No	C>B, C>MEC
14	Cyanide	5.2	2.4	3.1	No	C>B, C>MEC
15	Asbestos	7x10 ⁶ fibers/L	No sample	No sample	No	N/A
16	2,3,7,8-TCDD (Dioxin)	1.4x10 ⁻⁰⁸	0.0000004 1	ND	Yes	MEC>C, Tier 1
17	Acrolein	780	ND	ND	No	C>B, C>MEC
18	Acrylonitrile	0.66	ND	ND	No	C>B, C>MEC
19	Benzene	71	ND	ND	No	C>B, C>MEC
20	Bromoform	360	1.2	ND	No	C>B, C>MEC
21	Carbon Tetrachloride	4.4	0.2	ND	No	C>B, C>MEC
22	Chlorobenzene	21,000	ND	ND	No	C>B, C>MEC
23	Dibromochloro-methane	34	11.7	0.22	No	C>B, C>MEC
24	Chloroethane	No criteria	ND	ND	No	No criteria

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
25	2-chloroethyl vinyl ether	No criteria	ND	ND	No	No criteria
26	Chloroform	No criteria	--	--	No	No criteria
27	Dichlorobromo-methane	46	29	3.7	No	C>B, C>MEC
28	1,1-dichloroethane	No criteria	ND	ND	No	No criteria
29	1,2-dichloroethane	99	ND	ND	No	C>B, C>MEC
30	1,1-dichloroethylene	3.2	ND	ND	No	C>B, C>MEC
31	1,2-dichloropropane	39	ND	ND	No	C>B, C>MEC
32	1,3-dichloropropylene	1,700	ND	ND	No	C>B, C>MEC
33	Ethylbenzene	29,000	ND	ND	No	C>B, C>MEC
34	Methyl bromide	4,000	ND	ND	No	C>B, C>MEC
35	Methyl chloride	No criteria	29	ND	No	No criteria
36	Methylene chloride	1,600	1.0	0.2	No	C>B, C>MEC
37	1,1,2,2-tetrachloroethane	11	ND	ND	No	C>B, C>MEC
38	Tetrachloroethylene	8.85	4.3	ND	No	C>B, C>MEC
39	Toluene	200,000	1.0	ND	No	C>B, C>MEC
40	Trans 1,2-Dichloroethylene	140,000	ND	ND	No	C>B, C>MEC
41	1,1,1-Trichloroethane	No criteria	ND	ND	No	C>B, C>MEC
42	1,1,2-Trichloroethane	42	ND	ND	No	C>B, C>MEC
43	Trichloroethylene	81	ND	ND	No	C>B, C>MEC
44	Vinyl Chloride	525	ND	ND	No	C>B, C>MEC
45	2-chlorophenol	400	ND	ND	No	C>B, C>MEC
46	2,4-dichlorophenol	790	ND	ND	No	C>B, C>MEC
47	2,4-dimethylphenol	2,300	0.2	ND	No	C>B, C>MEC
48	4,6-dinitro-o-cresol(aka 2-methyl-4,6-Dinitrophenol)	765	ND	ND	No	C>B, C>MEC
49	2,4-dinitrophenol	14,000	ND	ND	No	C>B, C>MEC
50	2-nitrophenol	No criteria	ND	ND	No	No criteria
51	4-nitrophenol	No criteria	ND	ND	No	No criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-cresol)	No criteria	ND	ND	No	No criteria
53	Pentachlorophenol	8.2	ND	ND	No	C>B, C>MEC
54	Phenol	4,600,000	3.7	ND	No	C>B, C>MEC
55	2,4,6-trichlorophenol	6.5	0.4	ND	No	C>B, C>MEC
56	Acenaphthene	2,700	ND	ND	No	C>B, C>MEC
57	Acenaphthylene	No criteria	ND	ND	No	No criteria
58	Anthracene	110,000	ND	ND	No	C>B, C>MEC
59	Benzidine	0.00054	ND	ND	No	C>B, C>MEC

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
60	Benzo(a)Anthracene	0.049	ND	ND	No	C>B, C>MEC
61	Benzo(a)Pyrene	0.049	0.01	ND	No	C>B, C>MEC
62	Benzo(b)Fluoranthene	0.049	0.01	ND	No	C>B, C>MEC
63	Benzo(ghi)Perylene	No criteria	ND	ND	No	No criteria
64	Benzo(k)Fluoranthene	0.049	0.01	ND	No	C>B, C>MEC
65	Bis(2-Chloroethoxy) methane	No criteria	ND	ND	No	No criteria
66	Bis(2-Chloroethyl)Ether	1.4	ND	ND	No	C>B, C>MEC
67	Bis(2-Chloroisopropyl) Ether	170,000	ND	ND	No	C>B, C>MEC
68	Bis(2-Ethylhexyl)Phthalate	4	1.7	ND	No	C>B, C>MEC
69	4-Bromophenyl Phenyl Ether	No criteria	ND	ND	No	No criteria
70	Butylbenzyl Phthalate	5,200	ND	ND	No	C>B, C>MEC
71	2-Chloronaphthalene	4,300	ND	ND	No	C>B, C>MEC
72	4-Chlorophenyl Phenyl Ether	No criteria	ND	ND	No	No criteria
73	Chrysene	0.049	0.01	ND	No	C>B, C>MEC
74	Dibenzo(a,h) Anthracene	0.049	0.03	ND	No	C>B, C>MEC
75	1,2-Dichlorobenzene	17,000	ND	ND	No	C>B, C>MEC
76	1,3-Dichlorobenzene	2,600	0.3	ND	No	C>B, C>MEC
77	1,4-Dichlorobenzene	2,600	0.1	ND	No	C>B, C>MEC
78	3-3'-Dichlorobenzidine	0.077	ND	ND	No	C>B, C>MEC
79	Diethyl Phthalate	120,000	0.3	ND	No	C>B, C>MEC
80	Dimethyl Phthalate	2,900,000	ND	ND	No	C>B, C>MEC
81	Di-n-Butyl Phthalate	12,000	ND	ND	No	C>B, C>MEC
82	2-4-Dinitrotoluene	9.1	ND	ND	No	C>B, C>MEC
83	2-6-Dinitrotoluene	No criteria	ND	ND	No	No criteria
84	Di-n-Octyl Phthalate	No criteria	ND	ND	No	No criteria
85	1,2-Diphenylhydrazine	0.54	ND	ND	No	C>B, C>MEC
86	Fluoranthene	370	ND	ND	No	C>B, C>MEC
87	Fluorene	14,000	ND	ND	No	C>B, C>MEC
88	Hexachlorobenzene	50	ND	ND	No	C>B, C>MEC
89	Hexachlorobutadiene	50	ND	ND	No	C>B, C>MEC
90	Hexachlorocyclopentadiene	17,000	ND	ND	No	C>B, C>MEC
91	Hexachloroethane	8.9	ND	ND	No	C>B, C>MEC

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc. (B) µg/L	RPA Result - Need Limitation ?	Reason
92	Indeno(1,2,3-cd) Pyrene	0.049	0.02	ND	No	C>B, C>MEC
93	Isophorone	600	ND	ND	No	C>B, C>MEC
94	Naphthalene	No criteria	ND	ND	No	No criteria
95	Nitrobenzene	1,900	ND	ND	No	C>B, C>MEC
96	N-Nitrosodimethylamine	8.1	1.3	0.02	No	C>B, C>MEC
97	N-Nitrosodi-n-Propylamine	1.4	ND	ND	No	C>B, C>MEC
98	N-Nitrosodiphenylamine	16	ND	ND	No	C>B, C>MEC
99	Phenanthrene	No criteria	ND	ND	No	No criteria
100	Pyrene	11,000	ND	ND	No	C>B, C>MEC
101	1,2,4-Trichlorobenzene	No criteria	ND	ND	No	No criteria
102	Aldrin	0.00014	ND	ND	No	C>B, C>MEC
103	Alpha-BHC	0.013	ND	ND	No	C>B, C>MEC
104	Beta-BHC	0.046	ND	ND	No	C>B, C>MEC
105	Gamma-BHC (aka Lindane)	0.063	0.01	ND	No	C>B, C>MEC
106	delta-BHC	No criteria	ND	ND	No	No criteria
107	Chlordane	0.00059	ND	ND	No	C>B, C>MEC
108	4,4'-DDT	0.00059	ND	ND	No	C>B, C>MEC
109	4,4'-DDE	0.00059	ND	ND	No	C>B, C>MEC
110	4,4'-DDD	0.00084	ND	ND	No	C>B, C>MEC
111	Dieldrin	0.00014	ND	ND	No	C>B, C>MEC
112	Alpha-Endosulfan	0.056	ND	ND	No	C>B, C>MEC
113	Beta-Endosulfan	0.056	ND	ND	No	C>B, C>MEC
114	Endosulfan Sulfate	240	ND	ND	No	C>B, C>MEC
115	Endrin	0.036	ND	ND	No	C>B, C>MEC
116	Endrin Aldehyde	0.81	ND	ND	No	C>B, C>MEC
117	Heptachlor	0.00021	ND	ND	No	C>B, C>MEC
118	Heptachlor Epoxide	0.00011	ND	ND	No	C>B, C>MEC
119	PCB 1016	0.00017	ND	ND	No	C>B, C>MEC
120	PCB 1221	0.00017	ND	ND	No	C>B, C>MEC
121	PCB 1232	0.00017	ND	ND	No	C>B, C>MEC
122	PCB 1242	0.00017	ND	ND	No	C>B, C>MEC
123	PCB 1248	0.00017	ND	ND	No	C>B, C>MEC
124	PCB 1254	0.00017	ND	ND	No	C>B, C>MEC
125	PCB 1260	0.00017	ND	ND	No	C>B, C>MEC
126	Toxaphene	0.0002	ND	ND	No	C>B, C>MEC

4. **WQBEL Calculations**

- a. **Calculation Options.** Once RPA has been conducted using either the TSD or the SIP methodologies, WQBELs are calculated. Alternative procedures for calculating WQBELs include:
 - i. Use WLA from applicable TMDL
 - ii. Use a steady-state model to derive MDELs and AMELs.
 - iii. Where sufficient data exist, use a dynamic model which has been approved by the State Water Board.
- b. **San Gabriel River Metals TMDL.** Section 7 - Implementation Recommendations of the USEPA-established *Total Maximum Daily Loads for Metals and Selenium, San Gabriel River and Impaired Tributaries* (Metals TMDL) describes the implementation procedures and regulatory mechanisms that could be used to provide reasonable assurances that water quality standards will be met. For this NPDES permit, USEPA suggest that permit writers could translate waste load allocations (WLAs) into effluent limits by applying the SIP procedures or other applicable engineering practices authorized under federal regulations.

Discharge Point 001, Reach 1

According to Table 2-9 of the Metals TMDL, Summary of dry-weather and wet weather impairments, San Gabriel River Estuary has only a dry-weather impairment for copper. Therefore, a dry-weather allocation for copper was assigned to San Gabriel Reach 1 and its tributaries to meet the copper TMDL in the Estuary.

For copper, dry-weather allocations will be applied to the facility's effluent discharge to meet the TMDLs in downstream reaches. Table 6-5, Dry-weather copper waste load allocation for San Gabriel Reach 1 is set at 18 µg/L. As discussed above, staff use option 2 to use the WLA allocation from applicable TMDL as WQBELs. The 18 µg/L expressed as maximum daily, will be the final effluent limitation for copper when discharging to Reach 1 of the San Gabriel River. This effluent limitation will only apply during the dry-weather when the maximum daily flow at the San Gabriel River, as measured at station 11087020 is less than 260 cfs.

Discharge Points 001A and 001B, Reach 2

According to Table 2-9 of the Metals TMDL, Summary of dry-weather and wet-weather impairments, San Gabriel River Reach 2 has only wet-weather impairment for lead. Table 6-2, provided that the wet-weather allocation for lead in the San Gabriel River Reach 2 is at 166 µg/L. As discussed above, staff used option 2 to use the WLA allocation from applicable TMDL as WQBELs. The 166 µg/L expressed as maximum daily, will be the final effluent limitation for lead when discharging to Reach 2 of the San Gabriel River. This effluent limitation shall only apply during wet-weather.

Wet-weather is defined as the condition in the San Gabriel River when maximum daily flow at the United States Geological Survey gauging station 11087020 is equal to or greater than 260 cfs. The San Gabriel River Metals TMDL on page 17 indicated that the USGS gauge station located just above Whittier Narrows Dam (station 11085000) is the best indicator of wet-weather flow conditions. However, USGS station 11085000 is actually located below Santa Fe Dam in Baldwin Park. The USGS flow gauging station above Whittier Narrows Dam in Reach 3 is

11087020. Therefore, for flow monitoring purposes, and for the determination of wet-weather flow condition, USGS station 11087020 will be used.

- c. **SIP Calculation Procedure.** Section 1.4 of the SIP requires the step-by-step procedure to “adjust” or convert CTR numeric criteria into AMELs and MDELs, for toxics.

Step 3 of Section 1.4 of the SIP (page 8) lists the statistical equations that adjust CTR criteria for effluent variability.

Step 5 of Section 1.4 of the SIP (page 10) lists the statistical equations that adjust CTR criteria for averaging periods and exceedance frequencies of the criteria/objectives.

Sample calculation for 2,3,7,8-TCDD (Dioxin):

Step 1: Identify applicable water quality criteria.

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Freshwater Aquatic Life Criteria:

CMC = N/A

CCC = N/A

Human Health Criteria for Organisms only = 0.000000014 µg/L (CTR page 31712, column D2).

Step 2: Calculate effluent concentration allowance (ECA)

ECA = Criteria in CTR, since no dilution is allowed.

Step 3: Determine long-term average (LTA) discharge condition

Calculate CV:

CV = Standard Deviation/Mean

= 0.6

Find the ECA Multipliers from SIP Table 1 (page 7), or by calculating them using equations on SIP page 6. When CV = 0.6, then:

ECA Multiplier acute = 0.321

ECA Multiplier chronic = 0.527

LTA acute = ECA acute x ECA Multiplier acute

= N/A

LTA chronic = ECA chronic x ECA Multiplier chronic

= N/A

Step 4: Select the lowest LTA

In this case, the lowest LTA is not applicable.

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE

Find the multipliers. You need to know CV and n (frequency of sample collection per month). If effluent samples are collected 4 times a month or less, then $n = 4$. CV was determined to be 0.6 in a previous step.

AMEL Multiplier = 1.55

MDEL Multiplier = 3.11

AMEL aquatic life = lowest LTA (from Step 4) x AMEL Multiplier
= N/A

MDEL aquatic life = lowest LTA (from Step 4) x MDEL Multiplier
= N/A

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

Find factors. Given CV = 0.6 and $n = 4$.

For AMEL human health limit, there is no factor.

The MDEL/AMEL human health factor = 2.01

AMEL human health = ECA = 0.000000014 $\mu\text{g/L}$

MDEL human health = ECA x MDEL/AMEL factor
= 0.000000014 $\mu\text{g/L}$ x 2.01 = 0.000000028 $\mu\text{g/L}$

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

Lowest AMEL = 0.000000014 $\mu\text{g/L}$ = 0.014 pg/L (Based on human health protection)

Lowest MDEL = 0.000000028 $\mu\text{g/L}$ = 0.028 pg/L (Based on human health protection)

- d. **Impracticability Analysis.** Federal NPDES regulations contained in 40 CFR part 122.45, states that, for continuous discharges, all permit effluent limitations, standards, and prohibitions, including those to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all Permittees other than POTWs.

As stated by USEPA in its long standing guidance for developing WQBELs average alone limitations are not practical for limiting acute, chronic, and human health toxic effects.

For example, a facility sampling for a toxicant to evaluate compliance with a 7-day average limitation could fully comply with this average limit, but still be discharging toxic effluent on one, two, three, or up to four of these seven days and not be meeting 1-hour average acute criteria or 4-day average chronic criteria. For these reason, USEPA recommends daily maximum and 30-day average limits for regulating toxics in all NPDES discharges. For the purposes of protecting the acute effects of discharges containing toxicants (CTR human health for the ingestion of fish), daily maximum limitations have been established in this NPDES permit for mercury because it is considered to be a carcinogen, endocrine disruptor, and is bioaccumulative.

A 7-day average alone would not protect one, two, three, or four days of discharging pollutants in excess of the acute and chronic criteria. Fish exposed to these endocrine disrupting chemicals will be passed on to the human consumer. Endocrine disrupters alter hormonal functions by several means. These substances can:

- i. Mimic or partly mimic the sex steroid hormones estrogens and androgens (the male sex hormone) by binding to hormone receptors or influencing cell signaling pathways.
 - ii. Block, prevent and alter hormonal binding to hormone receptors or influencing cell signaling pathways.
 - iii. Alter production and breakdown of natural hormones.
 - iv. Modify the making and function of hormone receptors.
- e. **Mass-based limits.** 40 CFR part 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR part 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limitations, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

Table F-7. Summary of WQBELs for Discharge Points 001, 001A, and 001B

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Effluent Limitations for Discharge Point 001						
Copper (dry-weather) ⁵	µg/L	--	--	18		
	lbs/day ⁴	--	--	--		
2,3,7,8-TCDD (Dioxin)	pg/L	0.014	--	0.028		
	lbs/day ⁴	1.7E-09	--	3.5E-09		
Ammonia Nitrogen (ELS Absent, year round)	µg/L	5.5	--	8.0		
	lbs/day ⁴	679	--	987		

⁵ Dry-weather effluent limitations apply when the maximum daily flow measured at the San Gabriel River, United States Geological Survey gauging station 11087020 is less than 260 cubic feet per second.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chronic Toxicity ^{6, 7}	Pass or Fail, % Effect (TST)	Pass ⁸	--	Pass or % Effect < 50		
Effluent Limitations for Discharge Points 001A and 001B						
Lead (wet-weather) ⁹	µg/L	--	--	166		
	lbs/day ⁴	--	--	--		
2,3,7,8-TCDD (Dioxin)	pg/L	0.014	--	0.028		
	lbs/day ⁴	1.7E-09	--	3.5E-09		
Ammonia Nitrogen (ELS Absent, October 1 – March 31)	µg/L	4.0	--	6.0		
	lbs/day ⁴	494	--	741		
Ammonia Nitrogen (ELS Absent, October 1 – March 31)	µg/L	4.9	--	6.8		
	lbs/day ⁴	605	--	839		
Chronic Toxicity ^{6, 7}	Pass or Fail, % Effect (TST)	Pass ⁸	--	Pass or % Effect < 50		

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) testing protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is

⁶ The median monthly effluent limitation (MMEL) shall be reported as “Pass” or “Fail.” The maximum daily effluent limitation (MDEL) shall be reported “Pass” or “Fail” and “% Effect.” The MMEL for chronic toxicity shall only apply when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.”

⁷ A numeric WQBEL is established because effluent data showed that there is reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The Chronic Toxicity final effluent limitation is protective of both the numeric acute toxicity and the narrative toxicity Basin Plan water quality objectives. These final effluent limitations will be implemented using the *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA 2002, EPA-821-R-02-013), current USEPA guidance in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June /2010) and *EPA Regions 8, 9, and 10 Toxicity Training Tool* (January 2010), <http://www2.epa.gov/region8/epa-regions-8-9-and-10-toxicity-training-tool-january-2010>.

⁸ This is a Median Monthly Effluent Limitation.

⁹ Wet-weather effluent limitations apply when the maximum daily flow measured at the San Gabriel River, United States Geological Survey gauging station 11087020 is equal to or greater than 260 cubic feet per second.

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. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects until it gets to the higher level.

Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the San Jose Creek WRPs' effluent, or could have synergistic or additive effects. As previously stated in this permit, the source water for the GRIP-AWTF is the San Jose Creek WRP (East and West Plant) tertiary treated effluent. The San Jose Creek WRP permit has discussed in the Fact Sheet that a total of 83 chronic and four acute whole effluent toxicity (WET) tests and 74 chronic and four acute toxicity test were conducted on San Jose Creek East WRP and San Jose Creek West WRP final effluent, respectively, between January 2009 and 2013. No exceedances of the 1.0 TUC monthly median accelerated testing trigger were reported in the effluent from either plant. However, there are few exceedances of the 1.0 TUC in a single test observed for both East and West plants. Regional Water Board staff determined that, pursuant to the SIP, reasonable potential exists for chronic toxicity. As such, the GRIP-AWTF permit contains effluent limitations for chronic toxicity.

This permit contains final effluent limitations for chronic toxicity, expressed as a monthly median and a daily maximum. The effluent limitations for chronic toxicity were established because effluent data showed that there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standard.

In the past, the State Water Board reviewed the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential with respect to SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 (Los Coyotes Order) deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1.0 TUC trigger, in the Long Beach and Los Coyotes WRP NPDES permits.

However, many facts have changed since the State Water Board adopted the Los Coyotes Order in 2003. USEPA published two new guidance documents with respect to chronic toxicity testing; the Los Angeles Regional Water Board adopted NPDES permits for industrial facilities incorporating TST-based effluent limitations for chronic toxicity and has adopted numeric chronic toxicity effluent limitations for industrial facilities and POTWs with TMDL WLAs of 1.0 TUC; and the Santa Ana Regional Water Board adopted an NPDES permit for a POTW incorporating TST-based effluent limitations for chronic toxicity. In addition to these factual developments, the State Water Board has not adopted a revised policy that addresses chronic toxicity effluent limitations in NPDES permits for inland discharges, as anticipated by the Los Coyotes Order. Because the Los Coyotes Order explicitly "declined to make a determination ... regarding the propriety of the final numeric effluent limitations for chronic toxicity..." (Los Coyotes Order, p. 9) and because of the differing facts before the Regional Water Board in 2014 as compared to the facts that were the basis for the Los Coyotes Order in 2003, the Regional Water Board concludes that the Los Coyotes Order does not require inclusion of narrative rather than numeric effluent limitations for chronic toxicity. Further, the Regional Water Board finds that numeric effluent limitations for chronic toxicity are necessary, feasible, and appropriate.

On July 7, 2014, the Chief Deputy of the Water Quality Division announced that the State Water Board would be releasing a revised version of the Chronic Toxicity Plan for public comment and that has not yet occurred. Because the effluent data from San Jose Creek WRP exhibited reasonable potential to cause or contribute to an exceedance of the water quality objective, this Order contains numeric chronic toxicity effluent limitations. Compliance with the chronic toxicity requirements contained in this Order are to be determined in accordance to sections VII.J. This Order contains a reopener to allow the Regional Water Board to modify the permit, if necessary, to make it consistent with any new policy, law, or regulation.

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

In January 2010, USEPA published a guidance document entitled, "EPA Regions 8, 9 and 10 Toxicity Training Tool," which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR section 122.45(d) requires that all permit limitations be expressed, unless impracticable, as an Average Weekly Effluent Limitation (AWEL) and an Average Monthly Effluent Limitation (AMEL) for POTWs. Following section 5.2.3 of the Technical Support Document (TSD), the use of an AWEL is not appropriate for WET. In lieu of an AWEL for POTWs, USEPA recommends establishing an MDEL for toxic pollutants and pollutants in water quality permitting, including WET. This is appropriate for two reasons. The basis for the average weekly requirement for POTWs derives from secondary treatment regulations and is not related to the requirement to assure achievement of water quality standards (WQS). Moreover, an average weekly requirement comprising up to seven daily samples could average out daily peak toxic concentrations for WET and therefore, the discharge's potential for causing acute and chronic effects would be missed. It is impracticable to use an AWEL, because short-term spikes of toxicity levels that would be permissible under the 7-day average scheme would not be adequately protective of all beneficial uses. The MDEL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AMEL is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. However, in cases where a chronic mixing zone is not authorized, USEPA Regions 9 and 10 continue to recommend that the AMEL for chronic WET should be expressed as a median monthly limit (MMEL).

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

USEPA's WET testing program and acute and chronic WET methods rely on the measurement result for a specific test endpoint, not upon achievement of specified concentration-response patterns to determine toxicity. USEPA's WET methods do not require achievement of specified effluent or ambient concentration-response patterns prior to determining that toxicity is present. Nevertheless, USEPA's acute and chronic WET methods require that effluent and ambient concentration-response patterns generated for multi-concentration acute and chronic toxicity tests be reviewed - as a component of test review following statistical analysis - to ensure that the calculated measurement result for the toxicity test is interpreted appropriately. (EPA-821-R-02-012, section 12.2.6.2; EPA-821-R-02-013, section 10.2.6.2.). In 2000, USEPA provided guidance for such reviews to ensure that test endpoints for determining toxicity based on the statistical approaches utilized at the time the guidance was written (NOEC, LC50s, IC25s) were calculated appropriately (EPA 821-B-00-004).

USEPA designed its 2000 guidance as a standardized step-by step review process that investigates the causes for 10 commonly observed concentration-response patterns and provides for the proper interpretation of the test endpoints derived from these patterns for NOECs, LC50s, and IC25s, thereby reducing the number of misclassified test results. The guidance provides one of three determinations based on the review steps: (1) that calculated effect concentrations are reliable and should be reported, (2) that calculated effect concentrations are anomalous and should be explained, or (3) that the test was inconclusive and should be repeated with a newly collected sample. The standardized review of the effluent and receiving water concentration-response patterns provided by USEPA's 2000 guidance decreased discrepancies in data interpretation for NOEC, LC50, and IC25 test results, thereby lowering the chance that a truly nontoxic sample would be misclassified and reported as toxic.

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

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or PMSDs must be

submitted for review by the Regional Water Board, in consultation with USEPA and the State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditation Program (40 CFR section 122.44(h)). As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR part 122.44(l) prohibit backsliding in NPDES permits. In general, the term anti-backsliding refers to statutory and regulatory provisions that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations, permit conditions, or standards less stringent than those established in the previous permit. The GRIP-AWTF is a new discharge. The effluent limitations in this Order are based on WQBELs that are protective of the receiving water beneficial uses.

2. Antidegradation Policies

40 CFR part 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. On October 28, 1968, the State Water Board established California's antidegradation policy when it adopted Resolution No. 68-16, Statement of Policy with Respect to Maintaining the Quality of the Waters of the State. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The State Water Board has, in State Water Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy contained in 40 CFR part 131.12. Similarly, CWA section 303(d)(4)(B) and 40 CFR part 131.12 require that all permitting actions be consistent with the federal antidegradation policy. Together, the state and federal antidegradation policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies.

Discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR part 131.12 and State Water Board Resolution No. 68-16 because the discharge will not degrade any existing high quality water. The influent to the GRIP-AWTF comes from the San Jose Creek WRPs tertiary treated effluent that is in compliance with Order No. R4-2015-0070, NPDES permit CA0053911. The tertiary treated effluent is further treated by the GRIP-AWTF. The GRIP-AWTF will produce an advanced treated recycled water of superior water quality assuring attainment of the water quality standards in the receiving water.

Monitoring in the effluent and receiving waters is required under this Order. The Regional Water Board may modify the terms of this Order to prevent degradation of high quality waters based on any change in the concentration of the constituents in the effluent or receiving water that indicates that a degradation of high quality waters may occur. The treatment required by this Order is the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained.

3. Stringency of Requirements for Individual Pollutants

This Order contains WQBELs for individual pollutants. The technology-based effluent limitations (TBELs) for BOD and TSS, and percent removal of BOD and TSS are not applicable to GRIP-AWTF because the BOD and TSS have already been removed and the effluent limitations have consistently been met at the San Jose Creek WRPs. Similarly the pH TBEL of 6.0 to 9.0 has also been consistently met so a pH TBEL is not applicable. However, pH effluent limitations of 6.5 to 8.5, per Basin Plan, are included because pH is listed on the 303(d) list of impaired waterbodies for the San Gabriel River.

Water quality-based effluent limitations have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR part 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and WQOs contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to 40 CFR part 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and the applicable water quality standards for purposes of the CWA.

Table F-8. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Effluent Limitations for Discharge Points 001, 001A, and 001B							
Turbidity ¹⁰	NTU	--	--	0.2 ¹⁰	--	0.5 ¹⁰	Tertiary treatment technology /Title 22
pH	standard units	--	--	--	6.5	8.5	Basin Plan
Temperature	°F	--	--	86 ¹¹			USEPA Gold Book and BPJ

¹⁰ For the protection of the water contact recreation beneficial use and human health, the effluent discharged from the AWTF to water courses shall have received adequate treatment, in accordance with California Code of Regulations, title 22, sections 60301.320(b) and 60320.108(b), so that the turbidity of the treated effluent does not exceed any of the following: (a) 0.2 Nephelometric turbidity units (NTUs) more than 5 percent of the time (72 minutes) within a 24-hour period; and (b) 0.5 NTU at any time.

¹¹ The temperature of the effluent discharged from the AWTF shall not exceed 86°F except as a result of external ambient temperature.

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Total coliform ¹²	MPN or CFU/100 mL	23 ¹²	2.2 ¹²	240 ¹²			Tertiary treatment technology /Title 22
Total Residual Chlorine	mg/L	--	--	0.1			Basin Plan
	lbs/day ⁴	--	--	12			
2,3,7,8-TCDD (Dioxin)	pg/L	0.014	--	0.028			Tier 1, SIP/CTR
	lbs/day ⁴	1.7E-09	--	3.5E-09			
Chronic Toxicity ^{13, 14}	Pass or Fail, % Effect (TST)	Pass ¹⁵	--	Pass or % Effect < 50			TST & USEPA Guidance

¹² The effluent discharged from the AWTF to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the effluent from the AWTF shall be considered adequately disinfected (California Code of Regulations, title 22, sections 60301.230(b) and 60320.108(b) if: (1) the median number of total coliform bacteria in the disinfected effluent does not exceed a 7-day median of 2.2 Most Probable Number (MPN) or Colony Forming Unit (CFU) per 100 milliliters utilizing the bacteriological results of the last seven (7) days for which an analysis has been completed, (2) the number of total coliform bacteria does not exceed 23 MPN or CFU per 100 milliliters in more than one sample within any 30-day period, and (3) no sample shall exceed 240 MPN or CFU of total coliform bacteria per 100 milliliters. Samples shall be collected at a time when the flow from AWTF and its characteristics are most demanding on treatment facilities and disinfection processes.

¹³ The median monthly effluent limitation (MMEL) shall be reported as "Pass" or "Fail." The maximum daily effluent limitation (MDEL) shall be reported "Pass" or "Fail" and "% Effect." The MMEL for chronic toxicity shall only apply when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail."

¹⁴ A numeric WQBEL is established because effluent data showed that there is reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The Chronic Toxicity final effluent limitation is protective of both the numeric acute toxicity and the narrative toxicity Basin Plan water quality objectives. These final effluent limitations will be implemented using the *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA 2002, EPA-821-R-02-013), current USEPA guidance in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June /2010) and *EPA Regions 8, 9, and 10 Toxicity Training Tool* (January 2010), <http://www2.epa.gov/region8/epa-regions-8-9-and-10-toxicity-training-tool-january-2010>.

¹⁵ This is a Median Monthly Effluent Limitation.

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Effluent Limitations for Discharge Point 001							
Ammonia Nitrogen (as N) (ELS Absent, year round)	mg/L	5.5	--	8.0			Basin Plan
	lbs/day ⁴	679	--	987			
Copper (dry-weather only) ¹⁶	µg/L	--	--	18			TMDL
	lbs/day ⁴	--	--	--			
Effluent Limitations for Discharge Points 001A and 001B							
Total Dissolved Solids	mg/L	750	--	--			Basin Plan
	lbs/day ⁴	92,574	--	--			
Sulfate	mg/L	300	--	--			Basin Plan
	lbs/day ⁴	37,030	--	--			
Chloride	mg/L	180	--	--			Basin Plan
	lbs/day ⁴	22,218		--			
Boron	mg/L	1.0	--	--			Basin Plan
	lbs/day ⁴	123	--	--			
Ammonia Nitrogen (as N) (ELS Present, April 1 – September 30)	mg/L	4.0	--	6.0			Basin Plan
	lbs/day ⁴	494	--	741			
Ammonia Nitrogen (as N) (ELS Absent, October 1 – March 31)	mg/L	4.9	--	6.8			Basin Plan
	lbs/day ⁴	605	--	839			
Nitrate + Nitrite (as N)	mg/L	8	--	--			Basin Plan
	lbs/day ⁴	987	--	--			
Nitrite (as N)	mg/L	1.0	--	--			Basin Plan
	lbs/day ⁴	123	--	--			
Lead (wet-weather only) ¹⁷	µg/L	--	--	166			TMDL
	lbs/day ⁴	--	--	--			

¹⁶ Dry-weather effluent limitations apply when the maximum daily flow measured at the San Gabriel River, United States Geological Survey gauging station 11087020 is less than 260 cubic feet per second.

¹⁷ Wet-weather effluent limitations apply when the maximum daily flow measured at the San Gabriel River, United States Geological Survey gauging station 11087020 is equal to or greater than 260 cubic feet per second.

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Radioactivity ¹⁸							
Combined Radium-226 and Radium 228	pCi/L	5 ¹⁸	--	--			Title 22 MCL
Gross Alpha particle activity (excluding radon and uranium)	pCi/L	15 ¹⁸	--	--			Title 22 MCL
Uranium	pCi/L	20 ¹⁸	--	--			Title 22 MCL
Gross Beta/photon emitters ¹⁹	millirem/year	4 ¹⁸	--	--			Title 22 MCL
Strontium-90	pCi/L	8 ¹⁸	--	--			Title 22 MCL
Tritium	pCi/L	20,000 ¹⁸	--	--			Title 22 MCL

E. Interim Effluent Limitations – (Not Applicable)

No interim limits are included in this Order.

F. Land Discharge Specifications – (Not Applicable)

G. Recycling Specifications – (Not Applicable)

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

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

B. Groundwater

Limitations in this Order must protect not only surface receiving water beneficial uses, but also, the beneficial uses of underlying groundwater where there is a recharge beneficial use of the surface water. Sections of the San Gabriel River, near the points of discharge, are designated as GWR beneficial use. Surface water from the San Gabriel River percolates into the Main San Gabriel Valley and the Central Los Angeles Coastal Plain Groundwater Basins. Since groundwater from these Basins is used to provide drinking water to the community, the groundwater aquifers must be protected.

¹⁸ The radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, chapter 15, article 5, sections 64442 and 64443, of the California Code of Regulations (CCR), or subsequent revisions.

¹⁹ If the results of testing for all beta and photon emitters is less than or equal to 50 pCi/L, the facility is in compliance and the value shall be reported as <4 millirem/year. If the test results for all beta and photon emitters are greater than 50 pCi/L, the Permittee must have the samples further analyzed for the *individual* nuclides. If the sum of the fractions of the detected nuclides is <1, the facility is in compliance. The procedures for calculating the sum of fractions is presented in the Compliance Determination, section VII.P.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

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

B. Special Provisions

1. Reopener Provisions

- a. This provision is based on 40 CFR part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

- a. **Antidegradation Analysis and Engineering Report for Proposed Plant Expansion.** In the event of any proposed plant expansion, this provision is based on the State Water Board Resolution No. 68-16, which requires the Regional Water Board in regulating the discharge of waste to maintain high quality waters of the state. Prior to expanding the plant capacity, the Permittee must demonstrate that it has implemented adequate controls (e.g., adequate treatment capacity) to ensure that high quality waters will be maintained. This provision requires the Permittee to clarify that it has increased plant capacity through the addition of new treatment system(s) to obtain alternative effluent limitations for the discharge from the treatment system(s). This provision requires the Permittee to report specific time schedules for the plants projects. Prior to any plant expansion, this provision requires the Permittee to submit the Antidegradation Analysis and Engineering Report for the proposed Plant Expansion to the Regional Water Board for approval.
- b. **Operations Plan for Proposed Expansion.** This provision is based on section 13385(j)(1)(D) of the CWC and allows a time period not to exceed 90 days in which the Permittee may adjust and test the treatment system(s). Prior to start-up of an expansion project, this provision requires the Permittee to submit an Operations Plan describing the actions the Permittee will take during the period of adjusting and testing to prevent violations.
- c. **Treatment Plant Capacity – (Not Applicable)**

3. Best Management Practices and Pollution Prevention

- a. **Pollutant Minimization Program (PMP).** This provision is based on the requirements of section 2.4.5 of the SIP.
- 4. Construction, Operation, and Maintenance Specifications**
 - a. This provision is based on the requirements of 40 CFR part 122.41(e) and the previous Order.
- 5. Special Provisions for POTWs - (Not Applicable)**
- 6. Other Special Provisions - (Not Applicable)**
- 7. Compliance Schedules - (Not Applicable)**

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Influent monitoring is required:

1. To assess treatment plant performance.
2. As a requirement of the PMP.

B. Effluent Monitoring

The Permittee is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the MRP Attachment E. This provision requires compliance with the MRP, and is based on 40 CFR parts 122.44(i), 122.62, 122.63, and 124.5. The MRP is a standard requirement in almost all NPDES permits (including this Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the CWC, and Regional Water Board policies. The MRP also contains sampling program specific for the Permittee's advanced water treatment facility. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the Facility, will be required as shown on the MRP and as required in the SIP.

Since this is a new discharge, there is no monitoring frequency comparison table presented in this section.

C. Whole Effluent Toxicity Testing Requirements

WET protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and

measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects until it gets to the higher level. For this permit, chronic toxicity in the discharge is evaluated using USEPA's 2010 Test of Significant Toxicity (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 effluent limitations protect the narrative Basin Plan Water Quality Objective for chronic toxicity. The rationale for WET has been discussed extensively in section IV.C.5 of this Fact Sheet.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water.

2. Groundwater (Not Applicable)

E. Other Monitoring Requirements

1. Watershed Monitoring and Bioassessment Monitoring

This watershed monitoring and bioassessment monitoring requirements may duplicate existing requirements under Waste Discharge Requirements R4-2015-0070 (NPDES Permit No. CA0053911) for the San Jose Creek WRPs. The San Jose Creek WRPs receiving water monitoring stations for Discharge Points 001, 001A, and 001B are identical to the monitoring stations that are required to be monitored for the GRIP-AWTF permit. It is not the intent of this section to duplicate the requirements if already performed under the San Jose Creek WRP Order.

The goals of the Watershed-wide Monitoring Program including the bioassessment monitoring for the San Gabriel River Watershed are to:

- a. Determine compliance with receiving water limits;
- b. Monitor trends in surface water quality;
- c. Ensure protection of beneficial uses;
- d. Provide data for modeling contaminants of concern;
- e. Characterize water quality including seasonal variation of surface waters within the watershed;
- f. Assess the health of the biological community; and,
- g. Determine mixing dynamics of effluent and receiving waters in the estuary.

2. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires major and selected minor dischargers 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) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution

Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. CONSIDERATION OF NEED TO PREVENT NUISANCE AND CWC SECTION 13241 FACTORS.

- A. Need to prevent nuisance: The state law requirements in this Order are required to prevent pollution or nuisance as defined in section 13050, subdivisions (l) and (m), of the CWC. Many are also required in accordance with narrative water quality objectives in the Basin Plan. These state requirements include, but are not limited to, groundwater limitations, spill prevention plans, and operator certification.
- B. Past, present, and probable future beneficial uses of water: Chapter 2 of the Basin Plan identifies designated beneficial uses for water bodies in the Los Angeles Region. Beneficial uses of water relevant to this Order are also identified above in Section III.C.1.
- C. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto: The environmental characteristics are discussed in the Region's Watershed Management Initiative Chapter, as well as available in State of the Watershed reports and the State's CWA Section 303(d) List of impaired waters. The environmental characteristics of the hydrographic unit, including the quality of available water, will be improved by compliance with the requirements of this Order. Additional information on the San Gabriel River watershed is available at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/.
- D. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area: The beneficial uses of the waterbodies in the San Gabriel River watershed can reasonably be achieved through the coordinate control of all factors that affect water quality in the area. TMDLs have been developed (as required by the Clean Water Act) for many of the impairments in the watershed. A number of Regional Water Board programs and actions are in place to address the water quality impairments in the watershed, including regulation of point source municipal and industrial discharges with appropriate NPDES permits and non-point source discharges such as irrigated agriculture. All of these regulatory programs control the discharge of pollutants to surface and ground waters to prevent nuisance and protect beneficial uses. These regulatory programs have resulted in watershed solutions and have improved water quality. Generally, improvements in the quality of the receiving waters impacted by the permittee's discharges can be achieved by reducing the volume of discharges to receiving waters (e.g., through increased recycling), reducing pollutant loads through source control/pollution prevention, including operational source control such as public education (e.g., disposal of pesticides, pharmaceuticals, and personal care products into the sewer) and product or materials elimination or substitution, and removing pollutants through treatment.
- E. Economic considerations: The Permittee did not present any evidence regarding economic considerations related to this Order. However, the Regional Water Board has considered the economic impact of requiring certain provisions pursuant to state law. The additional costs associated with complying with state law requirements are reasonably necessary to prevent nuisance and protect beneficial uses identified in the Basin Plan. Further, the loss of, or impacts to, beneficial uses would have a detrimental economic impact. Economic

considerations related to costs of compliance are therefore not sufficient, in the Regional Water Board's determination, to justify failing to prevent nuisance and protect beneficial uses.

- F. Need for developing housing within the region: The Regional Water Board has no evidence regarding the need for developing housing within the region or how the Permittee's discharge will affect that need. The Regional Water Board, however, does not anticipate that these state law requirements will adversely impact the need for housing in the area. The region generally relies on imported water to meet many of its water resource needs. Imported water makes up a vast majority of the region's water supply, with local groundwater, local surface water, and reclaimed water making up the remaining amount. This Order helps address the need for housing by controlling pollutants in discharges, which will improve the quality of local surface and ground water, as well as water available for recycling and re-use. This in turn may reduce the demand for imported water thereby increasing the region's capacity to support continued housing development. A reliable water supply for future housing development is required by law, and with less imported water available to guarantee this reliability, an increase in local supply is necessary. Therefore, the potential for developing housing in the area will be facilitated by improved water quality.
- G. Need to develop and use recycled water: The State Water Board's Recycled Water Policy requires the Regional Water Boards to encourage the use of recycled water. In addition, as discussed immediately above, a need to develop and use recycled water exists within the region, especially during times of drought. To encourage recycling, the Permittee is required by this Order to continue to explore the feasibility of recycling to maximize the beneficial reuse of tertiary treated effluent. Most of the effluent to be discharged under this Order will be reused for beneficial purposes.

IX. PUBLIC PARTICIPATION

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

A. Notification of Interested Persons

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following: (1) posted in the reader box in front of the WRD main office and (2) posted on the fence next to the front gate of the GRIP-AWTF site.

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

B. Written Comments

On August 4, 2017, the Regional Water Board received comments from Water Replenishment District of Southern California, Joint Outfall System, and USEPA on the tentative permit dated July 5, 2017. Regional Water Board staff considered all comments submitted by the August 4, 2017, deadline, and, where appropriate, modified the tentative Order. As a result, a revised tentative permit dated September 22, 2017, was mailed out to interested persons and was also posted on the Regional Water Board website. However, no comments were solicited for this revised tentative permit. Public Hearing

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

Date: **October 5, 2017**
Time: 9:00 a.m.
Location: Ronald Reagan Building (Auditorium)
300 South Spring Street
Los Angeles, California 90013

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

C. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

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

Or by email at waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition for review, see:
<http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml>

D. Information and Copying

The Report of Waste Discharge, 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 Regional Water Board at the address below or by calling (213) 576-6600.

Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013-2343

E. Register of Interested Persons

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

F. Additional Information

Requests for additional information or questions regarding this order should be directed to Raul Medina at (213) 620-2160.

ATTACHMENT G – TOXICITY REDUCTION EVALUATION (TRE) WORK PLAN

INFORMATION AND DATA ACQUISITION

A. Operations and performance review

1. NPDES permit requirements
 - a. Effluent limitations
 - b. Special conditions
 - c. Monitoring data and compliance history
2. AWTF design criteria
 - a. Hydraulic loading capacities
 - b. Pollutant loading capacities
 - c. Biodegradation kinetics calculations/assumptions
3. Influent and effluent conventional pollutant data
 - a. Biochemical oxygen demand (BOD5)
 - b. Chemical oxygen demand (COD)
 - c. Suspended solids (SS)
 - d. Ammonia
 - e. Residual chlorine
 - f. pH
4. Process control data
 - a. Primary sedimentation - hydraulic loading capacity and BOD and SS removal
 - b. Activated sludge - Food-to-microorganism (F/M) ratio, mean cell residence time (MCRT), mixed liquor suspended solids (MLSS), sludge yield, and BOD and COD removal
 - c. Secondary clarification - hydraulic and solids loading capacity, sludge volume index and sludge blanket depth
5. Operations information
 - a. Operating logs
 - b. Standard operating procedures
 - c. Operations and maintenance practices
6. Process sidestream characterization data
 - a. Sludge processing sidestreams
 - b. Tertiary filter backwash
 - c. Cooling water
7. Combined sewer overflow (CSO) bypass data
 - a. Frequency

- b. Volume
- 8. Chemical coagulant usage for wastewater treatment and sludge processing
 - a. Polymer
 - b. Ferric chloride
 - c. Alum

B. AWTF influent and effluent characterization data

- 1. Toxicity
- 2. Priority pollutants
- 3. Hazardous pollutants
- 4. SARA 313 pollutants,
- 5. Other chemical-specific monitoring results

C. Sewage residuals (raw, digested, thickened and dewatered sludge and incinerator ash) characterization data

- 1. EP toxicity
- 2. Toxicity Characteristic Leaching Procedure (TCLP)
- 3. Chemical analysis

D. Industrial waste survey (IWS)

- 1. Information on IUs with categorical standards or local limits and other significant non-categorical IUs
- 2. Number of IUs
- 3. Discharge flow
- 4. Standard Industrial Classification (SIC) code
- 5. Wastewater flow
 - a. Types and concentrations of pollutants in the discharge
 - b. Products manufactured
- 6. Description of pretreatment facilities and operating practices
- 7. Annual pretreatment report
- 8. Schematic of sewer collection system

9. AWTF monitoring data
 - a. Discharge characterization data
 - b. Spill prevention and control procedures
 - c. Hazardous waste generation
10. IU self-monitoring data
 - a. Description of operations
 - b. Flow measurements
 - c. Discharge characterization data
 - d. Notice of sludge loading
 - e. Compliance schedule (if out of compliance)
11. Technically based local limits compliance reports
12. Waste hauler monitoring data manifests
13. Evidence of AWTF treatment interferences (i.e., biological process inhibition)

ATTACHMENT H – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENT

SECTION A: STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS¹

A. Implementation Schedule

A storm water pollution prevention plan (SWPPP) shall be developed and implemented for each facility covered by this General Permit in accordance with the following schedule.

1. Facility operators beginning industrial activities before October 1, 1992 shall develop and implement the SWPPP no later than October 1, 1992. Facility operators beginning industrial activities after October 1, 1992 shall develop and implement the SWPPP when industrial activities begin.
2. Existing facility operators that submitted a Notice of Intent (NOI), pursuant to State Water Resources Control Board (State Water Board) Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Quality Control Board (Regional Water Board) Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in a timely manner, but in no case later than August 1, 1997.

B. Objectives

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

C. Planning and Organization

1. Pollution Prevention Team

¹ From State Water Board's Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Section B of this General Permit. The SWPPP shall clearly identify the General Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

2. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this General Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

D. Site Map

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL
STORM WATER POLLUTION PREVENTION PLANS

<p style="text-align: center;">PLANNING AND ORGANIZATION</p> <p>Form Pollution Prevention Team Review other plans</p>
<p style="text-align: center;">ASSESSMENT PHASE</p> <p>Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant Risks</p>
<p style="text-align: center;">BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE</p> <p>Non-structural BMPs Structural BMPs Select activity and site-specific BMPs</p>
<p style="text-align: center;">IMPLEMENTATION PHASE</p> <p>Train employees Implement BMPs Conduct recordkeeping and reporting</p>
<p style="text-align: center;">EVALUATION / MONITORING</p> <p>Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP</p>

The following information shall be included on the site map:

1. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.
2. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.
3. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.
4. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.
5. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

E. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

F. Description of Potential Pollutant Sources

1. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:
 - a. **Industrial Processes**

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.
 - b. **Material Handling and Storage Areas**

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures.

Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

c. Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

d. Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this General Permit.

e. Non-Storm Water Discharges

Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D. are prohibited by this General Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D. are authorized by this General Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

f. Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

2. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized

similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section A.8. below.

G. Assessment of Potential Pollutant Sources

1. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in A.6. above to determine:
 - a. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and
 - b. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.
2. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

H. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B
EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND
CORRESPONDING BEST MANAGEMENT PRACTICES
SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

1. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section A.8.b. below). Below is a list of non-structural BMPs that should be considered:

a. Good Housekeeping

Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

- b. Preventive Maintenance
Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
 - c. Spill Response
This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
 - d. Material Handling and Storage
This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
 - e. Employee Training
This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
 - f. Waste Handling/Recycling
This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
 - g. Recordkeeping and Internal Reporting
This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.
 - h. Erosion Control and Site Stabilization
This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.
 - i. Inspections
This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.
 - j. Quality Assurance
This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.
2. Structural BMPs
- Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural

devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

a. Overhead Coverage

This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

b. Retention Ponds

This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.

c. Control Devices

This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

d. Secondary Containment Structures

This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

e. Treatment

This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

I. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

1. A review of all visual observation records, inspection records, and sampling and analysis results.
2. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.
3. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.
4. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in Section A.10.e, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this General Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions 9. and 10. of Section C. of this General Permit.

J. SWPPP General Requirements

1. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.
2. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.
3. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.
4. Other than as provided in Provisions B.11, B.12, and E.2 of the General Permit, the SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this General Permit.
5. When any part of the SWPPP is infeasible to implement by the deadlines specified in Provision E.2 or Sections A.1, A.9, A.10.c, and A.10.d of this General Permit due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.
6. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.