CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 Clay Street, Suite 1400, Oakland, California 94612
www.waterboards.ca.gov/sanfranciscobayregion

TENTATIVE ORDER R2-2021-XXXX
NPDES PERMIT CA0006165

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

Discharger	**Eco Services Operations Corp.**
Name of Facility	**Eco Services Martinez Plant**
Facility Address	**100 Mococo Road** **Martinez, California 94553-1314** **Contra Costa County**

Table 1. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
001	Treated Process Wastewater, Non-Contact Cooling Water, Treated Groundwater, and Stormwater	38.0381	-122.1180	Carquinez Strait
002	Stormwater	38.0310	-122.1112	Peyton Slough

This Order was adopted on:	**<Adoption Date>**
This Order shall become effective on:	**August 1, 2021**
This Order shall expire on:	**July 31, 2026**
CIWQS regulatory measure number:	**<XXXXXX>**

The Discharger shall file a Report of Waste Discharge as an application for updated 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 **November 1, 2025.** The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) have classified this discharge as "**major**."

I do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the Regional Water Board on the date indicated above.

Michael Montgomery, Executive Officer

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TABLES

ATTACHMENTS

1. FACILITY INFORMATION

Information describing the Eco Services Martinez Plant (Facility) is summarized on the cover page and in Fact Sheet (Attachment F) sections 1 and 2. Fact Sheet section 1 also includes information regarding the permit application.

2. FINDINGS

The Regional Water Board finds the following:

2.1. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States as described in Table 1 subject to the WDRs in this Order.

2.2. Background and Rationale for Requirements. The Regional Water developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through E, G, and S are also incorporated into this Order.

2.3. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and has provided an opportunity to submit written comments and recommendations. Fact Sheet section 8.1 provides details regarding the notification.

2.4. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Fact Sheet section 8.3 provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order R2-2015-0052 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions contained in Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous order.

3. DISCHARGE PROHIBITIONS

3.1. Discharge of treated or partially-treated wastewater at a location or in a manner different from that described in this Order is prohibited.

3.2. Discharge at Discharge Point 001 is prohibited when treated wastewater does not receive an initial dilution of at least 27:1, as modeled. Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or part) is in good working order and is consistent with or can achieve better mixing than that described in Fact Sheet section 4.3.4.2. The Discharger shall describe measures taken to ensure this in its application for permit reissuance.

3.3. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section 1.7 of this Order.

3.4. Effluent flow in excess of 0.8 MGD is prohibited. Compliance shall be measured at Monitoring Location EFF-001.

4. EFFLUENT LIMITATIONS

4.1. Effluent Limitations. The discharge at Discharge Point 001 shall meet the following effluent limitations, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP, Attachment E):

Table 2. Effluent Limitations – Discharge Point 001

Parameter	Units	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	20	30	----	
TSS	kg/day	9.5	28	----	
Oil and Grease	mg/L	----	5	----	----
Oil and Grease	kg/day	----	4.6	----	----
pH [1]	s.u.	----	----	6.0	9.0
1,2-Diphenylhydrazine	µg/L	0.50	1.1	----	----
4,4'-DDD	µg/L	7.4×10^{-3}	1.5×10^{-2}	----	----
Ammonia Total	mg/L as N	15	46	----	----
Benzo(a)Anthracene	µg/L	0.44	0.89	----	----
Bis(2-Ethylhexyl) Phthalate	µg/L	53	110	----	----
Cadmium	µg/L	7.5	15	----	----
Copper	µg/L	53	120	----	----
Cyanide	µg/L	19	36	----	----
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}	----	----
Lead	µg/L	14	27	----	----
Nickel	µg/L	190	470	----	----

Footnote:

[1] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.

4.2. Acute Toxicity. The discharge at Discharge Point 001 shall meet the following acute toxicity effluent limitations, with compliance measured at Monitoring Location

EFF-001, as described in the MRP. If the Discharger can demonstrate that toxicity exceeding these acute toxicity limits is caused solely by ammonia and that the ammonia in the discharge complies with the ammonia effluent limits in Table 2 of this Order, then such toxicity shall not constitute a violation of these acute toxicity limits.

4.2.1. The 11-sample median shall not exhibit less than 90 percent survival (i.e., a bioassay test showing survival of less than 90 percent shall represent a violation of this effluent limit if five or more of the past ten or fewer bioassay tests show less than 90 percent survival).

4.2.2. The 11-sample 90th percentile shall not exhibit less than 70 percent survival (i.e., a bioassay test showing survival of less than 70 percent shall represent a violation of this effluent limit if one or more of the past ten or fewer bioassay tests also show less than 70 percent survival).

5. RECEIVING WATER LIMITATIONS

5.1. The discharge shall not cause the following conditions in receiving waters:

5.1.1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;

5.1.2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;

5.1.3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;

5.1.4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

5.1.5. Alteration of temperature beyond present natural background levels unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses;

5.1.6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units (NTU), or above 55 NTU in areas where natural turbidity is less than or equal to 50 NTU;

5.1.7. Coloration that causes nuisance or adversely affects beneficial uses;

5.1.8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or

5.1.9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

5.2. The discharge shall not cause the following limits to be exceeded at any place in receiving waters within one foot of the water surface:

5.2.1.	Dissolved Oxygen	7.0 mg/L, minimum The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
5.2.2.	Dissolved Sulfide	Natural background levels
5.2.3.	pH	The pH shall not be depressed below 6.5 nor raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
5.2.4.	Nutrients	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

5.3. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder beyond any mixing zone established through this Order. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

6. PROVISIONS

6.1. Standard Provisions

6.1.1. The Discharger shall comply with all “Standard Provisions” in Attachment D.

6.1.2. The Discharger shall comply with all applicable provisions of Attachment G (*Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits*).

6.1.3. For discharges from Discharge Point 002, the Discharger shall comply with the applicable provisions of Attachment S (*Stormwater Provisions, Monitoring, and*

Reporting Requirements). By October 1, 2021, the Discharger shall submit and implement an updated Stormwater Pollution Prevention Plan (SWPPP). In subsequent years, the Discharger shall update and submit and updated SWPPP, or a letter stating that no revisions are necessary and the last year it updated its SWPPP, annually by October 1. The Discharger shall implement each SWPPP update. The SWPPP shall contain the elements listed in Attachment S section 1.1.

6.1.4. If there is any conflict, duplication, or overlap between provisions in this Order, the more stringent provision shall apply.

6.2. Monitoring and Reporting Provisions

The Discharger shall comply with the Monitoring and Reporting Program (Attachment E) and future revisions thereto, and applicable monitoring and reporting requirements in Attachments D, G, and S.

6.3. Special Provisions

6.3.1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law or as otherwise authorized by law. The Discharger may request a permit modification based on any of these circumstances. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses as necessary.

6.3.1.1. If present or future investigations demonstrate that the discharges 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;

6.3.1.2. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives or wasteload allocations. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications;

6.3.1.3. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified;

6.3.1.4. If a State Water Board precedential decision, new policy, new law, or new regulation is adopted; or

6.3.1.5. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.

6.3.2. Effluent Characterization Study and Report

6.3.2.1. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Point 001 as required by the MRP to verify that the reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall evaluate on an annual basis if concentrations of any of the priority pollutants listed in Attachment G, Table G-1, significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an exceedance of applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a "pollutant of concern" in the Discharger's Pollutant Minimization Program, described in Provision 6.3.3.

6.3.2.2. **Reporting Requirements**

6.3.2.2.1. **Routine Reporting.** The Discharger shall report the pollutants detected at or above applicable water quality objectives (see Fact Sheet Table F-9 for the objectives) in the transmittal letter for the self-monitoring report associated with the month in which samples were collected. This requirement does not apply to pollutants with effluent limitations (see Table 2 of this Order).

6.3.2.2.2. **Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report.

6.3.3. Pollutant Minimization Program

6.3.3.1. The Discharger shall continue to improve its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

6.3.3.2. The Discharger shall submit an annual report no later than February 28 of each calendar year. Each annual report shall include at least the following information:

6.3.3.2.1. **Brief description of treatment plant.** The description shall include the service area and treatment plant processes.

6.3.3.2.2. **Discussion of current pollutants of concern.** Periodically, the Discharger shall analyze its circumstances to determine which pollutants

are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.

6.3.3.2.3. **Identification of sources for pollutants of concern.** This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger shall include sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.

6.3.3.2.4. **Identification of tasks to reduce the sources of pollutants of concern.** This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks by itself or participate in group, regional, or national tasks that address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that address its pollutants of concern whenever it is efficient and appropriate to do so. An implementation timeline shall be included for each task.

6.3.3.2.5. **Outreach to employees.** The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the Facility. The Discharger may provide a forum for employees to provide input.

6.3.3.2.6. **Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions 6.3.3.2.3, 6.3.3.2.4, and 6.3.3.2.5.

6.3.3.2.7. **Documentation of efforts and progress.** This discussion shall detail the Discharger's Pollutant Minimization Program activities during the reporting year.

6.3.3.2.8. **Evaluation of Pollutant Minimization Program and task effectiveness.** The Discharger shall use the criteria established in Provision 6.3.3.2.6 to evaluate the program and task effectiveness.

6.3.3.2.9. **Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the treatment plant, and subsequently in its effluent.

6.3.3.3. The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical

methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) and either:

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

6.3.3.3.2. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.

6.3.3.4. If triggered for a reason set forth in Provision 6.3.3.3, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:

6.3.3.4.1. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;

6.3.3.4.2. Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;

6.3.3.4.3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;

6.3.3.4.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

6.3.3.4.5. Inclusion of the following specific items within the annual report required by Provision 6.3.3.2, above:

6.3.3.4.5.1. All Pollutant Minimization Program monitoring results for the previous year;

6.3.3.4.5.2. List of potential sources of the reportable priority pollutants;

6.3.3.4.5.3. Summary of all actions undertaken pursuant to the control strategy; and

6.3.3.4.5.4. Description of actions to be taken in the following year.

6.3.4. Other Special Provisions

6.3.4.1. **Copper Action Plan.** The Discharger shall implement source control and pollution prevention for copper in accordance with the following tasks and time schedule:

Table 3. Copper Action Plan

Task No.	Task	Deadline
1	**Review Potential Copper Sources.** Submit an up-to date inventory of potential copper sources.	With annual pollution minimization program report due February 28, 2022
2	**Implement Copper Control Program.** Continue to minimize copper sources, as identified in the Discharger's Pollutant Minimization Program. Incorporate additional measures as appropriate to address newly identified copper sources.	Implementation shall be ongoing
3	**Implement Additional Actions.** If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration in Suisun Bay exceeds 2.8 µg/L, then within 90 days of the notification, evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. Report the conclusion of the trend analysis and provide a schedule for any new actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 (at least 90 days following notification)
4	**Report Status.** Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 3 above, and provides a schedule for actions to be taken within the next 12 months.	Annually, with annual pollution minimization program report due February 28 each year

6.3.4.2. **Cyanide Action Plan.** The Discharger shall implement monitoring and surveillance, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule:

Table 4. Cyanide Action Plan

Task No.	Task	Deadline
1	**Review Potential Cyanide Sources.** Submit an up-to-date inventory of potential cyanide sources.	With annual pollution minimization program report due February 28, 2022
2	**Implement Cyanide Control Program.** Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements: a. Inspect each potential source to assess the need to include that source in the control program. b. Inspect sources included in the control program annually.	Implementation shall be ongoing following

Task No.	Task	Deadline
3	**Implement Additional Measures.** If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of the actions taken, and provide a schedule for actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 (at least 90 days following notification)
4	**Report Status of Cyanide Control Program.** Submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, and provide a schedule for actions to be taken within the next 12 months.	Annually, with annual pollution minimization program report due February 28 each year

6.3.4.3. **Average Annual Selenium Load.** The Discharger shall report the average annual selenium load with its application for permit reissuance. The average annual load shall be the arithmetic mean of the annual mass discharges for the previous permit term. Annual mass emissions shall be computed as follows:

Annual Mass emission rate (kg/day) = $(3.785/N) \sum Q_i C_i$

where:

N = number of samples in a year
Q_i = flow rate (MGD) associated with the i^{th} sample, valid until a new sample is collected
C_i = selenium concentration (mg/L) associated with the i^{th} sample, valid until a new sample is collected

When calculating selenium loads, the Discharger shall use estimated values and assume data reported below the method detection limit equal half of the detection limit.

ATTACHMENT A – DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

Arithmetic Mean (μ)
Also called the average, 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)
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)
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
Taken up by an organism from its surrounding medium through gill membranes, through epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Known to cause cancer in living organisms.

Coefficient of Variation (CV)
Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Either: (1) the total mass of a constituent discharged over a calendar day (12:00 a.m. through 11:59 p.m.) 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 a constituent over a 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 is considered the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
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
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)
Value derived from the water quality criterion or objective, dilution credit, and ambient background concentration that is used, in conjunction with the CV 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
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
Concentration that results from the confirmed detection of a substance below the ML by the analytical method.

Estuaries
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 are considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220; Suisun Bay; Carquinez Strait downstream to the Carquinez Bridge; and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that are not the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
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
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)
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
Middle measurement in a data set. The median of a data set 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 n/2 and n/2+1).

Method Detection Limit (MDL)
Minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Appendix B.

Minimum Level (ML)
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
Limited volume of receiving water 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 less than the laboratory's MDL.

Persistent Pollutants
Substances for which degradation or decomposition in the environment is nonexistent or very slow.

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

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

Reporting Level (RL)
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. For priority pollutants, 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 State Implementation Plan (SIP) Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. 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) beneficial use.

Standard Deviation (σ)
Measure of variability calculated as follows:

$$\text{Standard deviation} = \sigma = (\Sigma[(x - \mu)^2]/(n - 1))^{0.5}$$

where: x is the observed value
μ is the arithmetic mean of the observed values
n is the number of samples

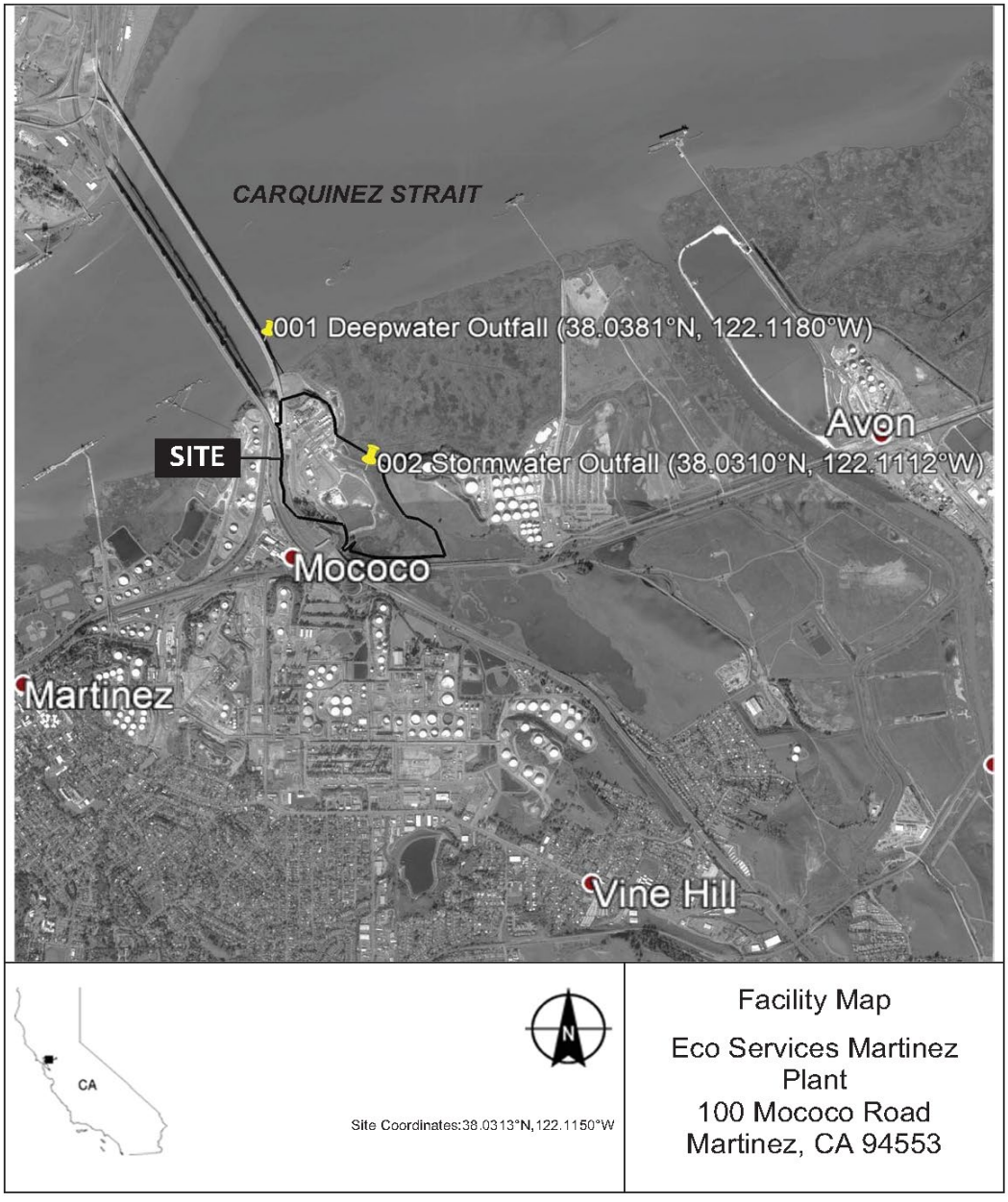
Toxicity Reduction Evaluation (TRE)
Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of 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 chemicals responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

ABBREVIATIONS

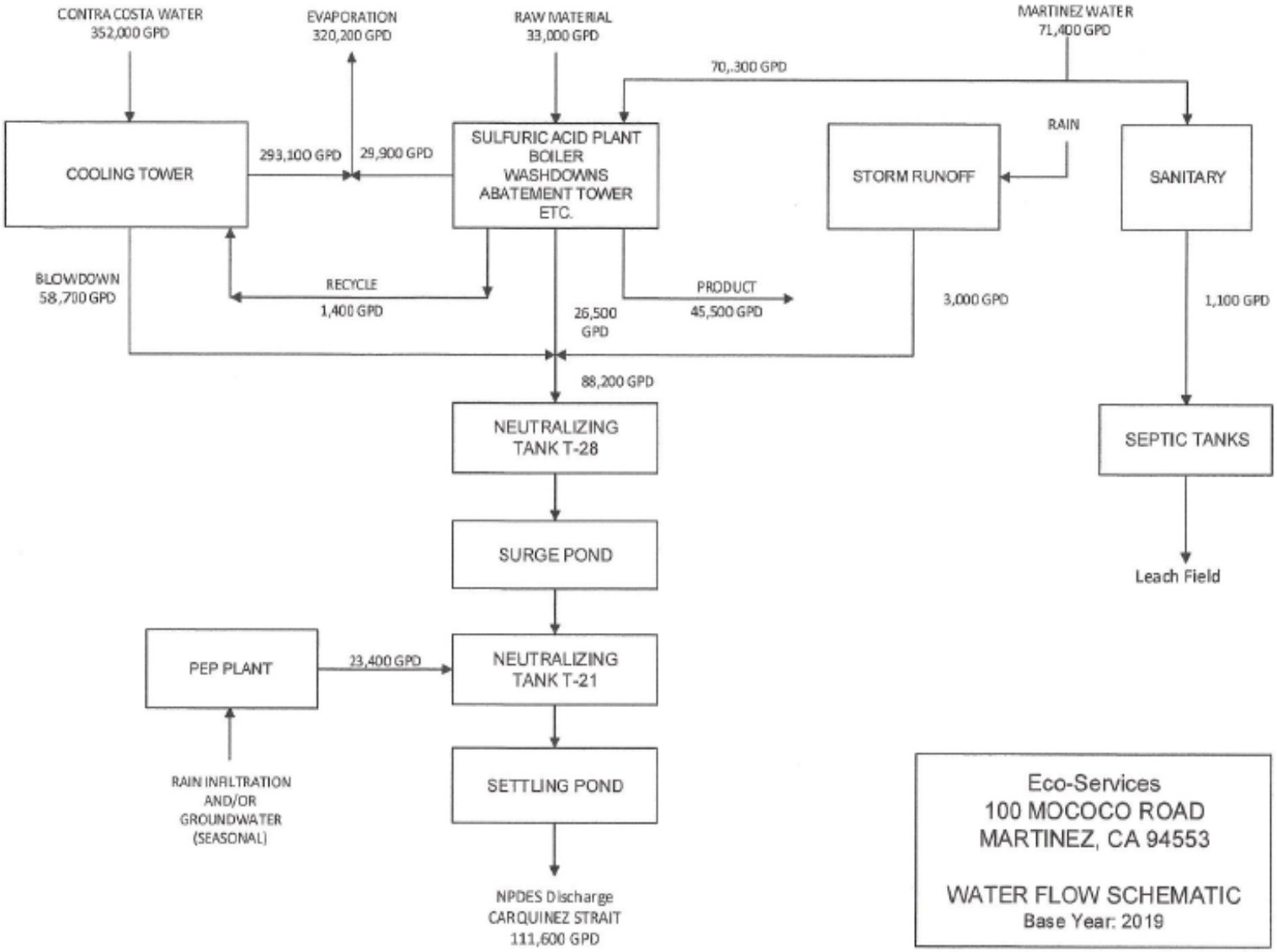
%	Percent
µg/L	Micrograms per liter
1/Blending Event	Once per blending event
1/Day	Once per day
1/Month	Once per month
1/Quarter	Once per quarter
1/Week	Once per week
1/Year	Once per year
2/Month	Two times per month
2/Week	Twice per week
2/Year	Twice per year
3/Week	Three times per week
4/Week	Four times per week
5/Week	Five times per week
AMEL	Average monthly effluent limitation
AWEL	Average weekly effluent limitation
B	Background concentration
C	Water quality criterion or objective
C-24	24-hour composite
CFU/100 mL	Colony forming units per 100 milliliters
Continuous	Measured continuously

Continuous/D	Measured continuously, and recorded and reported daily
Continuous/H	Measured continuously, and recorded and reported hourly
CV	Coefficient of Variation
DNQ	Detected, but not quantified
DL	Detection level
ECA	Effluent Concentration Allowance
Grab	Grab sample
MDEL	Maximum Daily Effluent Limitation
MDL	Method detection limit
MEC	Maximum effluent concentration
MG	Million gallons
mg/L	Milligrams per liter
mg/L as N	Milligrams per liter as nitrogen
MGD	Million gallons per day
ML	Minimum level
MPN/100 mL	Most probable number per 100 milliliters
ND	Not detected
NTU	Nephelometric turbidity units
RL	Reporting level
RPA	Reasonable potential analysis
s.u.	Standard pH units
TIE	Toxicity identification evaluation
TRE	Toxicity reduction evaluation
TUa	Acute toxicity units
TUc	Chronic toxicity units

ATTACHMENT B – FACILITY MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

CONTENTS

ATTACHMENT D – STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

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

1.1.2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

1.2. Need to Halt or Reduce Activity Not a Defense

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

1.3. Duty to Mitigate

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

1.4. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that 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 C.F.R. § 122.41(e).)

1.5. Property Rights

1.5.1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

1.5.2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

1.6. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, 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 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1.6.1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

1.6.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

1.6.3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

1.6.4. Sample or monitor, at reasonable times, for the purposes of ensuring 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 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

1.7. Bypass

1.7.1. Definitions

1.7.1.1. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

1.7.1.2. “Severe property damage” means substantial physical damage to property; damage to the treatment facilities, which causes them to become inoperable; or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

1.7.2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur that does not cause exceedances of effluent limitations, but only if it is for essential maintenance to ensure efficient operation. These bypasses are not

subject to the provisions listed in Standard Provisions – Permit Compliance sections 1.7.3, 1.7.4, and 1.7.5 below. (40 C.F.R. § 122.41(m)(2).)

1.7.3. **Prohibition of bypass.** Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

1.7.3.2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

1.7.3.3. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance section 1.7.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

1.7.4. **Approval.** 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 section 1.7.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

1.7.5. Notice

1.7.5.1. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)

1.7.5.2. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions – Reporting section 5.5 below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)

1.8. Upset

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

1.8.1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance section 1.8.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

1.8.2. **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 C.F.R. § 122.41(n)(3)):

1.8.2.1. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

1.8.2.2. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

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

1.8.2.4. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance section 1.3 above. (40 C.F.R. § 122.41(n)(3)(iv).)

1.8.3. **Burden of proof.** In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

2. STANDARD PROVISIONS – PERMIT ACTION

2.1. General

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

2.2. Duty to Reapply

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

2.3. 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 Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

3. STANDARD PROVISIONS – MONITORING

3.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

3.2. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

3.2.1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

3.2.2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N, for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, 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), 122.41(j)(4), 122.44(i)(1)(iv).)

4. STANDARD PROVISIONS – RECORDS

4.1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

4.2. Records of monitoring information shall include:

4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

4.3. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

4.3.1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

4.3.2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

5. STANDARD PROVISIONS – REPORTING

5.1. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information that the Regional Water Board, State Water Board, or U.S. EPA 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 U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

5.2. Signatory and Certification Requirements

5.2.1. 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 sections 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 C.F.R. § 122.41(k).)

5.2.2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (2) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

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

For a municipal, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).

5.2.3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting section 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting section 5.2.2 above (40 C.F.R. § 122.22(b)(1));

5.2.3.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or

position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

5.2.3.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

5.2.4. If an authorization under Standard Provisions – Reporting section 5.2.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting section 5.2.3 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 C.F.R. § 122.22(c).)

5.2.5. Any person signing a document under Standard Provisions – Reporting section 5.2.2 or 5.2.3 above shall make the following certification:

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

5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – Reporting sections 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting section 5.2, 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).)

5.3. Monitoring Reports

5.3.1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

5.3.2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. All reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 and 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(l)(4)(i).)

5.3.3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

5.3.4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

5.4. Compliance Schedules

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

5.5. Twenty-Four Hour Reporting

5.5.1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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

As of December 21, 2025, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The

Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

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

5.5.2.1. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

5.5.2.2. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

5.5.3. 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).)

5.6. 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 C.F.R. § 122.41(l)(1)):

5.6.1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

5.6.2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order unless the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a). (40 C.F.R. § 122.41(l)(1)(ii).) If the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions – Notification Levels section 7.1.1). (40 C.F.R. § 122.41(l)(1)(ii).)

5.7. 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 C.F.R. § 122.41(l)(2).)

5.8. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting sections 5.3, 5.4, and 5.5 above at the time

monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting section 5.5 above. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting section 5.5 and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

5.9. Other Information

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

5.10. Initial Recipient for Electronic Reporting Data

The owner, operator, or 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). U.S. EPA 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 list. (40 C.F.R. § 122.41(l)(9).)

6. STANDARD PROVISIONS – ENFORCEMENT

6.1. 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, Water Code sections 13268, 13385, 13386, and 13387.

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

7.1. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

7.1.1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(1)):

7.1.1.1. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

7.1.1.2. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4 dinitrophenol and 2-methyl 4,6 dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

7.1.1.3. Five (5) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

7.1.1.4. The level established by the Regional Water Board in accordance with 40 C.F.R. section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

7.1.2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. § 122.42(a)(2)):

7.1.2.1. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

7.1.2.2. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

7.1.2.3. Ten (10) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

7.1.2.4. The level established by the Regional Water Board in accordance with 40 C.F.R. section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

7.2. Publicly Owned Treatment Works (POTWs)

7.2.1. All POTWs shall provide adequate notice to the Regional Water Board of any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)).

7.2.2. All POTWs shall provide adequate notice to the Regional Water Board of any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

APPENDICES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Clean Water Act (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 section 13383 also authorizes 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 State laws and regulations.

1. GENERAL MONITORING PROVISIONS

1.1. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. section 122.63. If any discrepancies exist between this MRP and the "Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits" (Attachment G) or "Stormwater Provisions, Monitoring, and Reporting Requirements" (Attachment S), this MRP shall prevail.

1.2. The Discharger shall conduct all monitoring in accordance with Attachment D section 3, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

1.3. For the analysis of monitoring samples, the Discharger shall use laboratories certified by the State Water Resources Control Board (State Water Board) in accordance with Water Code section 13176 and shall obtain quality assurance/quality control data with laboratory reports. For any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory, the Discharger shall implement a Quality Assurance-Quality Control Program. The Discharger shall keep a manual onsite containing the steps followed in this program and shall demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

1.4. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or 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

2. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Discharge Point	Monitoring Location	Monitoring Location Description
001 (Treated Process Wastewater)	EFF-001	Any point after full treatment of process wastewater tributary to Discharge Point 001 and before contact with Carquinez Strait.
002 (Stormwater)	EFF-002	Any point with stormwater representative of that discharged at Discharge Point 002 and before contact with Peyton Slough.

3. EFFLUENT MONITORING

3.1. The Discharger shall monitor effluent at Monitoring Location EFF-001 as follows:

Table E-2. Effluent Monitoring – Monitoring Location EFF-001

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow [1]	MG/MGD	Continuous	Continuous/D
Total Suspended Solids	mg/L	C-24	2/Month
Oil and Grease	mg/L	Grab	1/Quarter
pH [2]	s.u.	Continuous	Continuous/D
Temperature	°C	Continuous	Continuous/D
Ammonia, Total	mg/L as N	C-24	1/Quarter
Cadmium, Total Recoverable	µg/L	C-24	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month
Lead, Total Recoverable	µg/L	C-24	1/Month
Nickel, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total [3]	µg/L	Grab	1/Month
Bis (2-Ethlyhexyl) Phthalate	µg/L	Grab	2/Year
Benzo(a)Anthracene	µg/L	Grab	2/Year
1,2 Diphenylhydrazine	µg/L	Grab	2/Year
4,4'-DDD	µg/L	Grab	2/Year
Selenium, Total Recoverable	µg/L	C-24	2/Year
Dioxin-TEQ	µg/L	Grab	2/Year
Acute Toxicity [4]	% Survival	C-24	1/Month
Chronic Toxicity [5]	TUc	C-24	2/Year
Priority Pollutants [6]	µg/L	Grab [7]	2/Year

Footnotes:

[1] The following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

[2] If pH is monitored continuously, the minimum and maximum for each day shall be reported in self-monitoring reports. If continuous pH analyzer is unavailable, grab samples shall be five times a week.

[3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition.

[4] Acute toxicity tests shall be performed in accordance with MRP section 5.1.

[5] Chronic toxicity tests shall be performed in accordance with MRP section 5.2.

[6] The Discharger shall monitor for the pollutants listed in Attachment G, Table G-1.

[7] The Discharger shall collect C-24 samples for metals.

3.2. The Discharger shall monitor stormwater at Monitoring Location EFF-002 as follows:

Table E-3. Stormwater Monitoring – Monitoring Location EFF-002

Parameter	Unit	Sampling Type	Minimum Sampling Frequency
Total Suspended Solids	mg/L	Grab [1]	Each Occurrence [2]
Oil and Grease	mg/L	Grab [1]	Each Occurrence [2]
pH	s.u.	Grab [1]	Each Occurrence [2]
Copper, Total	µg/L	Grab [1]	2/Year
Zinc, Total	µg/L	Grab [1]	2/Year
Standard Observations	----	----	Each Occurrence [2]

Footnotes:

[1] At least one grab sample shall be collected within the first 30 minutes of a significant stormwater discharge event. A significant stormwater discharge event is a continuous discharge of stormwater for a minimum of one hour, or an intermittent discharge of stormwater for a minimum of three hours, during a 12-hour period.

[2] When monitoring is required for each occurrence, it is required for at least one storm event per month.

4. TOXICITY MONITORING

4.1. Acute Toxicity

4.1.1. Compliance with the acute toxicity effluent limitations shall be evaluated at Monitoring Location EFF-001 by measuring survival of test organisms exposed to 96-hour static renewal bioassays with 24-hour composite samples collected on consecutive or alternating days.

4.1.2. Test organisms shall be fathead minnow (*Pimephales promelas)*. Alternatively, the Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.

4.1.3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

4.1.4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written

acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger is authorized to adjust the effluent pH in order to suppress the level of unionized (free) ammonia. This adjustment shall be achieved by continuously monitoring test tank pH and automatic addition of analytical grade acid as needed, using a combination of continuous pH-sensor/analyzer and pump.

4.1.5. Bioassay monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

4.2. Chronic Toxicity

4.2.1. Monitoring Requirements

4.2.1.1. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on consecutive or alternating days.

4.2.1.2. **Test Species.** The test species shall be the giant kelp (*Macrocystis pyrifera*), if *Macrocystis pyrifera* is unavailable, the Discharger may use Mediterranean mussel (*Mytilus galloprovincialis*) as a substitute, unless a more sensitive species is identified. If using either of these species proves unworkable, the Executive Officer may specify a different species in writing upon the Discharger's request with justification.

The Discharger shall conduct a screening chronic toxicity test as described in Appendix E-1, or as described in applicable State Water Board plan provisions that become effective after adoption of this Order, following any significant change in the nature of the effluent. If there is no significant change in the nature of the effluent, the Discharger shall conduct a screening test and submit the results with its application for permit reissuance. Upon completion of the chronic toxicity screening, the Discharger shall use the most sensitive species to conduct subsequent monitoring.

4.2.1.3. **Frequency.** Chronic toxicity monitoring shall be as specified below:

4.2.1.3.1. The Discharger shall monitor routinely twice per year.

4.2.1.3.2. The Discharger shall accelerate monitoring to monthly after exceeding a single-sample maximum value of 10 TUc. Based on the TUc results, the Executive Officer may specify a different frequency for accelerated monitoring to ensure that accelerated monitoring provides useful information.

4.2.1.3.3. The Discharger shall return to routine monitoring if accelerated monitoring does not exceed the trigger in section 4.2.1.3.2, above.

4.2.1.3.4. If accelerated monitoring confirms consistent toxicity in excess of the trigger in section 4.2.1.3.2, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section 4.2.3, below.

4.2.1.3.5. The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below the trigger in section 4.2.1.3.2, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

4.2.1.3.6. Monitoring conducted pursuant to a TRE shall satisfy the requirements for routine and accelerated monitoring while the TRE is underway.

4.2.1.4. **Methodology.** Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. Bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, currently 1st edition (EPA/600/R-95-136). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. The adjustment shall not remove the influence of other substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration must be obtained prior to any such adjustment.

4.2.1.5. **Dilution Series.** The Discharger shall conduct tests at 50%, 25%, 10%, 5% and 2.5%. The "%" represents percent effluent as discharged. Test sample

pH may be controlled to the level of the effluent sample as received prior to being salted up.

4.2.2. **Reporting Requirements**. The Discharger shall provide toxicity test results with self-monitoring reports and shall include the following, at a minimum, for each test:

4.2.2.1. Sample date;

4.2.2.2. Test initiation date;

4.2.2.3. Test species;

4.2.2.4. End point values for each dilution (e.g., number of young, growth rate, percent survival);

4.2.2.5. No Observable Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC25 or EC25 (see MRP Appendix E-1). If the IC25 or EC25 cannot be statistically determined, the NOEL shall equal the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test;

4.2.2.6. IC15, IC25, IC40, and IC50 values (or EC15, EC25, EC40, and EC50) as percent effluent;

4.2.2.7. TU values (100/NOEL and upper and lower confidence intervals, where NOEL = IC15, IC25, or NOEC);

4.2.2.8. Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable);

4.2.2.9. IC50 or EC50 values for reference toxicant tests;

4.2.2.10. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia); and

4.2.2.11. The results of the three most recent chronic toxicity tests and the three-sample median for these results.

4.2.3. Toxicity Reduction Evaluation (TRE)

4.2.3.1. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the work plan as necessary so that it remains current and applicable to the discharge and discharge facilities.

4.2.3.2. Within 30 days of exceeding the chronic toxicity trigger in section 4.2.1.3.2, above, the Discharger shall submit a TRE work plan, which shall be the

generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

4.2.3.3. Within 30 days of completing an accelerated monitoring test observed to exceed the trigger in section 4.2.1.3.2, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all Executive Officer comments.

4.2.3.4. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including U.S. EPA guidance materials. The Discharger shall conduct the TRE as a tiered evaluation as summarized below:

4.2.3.4.1. Tier 1 shall consist of basic data collection (routine and accelerated monitoring).

4.2.3.4.2. Tier 2 shall consist of evaluation of treatment process, including operational practices and in-plant process chemicals.

4.2.3.4.3. Tier 3 shall consist of a toxicity identification evaluation (TIE).

4.2.3.4.4. Tier 4 shall consist of a toxicity source evaluation.

4.2.3.4.5. Tier 5 shall consist of a toxicity control evaluation, including options for modifications of in-plant treatment processes.

4.2.3.4.6. Tier 6 shall consist of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

4.2.3.5. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with the trigger in section 4.2.1.3.2, above).

4.2.3.6. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. The Discharger shall employ all reasonable efforts using currently available TIE methodologies.

4.2.3.7. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the toxic substances from the discharge. The Discharger shall take all reasonable steps to reduce toxicity to levels below the chronic toxicity trigger.

4.2.3.8. Many recommended TRE elements parallel required or recommended efforts related to source control, pollution prevention, and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or

recommended efforts of such programs may be acceptable to demonstrate compliance with TRE requirements.

5. RECEIVING WATER MONITORING

The Discharger shall continue to participate in the Regional Monitoring Program, which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota.

6. REPORTING REQUIREMENTS

6.1. General Monitoring and Reporting Requirements

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

6.2. Self-Monitoring Reports (SMRs)

6.2.1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

6.2.2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:

6.2.2.1. **Monthly SMRs** — Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. Each SMR shall contain the applicable items described in Provision 6.3.2 (Effluent Characterization Study and Report) of the Order, Attachment D section 5.2, and Attachment G section 5.3. Each SMR shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

6.2.2.2. **Annual SMRs** — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in Provisions 6.3.2 (Effluent Characterization Study and Report) of the Order, and Attachment G section 5.3.1.6.

6.2.3. **Specifications for Submitting SMRs to CIWQS.** The Discharger shall submit analytical results and other information using one of the following methods:

Table E-4. CIWQS Reporting

Parameter	Method of Reporting: EDF/CDF data upload	Parameter
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	----
Dissolved Oxygen, Temperature	Required for monthly maximum and minimum results only [1]	Discharger may use this method for all results or keep records
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, Dioxins &Furans (by U.S. EPA Method 1613), Other Pollutants (by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results [2]	----
Analytical Method	Not required (Discharger may select "data unavailable") [1]	----
Collection Time, Analysis Time	Not required	----

Footnotes:

[1] The Discharger shall continue to monitor at the minimum frequency specified in this MRP, keep records of the measurements, and make the records available upon request.

[2] These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).

The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations. The Discharger is not required to duplicate the submittal of data 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, the Discharger shall electronically submit the data in a tabular format as an attachment.

6.2.4. **Monitoring Periods.** Monitoring periods for all required monitoring shall be as set forth below unless otherwise specified:

Table E-5. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
Continuous/D	Order effective date	All times
1/Hour	Order effective date	Every hour on the hour
1/Day	Order effective date	Any 24-hour period that reasonably represents a calendar day for sampling purposes (e.g., beginning at midnight and continuing through 11:59 p.m.)
1/Week 2/Week 4/Week 5/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month 2/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month

Sampling Frequency	Monitoring Period Begins On	Monitoring Period
1/Quarter	Closest January 1, April 1, July 1, or October 1 before or after Order effective date [1]	January 1 through March 31 July 1 through September 30 April 1 through June 30 October 1 through December 31
1/Year	Closest January 1 before or after Order effective date [1]	January 1 through December 31
2/Year	Closest January 1 or July 1 before or after Order effective date [1]	January 1 through June 30 July 1 through December 31
Once	Order effective date	Once during the term of the Order within 12 months prior to applying for permit reissuance

Footnote:

[1] Monitoring performed during the previous order term may be used to satisfy monitoring required by this Order.

6.2.5. **RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

6.2.5.1. 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).

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

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

6.2.5.4. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (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.

6.2.6. **Compliance Determination.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above, in the Fact Sheet, and in Attachments A, D, and G. 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 pollutant in the monitoring sample is greater than the effluent limitation and, if applicable, greater than or equal to the RL.

6.3. Discharge Monitoring Reports (DMRs)

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 the latest 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).

APPENDIX E-1

CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

1. Definition of Terms

1.1. No observed effect level (NOEL). For compliance determination, the NOEL is equal to IC25 or EC25. If the IC25 or EC25 cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

1.2. Effective concentration (EC). The EC is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, “all or nothing,” response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

1.3. Inhibition concentration (IC). The IC is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC25 is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

1.4. No observed effect concentration (NOEC). The NOEC is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

2. Chronic Toxicity Screening Phase Requirements

2.1. The Discharger shall perform screening phase monitoring:

2.1.1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2.1.2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

2.2. Design of the screening phase shall, at a minimum, consist of the following elements:

2.2.1. Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables.

2.2.2. Two stages:

2.2.2.1. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Appendix E-2 (attached).

2.2.2.2. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.

2.2.3. Appropriate controls.

2.2.4. Concurrent reference toxicant tests.

2.2.5. Dilution series of 100%, 50%, 25%, 12.5%, 6.25%, and 0.0%, where “%” is percent effluent as discharged, or as otherwise approved by the Executive Officer if different dilution ratios are needed to reflect discharge conditions.

2.3. The Discharger shall submit a screening phase proposal. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Table E-1-A. Critical Life Stage Toxicity Tests for Estuarine Waters

Species	Scientific Name	Effect	Test Duration	Reference
Alga	*Skeletonema costatum, Thalassiosira pseudonana*	Growth rate	4 days	1
Red alga	*Champia parvula*	Number of cystocarps	7–9 days	3
Giant kelp	*Macrocystis pyrifera*	Percent germination; germ tube length	48 hours	2
Abalone	*Haliotis rufescens*	Abnormal shell development	48 hours	2
Oyster Mussel	*Crassostrea gigas, Mytilus edulis*	Abnormal shell development; percent survival	48 hours	2
Echinoderms Urchins Sand dollar	*Strongylocentrotus purpuratus, S. franciscanus, Dendraster excentricus*	Percent fertilization or larval development	1 hour or 72 hours	2
Shrimp	*Americamysis bahia*	Percent survival; growth	7 days	3
Shrimp	*Holmesimysis costata*	Percent survival; growth	7 days	2
Topsmelt	*Atherinops affinis*	Percent survival; growth	7 days	2
Silverside	*Menidia beryllina*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/821/R-02/014. October 2002.

Table E-1-B. Critical Life Stage Toxicity Tests for Fresh Waters

Species	Scientific Name	Effect	Test Duration	Reference
Fathead minnow	*Pimephales promelas*	Survival; growth rate	7 days	4
Water flea	*Ceriodaphnia dubia*	Survival; number of young	7 days	4
Alga	*Selenastrum capricornutum*	Final cell density	4 days	4

Toxicity Test Reference:

1. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, fourth Edition Chronic manual (EPA-821-R-02-013, October 2002).

Table E-1-C. Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics: Discharges to Ocean	Receiving Water Characteristics: Discharges to Marine/ Estuarine Waters [1]	Receiving Water Characteristics: Discharges to Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater [2] Marine/Estuarine	 0 4	 1 or 2 3 or 4	 3 0
Total number of tests	4	5	3

Footnotes:

[1] (a) Marine refers to receiving water salinities greater than 10 parts per thousand (ppt) at least 95 percent of the time during a normal water year.

(b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

(c) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.

[2] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

APPENDIX

ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section 2.2 of the Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of the Order.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 071045001
CIWQS Place ID	252565
Discharger	Eco Services Operations Corp.
Facility Name	Eco Services Martinez Plant
Facility Address	100 Mococo Road Martinez, CA 94553-1314 Contra Costa County
Facility Contact, Title, and Phone	Wahyet Li, Plant Manager, (925) 313-8204
Authorized Person to Sign and Submit Reports	Wahyet Li, Plant Manager, (925) 313-8204
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Facility Type	Sulfuric Acid Regeneration Plant
Major or Minor Facility	Major
Water Quality Threat	1
Complexity	A
Pretreatment Program	No
Recycling Requirements	No
Mercury and PCBs Requirements	NPDES Permit CA0038849
Waste Discharge Requirements	Order R2-2017-0011
Nutrients Requirements	No
Facility Permitted Flow	0.8 million gallons per day (MGD)
Facility Design Flow	3.7 MGD (hydraulic capacity)
Watershed	Suisun Basin
Receiving Water	Carquinez Strait and Peyton Slough
Receiving Water Type	Estuarine

1.1. Eco Services Operations Corp. (Discharger) is the owner and operator of the Eco Services Martinez Plant (Facility). The Facility discharges treated wastewater to Carquinez Strait and stormwater to Peyton Slough.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, and policies are held to be equivalent to references to the Discharger herein.

1.2. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit CA0006165. The Discharger was previously subject to Order R2-2015-0052 (previous order). The Discharger filed a Report of Waste Discharge and applied for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on April 29, 2020.

1.3. The Discharger is authorized to discharge subject to the WDRs in this Order at the discharge locations described in Table 1 of this Order. Regulations in 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, this Order limits the effective period for the discharge authorization. Pursuant to 40 C.F.R. section 122.6(d) and 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 requirements for continuation of expired permits.

1.4. The discharge is also regulated under Order R2-2017-0011, which establishes requirements for treated groundwater from the Process Effluent Purification Plant. This Order does not affect that order.

1.5. The discharge is also regulated under NPDES Permit CA0038849, which establishes requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges to San Francisco Bay. This Order does not affect that permit.

1.6. When applicable, State law requires dischargers to file a petition with the State Water Resources Control Board (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 such requirements under Water Code section 1211. This is not an NPDES permit requirement.

2. FACILITY DESCRIPTION

The Discharger uses spent sulfuric acid from petroleum refineries and molten sulfur as raw materials to manufacture about 300,000 tons per year of sulfuric acid through a regeneration process. Petroleum refineries use sulfuric acid produced by the Facility as an alkylation catalyst and in gasoline manufacturing. To regenerate sulfuric acid, the Discharger injects spent sulfuric acid and molten sulfur into an industrial furnace at 1,800°F. In the industrial furnace, the sulfur and hydrocarbons combust and the sulfuric acid decomposes to form sulfur dioxide gas. The Discharger cools the sulfur dioxide gas with a waste heat boiler and a quench tower, filters fine particles with two electrostatic precipitators operated in series, and removes water

from the sulfur dioxide gas in a drying tower. The Discharger uses a catalytic converter unit to convert the sulfur dioxide gas to sulfur trioxide gas. The Discharger then adds water in an absorption tower to form sulfuric acid. Gas containing unconverted sulfur dioxide is released to the atmosphere through a stack that employs an ammonia scrubber/mist eliminator, where the sulfur dioxide reacts to form a solution containing ammonium sulfite, bisulfite, and sulfate. This solution is sold as fertilizer.

The Facility is located on a former copper smelter site, where large piles of copper smelting slag and cinders in the north and south areas of the site have sunk into the mud, thereby contaminating underlying groundwater. Order R2-2017-0011 regulates cleanup of the contaminated groundwater. The Discharger operates a Process Effluent Purification (PEP) Plant six months of the year, treating the contaminated leachate from the large piles of copper smelting slag and cinders.

The largest fraction of wastewater is from cooling tower blowdown, followed by PEP Plant effluent, and then other process wastewaters (boiler blowdown and scrubber and washdown waters). The Discharger uses a pump and piping to divert stormwater to the Stormwater Accumulation Pond from which it can be directed to the wastewater treatment plant. The hydraulic capacity of the treatment plant is approximately 3.7 MGD. The annual average discharge to Carquinez Strait was 0.08 MGD in 2020.

2.1. Wastewater Treatment

Process wastewater and stormwater from the Facility area are first treated with sodium hydroxide and aluminum sulfate in a 23,000-gallon fiberglass tank (Tank-28) for neutralization and flocculation. Overflow from the tank is contained in a hypalon-lined surge pond from which wastewater flows to a 13,000-gallon neutralization tank (Tank-21) for further pH adjustment. Effluent from the PEP Plant enters the treatment process at Tank-21 and the combined wastewater flows to a 630,000-gallon high density polyethylene (HDPE)-lined settling pond for final polishing.

The Discharger tests process wastewater effluent for metals daily to ensure it meets effluent limitations. To allow the Discharger to receive results within a few hours, these samples are not digested consistent with U.S. EPA analytical test methods. Any effluent that may not comply with effluent limits is pumped to one of two holding ponds, from which it is pumped back to either the PEP Plant or Tank-28 for treatment. The first pond is called the Stormwater Accumulation Pond. It is HDPE-lined and used for managing stormwater runoff and emergency storage of non-compliant effluent. The second pond is called the Utility/Spill Control Pond. It is hypalon-lined and used primarily as a spill containment system for process spills that may occur during normal operations. It also collects stormwater runoff from the loading area and serves as a reserve holding pond for process wastewater.

The wastewater treatment processes are described in detail below:

2.1.1. **Tank T-28 (Neutralization).** Process wastewater (with a pH of about 2) enters Tank T-28, a fiberglass tank that holds about 23,000 gallons. Treatment consists of neutralization by sodium hydroxide and coagulation and flocculation by aluminum sulfate (alum) to improve solids settling. Tank T-28 effluent, typically with a pH between 3 and 5, is routed to the Surge Pond.

2.1.2. **Surge Pond (Equalization).** The Surge Pond serves as an equalization basin, has a capacity of 210,000 gallons, and contains an HDPE liner and several hypalon liners that overlay a low permeability silt layer. From the Surge Pond, the Discharger pumps wastewater to Tank T-21. For overflow protection, the Discharger installed a transfer line below the Surge Pond's two-foot freeboard level to transfer of wastewater to Tank T-21 by gravity.

2.1.3. **Tank T-21 (Final pH Adjustment).** Tank T-21 is a fiberglass tank that holds about 13,000 gallons. It receives partially treated wastewater from the Surge Pond and treated wastewater from the PEP Plant. The Discharger adds sodium hydroxide to increase the pH to around 8. From Tank T-21, wastewater flows by gravity to the Settling Pond.

2.1.4. **Settling Pond (Clarification).** The Settling Pond contains an HDPE liner and hypalon liners that overlay natural geological material of low permeability. It holds about 630,000 gallons and channels wastewater through three sections to promote solids settling.

2.1.5. **Auxiliary Ponds.** The Discharger maintains two auxiliary ponds, the Stormwater Accumulation Pond and the Utility/Spill Control Pond. The Stormwater Accumulation Pond holds about 5,000,000 gallons, is used to capture water from storms, and provides emergency storage for non-compliant wastewater. The Discharger may pump wastewater from the Stormwater Accumulation Pond to the PEP Plant or Tank T-28.

The Utility/Spill Control Pond contains multiple hypalon liners that overlay natural geological material of low permeability. It holds about 670,000 gallons and is used to capture wastewater from process spills that may occur during normal operations. When the acid plant is shut down, it receives spent scrubber solutions generated from the vent gas abatement system. It also receives stormwater runoff from the loading area. The Discharger may pump wastewater from the Utility/Spill Control Pond to Tank T-28 or the PEP Plant for treatment.

2.1.6. **Process Effluent Purification (PEP) Plant.** The PEP Plant is a fiberglass reinforced plastic feed tank that holds about 24,000 gallons. It is used to treat leachate from the large piles of copper smelting slag and cinders, process wastewater, and stormwater runoff. The PEP Plant treatment process removes metals (primarily zinc and iron) through sodium hydroxide precipitation.

2.2. Stormwater Management

Stormwater from non-process areas around the maintenance office, the maintenance warehouse, and a closed evaporation pond are discharged to Peyton Slough at Discharge Point 002. The Discharger must comply with Attachment S for these discharges, which includes requirements comparable to the statewide NPDES permit for stormwater discharges associated with industrial activities (NPDES General Permit CAS000001).

For other areas, the Discharger routes stormwater to its wastewater treatment plant. Therefore, the Discharger is not required to be covered under NPDES General Permit CAS000001 for those areas.

2.3. Discharge Points and Receiving Waters

The Facility discharges treated wastewater to Carquinez Strait, a water of the State and United States, through Discharge Point 001, which is approximately 750 feet offshore at a depth of about 35 feet below mean lower low water. The diffuser has three 2-inch ports spaced 10 feet apart. Stormwater is discharged to Peyton Slough through Discharge Point 002.

2.4. Previous Requirements and Monitoring Data

The table below presents the previous order's effluent limitations and representative monitoring data from the previous order term:

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Unit	Average Monthly Limit	Maximum Daily Limit	Other Limit	Long-Term Average [1]	Highest Value [1]
Acute Toxicity	% Survival	----	----	Not less than 90% (11-Sample Median)	100	95 [2] [3]
Acute Toxicity	% Survival	----	----	Not less than 70% (11-Sample 90th Percentile)	90	70 [2 [3]
Ammonia, Total	mg/L	15	46	----	0.42	1.3
Benzo(a)Anthracene	µg/L	0.44	0.89	----	----	0.2
Benzo(b)Fluoranthene	µg/L	0.45	0.90	----	----	ND [4]
Bis (2-Ethylhexyl) Phthalate	µg/L	53	110	----	1.8	11
Chronic Toxicity	TUc	----	----	----	3.2	9.4
Chrysene	µg/L	0.46	0.93	----	-	0.075
Copper, Total Recoverable	µg/L	53	120	----	9.7	23
Cyanide	µg/L	21	36	----	2.4	8.8
Dieldrin	µg/L	1.4×10^{-4}	2.8×10^{-4}	----	----	ND [4]
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}	----	----	1.43×10^{-11} [5][6]
Lead, Total Recoverable	µg/L	14	27	----	3.8	11

Parameter	Unit	Average Monthly Limit	Maximum Daily Limit	Other Limit	Long-Term Average [1]	Highest Value [1]
Nickel, Total Recoverable	µg/L	190	500	----	15	38
Oil and Grease	mg/l	----	5	----	----	1.2
Oil and Grease	kg/day	----	4.6	----	----	0.88
pH	S.U.	----	----	6.0-9.0 [7]	7.7-8.3	6.8-8.8 [8]
Selenium, Total Recoverable	µg/L	36	46	----	2.5	7.1
Total Suspended Solids (TSS)	mg/L	20	30	----	7.0	39
TSS	kg/day	9.5	28	----	3.1	39

Footnotes:

[1] Based on monitoring data collected at Discharge Point 001 from February 2016 through February 2020.

[2] The Discharger did not violate the previous order's acute toxicity effluent limitations.

[3] This is the lowest percent survival.

[4] All values were non-detect.

[5] Dioxin-TEQ was calculated in accordance with Attachment G of the previous order.

[6] The Discharger did not violate the previous order's dioxin-TEQ effluent limitation because all reported values were estimated (below the reporting level). According to the State Implementation Plan section 2.4.5, dischargers are deemed out of compliance when the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level.

[7] Instantaneous minimum and instantaneous maximum.

[8] Range of lowest to highest pH.

Table F-3. Previous Stormwater Monitoring Data

Parameter	Unit	Average [1]	Maximum Value [1]	Range [1]
Oil and Grease	mg/L	<5	<5	----
pH	S.U,	----	----	6.8-8.2 [2]
Specific Conductance	µmhos/cm	266	1452	----
TSS	mg/L	25	101	----
Copper	µg/L	32	64	----
Zinc	µg/L	310	445	----

Footnotes:

[1] Based on monitoring data collected at Discharge Point 002 from February 2016 through February 2020.

[2] Range of lowest to highest pH.

During the previous order term, the Discharger did not exceed the numeric action levels for pH, oil and grease, and TSS (see Attachment S, Table S-1). To ensure the Discharger continues to evaluate and improve its stormwater management practices, this Order requires the Discharger to review and make any necessary changes to its Stormwater Pollution Prevention Plan in accordance with Attachment S.

2.5. Compliance Summary

During the previous order term, the Discharger violated the TSS maximum daily effluent limitation for Discharge Point 001 once on October 22, 2018, when it reported TSS of 39 mg/L and the effluent limit was 30 mg/L. The elevated TSS

was caused by a greenish residual (likely algae). In response, the Discharger accelerated monitoring for TSS on October 31 and November 1, 2018, and the results where 12 mg/L and 10 mg/L. Since these results complied with the effluent limit, no further action was necessary.

2.6. Planned Changes

No significant changes to the Facility are planned.

2.7. Sea Level Rise Adaptation Planning

The Facility is located on top of a hill about 70 feet above sea level. The Discharger is in the process of preparing a long-term flood protection plan that must account for sea level rise as required by Order R2-2017-0011.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

3.1. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by the U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It serves as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order.

3.2. California Environmental Quality Act (CEQA)

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

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

3.3.1. **Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order 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.

Because of tidal and marine influence on Carquinez Strait and Peyton Slough, total dissolved solids levels exceed 3,000 mg/L; therefore, Carquinez Strait and Peyton Slough meets an exception to State Water Board Resolution 88-63. Beneficial uses applicable to Carquinez Strait and Peyton Slough are as follows:

Table F-4. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Carquinez Strait	Estuarine Habitat (EST) Fish Migration (MIGR) Fish Spawning (SPWN) Industrial Service Supply (IND) Navigation (NAV) Non-Contact Water Recreation (REC2) Ocean, Commercial and Sport Fishing (COMM) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Wildlife Habitat (WILD)
002	Peyton Slough	Estuarine Habitat (EST) Fish Migration (MIGR) Industrial Service Supply (IND) Non-Contact Water Recreation (REC2) Ocean, Commercial and Sport Fishing (COMM) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Wildlife Habitat (WILD)

3.3.2. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. The State Water Board adopted amendments to the plan on June 5, 2018, that became effective on March 11, 2019. This plan establishes sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.

3.3.3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** The NTR and CTR contain federal water quality criteria for priority pollutants. U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 NTR criteria apply in California. U.S. EPA adopted the CTR on May 18, 2000. The CTR promulgated new toxics criteria for California and incorporated the NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001.

3.3.4. **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 establishes implementation provisions for priority

pollutant criteria and objectives, and provisions for chronic toxicity control. The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established through the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. Requirements of this Order implement the SIP.

3.3.5. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

3.3.6. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 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 be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

3.3.7. **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 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 applicable Endangered Species Act requirements.

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

On April 6, 2018, U.S. EPA approved a revised list of impaired waters pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations

for point sources and load allocations for nonpoint sources and are established to achieve water quality standards.

Peyton Slough is not listed as an impaired waterbody, but Carquinez Strait, to which Peyton Slough is tributary, is listed as impaired by chlordane, DDT, dieldrin, dioxin and furan compounds, mercury, PCBs, dioxin-like PCBs, selenium, and invasive species. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29. 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. On August 23, 2016, U.S. EPA approved a selenium TMDL for North San Francisco Bay, including Carquinez Strait. This Order implements the selenium TMDL as it applies to the Discharger. The TMDLs for mercury and PCBs are implemented through NPDES Permit CA0038849. The selenium TMDL does not require effluent limits for wastewater dischargers because these discharges have an insignificant impact on North San Francisco Bay water quality.

As shown in Fact Sheet section 4.3.3, the discharge is not a significant source of chlordane, DDT, or dieldrin because these pollutants have not been detected in Facility discharges. The discharge is not a source of invasive species because the Facility does not treat or accept wastewater that could contain invasive species. This Order contains dioxin TEQ effluent limitations to ensure that dioxins and furans in effluent are kept below water quality objectives.

4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into 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: 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 receiving waters.

4.1. Discharge Prohibitions

4.1.1. **Discharge Prohibition 3.1 (No discharge other than as described):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

4.1.2. **Discharge Prohibition 3.2 (Minimum initial dilution of 27:1):** The water quality-based effluent limitations and reasonable potential analysis for chronic toxicity in this Order are based on the mixing zones and dilution credits explained in Fact Sheet section 4.3.4.2. This prohibition is necessary to ensure that this Order's effluent limitations remain protective of water quality.

4.1.3. **Discharge Prohibition 3.3 (No bypass):** This prohibition is based on 40 C.F.R. section 122.41(m). Bypass of untreated or partially treated wastewater from any portion of the Facility is prohibited except in accordance with 40 C.F.R. section 122.41 (see Attachment D § 1.7).

4.1.4. **Discharge Prohibition 3.4 (Effluent flow rate not to exceed 0.8 MGD):** This prohibition is to ensure reliable treatment and is retained from the previous order. It is based on past discharge flows, which have a potential maximum daily rate of 0.8 MGD during heavy rain.

4.2. Technology-Based Effluent Limitations

4.2.1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The CWA requires that technology-based effluent limitations be established based on several levels of control:

- **Best practicable treatment control technology (BPT)**. BPT represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- **Best available technology economically achievable (BAT).** BAT represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

- **Best conventional pollutant control technology (BCT).** BCT represents the control from existing industrial point sources of conventional pollutants, including biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease. BCT standards are established after considering the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result and the cost effectiveness of additional industrial treatment beyond BPT.

- **New source performance standards (NSPS).** NSPS represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines, and standards representing the application of BPT, BAT, BCT, and NSPS. U.S. EPA has done so for many types of industries but not sulfuric acid regeneration. CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorizes the use of best

professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis. When using BPJ to impose technology-based effluent limitations based on BPT and BCT control, 40 C.F.R. section 125.3 requires the Regional Water Board to consider the factors set forth in 40 C.F.R. subsections 125.3(c)(2)(i)-(ii) and 125.3(d).

Basin Plan Table 4-2 contains additional technology-based effluent limitations.

4.2.2. Technology-Based Effluent Limitations

4.2.2.1. **Discharge Point 001.** The pH effluent limitations at Discharge Point 001 are based on Basin Plan Table 4-2. The oil and grease and TSS effluent limitations are based on BPJ and are consistent with those established in the previous order.

U.S. EPA assisted the Regional Water Board in developing these site-specific BPJ-based BAT and BCT effluent limitations. As explained in a September 12, 1984, report titled *Final Development of BAT and BCT Permit Limitations for the Stauffer Chemical Company* (the Stauffer Chemical Company operated the Facility prior to Rhone-Poulenc, Rhodia, Solvay, and Eco Services), COD, TSS, and oil and grease effluent limitations were developed by matching the Facility's treatment process and wastewater constituents to a similar industry, specifically the metal finishing industry (Inorganic Chemicals Manufacturing Category [40 C.F.R. part 415]). The typical treatment for wastewater from this industry, precipitation and settling, is the same as the treatment process in place at the Facility.

On April 30, 2014, the Discharger submitted an updated study titled *2014 Best Technology Study Report* that confirmed the findings of the 1984 report but suggested elimination of the COD limit because the Facility's sulfuric acid manufacturing does not generate process wastewaters through contact processes. The Facility's wastewater contaminants only consist of acids and metals in the spent acids. COD is not generated through the manufacturing process, and the Facility's treatment system is not designed to remove COD. Most or all the COD in Facility effluent comes from the raw water supplied by the Contra Costa Water District. To comply with the previous COD limit, the Discharger indicated that it had to increase the cooling tower blowdown rate or use drinking water for cooling. The Discharger indicated that eliminating the COD limitation would allow the Facility to conserve water. Therefore, the previous order eliminated the COD effluent limit. This Order retains the

remaining TSS and oil and grease technology-based limitations from the previous order:

Table F-5 BPJ-Based BAT and BCT Effluent Limitations

Pollutant	Unit	Maximum Daily Effluent Limit	Average Monthly Effluent Limit
Total Suspended Solids	mg/L	20	30
Oil and Grease	mg/L	----	5

In accordance with 40 C.F.R. section 125.3, the following factors were considered when developing these limitations:

Table F-6. Factors Considered Pursuant to 40 C.F.R. Section 125.3(d)

Factors	Considerations
Cost relative to benefits	The costs of imposing these limitations are reasonable given that the Discharger can comply without modifying its existing process.
Comparison of cost and level of reduction of such pollutants from the discharge from publicly owned treatment plants to the cost and level of reduction of such pollutants from a class of category of industrial pollutants.	The Facility provides treatment of industrial wastewater via settling ponds, metals precipitation, and pH neutralization. The costs of continuing these treatment methods are expected to be less than the costs for publicly owned treatment works for comparable waters. Additional capital costs are not anticipated.
Age of equipment and facilities	The limitations can be met with existing equipment and facilities.
Process employed	The limitations can be met with the existing process.
Engineering aspects of various controls	The existing controls can meet the limitations.
Process changes	No process changes are necessary to meet the limitations.
Non-water quality environmental impacts	Because no process changes are necessary, no non-water quality impacts are foreseeable.

4.2.2.2. **Discharge Point 002.** Discharges from Discharge Point 002 are not subject to the technology-based effluent limits discussed above because stormwater does not commingle with process water or runoff from process areas. Discharges from Discharge Point 002 are subject to the provisions of Attachment S, which constitute narrative technology-based effluent limits that are at least as stringent as those in the previous order. Consistent with the previous order, these requirements reflect BAT and BCT as CWA section 301(b) requires.

4.3. Water Quality-Based Effluent Limitations

4.3.1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require permits to include limitations more stringent than federal technology-based requirements where

necessary to achieve water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a 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, 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 a narrative criterion, supplemented with relevant information. The process for determining reasonable potential and calculating WQBELs when necessary is intended to achieve applicable water quality objectives and criteria, and thereby protect designated beneficial uses of receiving waters.

4.3.2. Beneficial Uses and Water Quality Criteria and Objectives

Fact Sheet section 3.3.1 identifies the beneficial uses of the receiving waters. Water quality criteria and objectives to protect these beneficial uses are described below.

4.3.2.1. **Basin Plan Objectives.** The Basin Plan specifies numerous water quality objectives, including numeric objectives for 10 priority pollutants and un-ionized ammonia, and narrative objectives for bioaccumulation and toxicity.

4.3.2.1.1. **Un-Ionized Ammonia.** Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L (as nitrogen) as an annual median and 0.16 mg/L (as nitrogen) as a maximum for Central San Francisco Bay and upstream waters. Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature of the receiving water.

To translate the un-ionized ammonia objectives into total ammonia criteria, pH, salinity, and temperature data were obtained from the Yerba Buena Regional Monitoring Program Station (BC10). The un-ionized fraction of the total ammonia was calculated using the following equations (*Ambient Water Quality Criteria for Ammonia (Saltwater)–1989*, EPA Publication 440/5-88-004, 1989):

Fraction of un-ionized ammonia = $(1 + 10^{[pK - pH]})^{-1}$

Where, for salinity less than 1 ppt:

pK = 0.09018 + 2729.92/T
T = temperature in Kelvin

Where, for salinity greater than 10 ppt:

pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T
I = molal ionic strength of saltwater = 19.9273*(S)/(1000-1.005109*S)
S = salinity (parts per thousand)
T = temperature in Kelvin
P = pressure (one atmosphere)

The 90th percentile and median un-ionized ammonia fractions were then used to express the maximum and annual average un-ionized objectives as acute and chronic total ammonia criteria. This approach is consistent with U.S. EPA guidance on translating dissolved metal water quality objectives to total recoverable metal water quality criteria (*The Metals Translator: Guidance for Calculating a Total Recoverable Limit form a Dissolved Criterion*, EPA Publication 823-B96-007, 1996). The equivalent acute and chronic total ammonia criteria are 4.2 mg/L and 1.3 mg/L (as nitrogen).

4.3.2.1.2. **Dioxin-TEQ.** The narrative bioaccumulation objective (Basin Plan § 3.3.2) states, “Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.” Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan’s narrative bioaccumulation water quality objective applies to these pollutants. Elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. U.S. EPA has therefore placed Carquinez Strait on its 303(d) list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

When the CTR was promulgated, U.S. EPA stated its support for the regulation of dioxin and dioxin-like compounds using toxicity equivalencies (TEQs). U.S. EPA stated, “For California waters, if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limits for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme” (Fed. Reg. Vol. 65, No. 97, pages 31695-31696, May 18, 2000). This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization developed in 2005, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes

region (40 C.F.R. § 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). Although the 2005 World Health Organization scheme includes TEFs for dioxin-like PCBs, they are not included in this Order's TEQ scheme. The CTR has established a specific water quality criterion for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

The CTR establishes a numeric water quality objective for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L for the protection of human health when aquatic organisms are consumed. This CTR criterion is used as a criterion for dioxin TEQ because dioxin TEQ represents a toxicity-weighted concentration equivalent to 2,3,7,8 TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion.

4.3.2.1.3. **Chronic Toxicity.** The narrative toxicity objective (Basin Plan § 3.3.18) states, "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms... There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Attainment of this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, or toxicity tests…, or other methods selected by the Water Board."

For this Order, this narrative objective is translated into a numeric criterion of 1.0 chronic toxicity unit (TUc). At 1.0 TUc, there is no observable detrimental effect when the indicator organism is exposed to 100 percent effluent; therefore, 1.0 TUc is a direct translation of the narrative objective into a number. Moreover, in U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001, 1991; see section 3.3.3, "Step 3: Decision Criteria for Permit Limit Development"), U.S. EPA recommends that 1.0 TUc be used as a criterion continuous concentration (typically a four-day average). This document applies here as guidance because it directly addresses effluent characterization for toxicity.

4.3.2.2. **CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of "water and organisms" and others are for consumption of "organisms only." The criteria applicable to "organisms only" apply to Carquinez Strait because it is not a source of drinking water.

4.3.2.3. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Carquinez Strait.

4.3.2.5. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains the following narrative water quality objectives:

4.3.2.5.1. "Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California." This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.

4.3.2.5.2. "Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California." This objective is to be implemented by a three-tiered procedure based on pollutant concentrations in sediment and fish tissue.

4.3.2.5.3. "Pollutants shall not be present in sediment at levels that alone or in combination are toxic to wildlife and resident finfish by direct exposure or bioaccumulate in aquatic life at levels that are harmful to wildlife or resident finfish by indirect exposure in bays and estuaries of California." This objective is to be implemented on a case-by-case basis, based upon an ecological risk assessment.

4.3.2.6. **Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The receiving waters for the Facility's discharge to Carquinez Strait is estuarine based on salinity data collected through the Regional Monitoring Program at the Pacheco Creek (BF10) sampling station from 1993 through

2001. During that period, the average salinity was 4.4 ppt, with a range of 0.1 to 13 ppt. Because the salinity was between 1 and 10 ppt in 33 percent of the samples, Carquinez Strait is classified as estuarine and the reasonable potential analysis and WQBELs are based on the lower for the freshwater and saltwater water quality criteria and objectives.

4.3.2.6. **Receiving Water Hardness**. Ambient hardness values collected at the Pacheco Creek (BF10) sampling station from 1995 through 2001 were used to calculate freshwater objectives that are hardness dependent. The data were censored to eliminate hardness values greater than 400 mg/L and samples taken when the salinity was greater than 1 ppt. The geometric mean of the resulting data, 88 mg/L as calcium carbonate ($CaCO_3$), was used to determine the water quality objectives.

4.3.2.7. **Site-Specific Metals Translators.** Regulations at 40 C.F.R. section 122.45(c), require effluent limitations for metals to be expressed as total recoverable metal. Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

CTR default translators were used for all metals other than copper and nickel. Basin Plan Table 7.2.1-2 sets forth site-specific copper translators. The Clean Estuary Partnership's North of the Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators (March 2005) contains site-specific nickel translators. These site-specific translators are listed in the table below:

Table F-7 Site-Specific Translators

Parameter	Unit	Chronic Translator	Acute Translator
Copper	µg/L	0.66	0.38
Nickel	µg/L	0.57	0.27

4.3.3. Reasonable Potential Analysis

4.3.3.1. **Available Information.** The reasonable potential analysis for this Order is based on effluent monitoring data the Discharger collected from February 2016 through February 2020, and ambient background data summarized in *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (2017), which includes data collected through the Regional Monitoring Program data collected at the Yerba Buena Regional Monitoring

Program Station (BC10) from 1993 through 2018, supplemented by additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004).

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. For the priority pollutants and ammonia, the Yerba Buena Regional Monitoring Program Station (BC10), relative to other Regional Monitoring Program stations, best fits SIP guidance for establishing background conditions at Discharge Point 001.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, the Regional Monitoring Program still requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision 6.3.2 of the Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

4.3.3.2. **Discharge Point 001**

4.3.3.2.1. **Priority Pollutants, Dioxin-TEQ, and Ammonia.** SIP section 1.3 sets forth the methodology used for this Order for assessing whether a priority pollutant has reasonable potential to exceed a water quality objective. SIP section 1.3 applies to priority pollutants and is used here for dioxin-TEQ and ammonia as guidance. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:

- **Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective (MEC ≥ water quality objective).

- **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective (B > water quality objective) and the pollutant is detected in any effluent sample.

- **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. Basin Plan sections 7.2.1.2 and 4.7.2.2 require copper and cyanide WQBELs for all individual NPDES permits for municipal and industrial wastewater treatment facilities. Dioxin-TEQ has reasonable potential because the receiving water is impaired for dioxin-TEQ and dioxin-TEQ is present in the discharge.

Table F-8. Reasonable Potential Analysis

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
1	Antimony	4,300	1.3	1.8	No
2	Arsenic	36	3.4	2.5	No
3	Beryllium	No Criterion	<0.02	0.22	U
4	**Cadmium**	**1.0**	**2.8**	**0.13**	**Yes**
5a	Chromium (III) [4]	186	3.1	4.4	No
5b	Chromium (VI) [4]	11	1.3	4.4	No
6	**Copper**	**8.4**	**23**	**2.5**	**Yes** [5]
7	**Lead**	**2.7**	**11**	**0.8**	**Yes**
8	Mercury [6]	-	-	-	-
9	**Nickel**	**30.4**	**38**	**3.7**	**Yes**
10	Selenium [6]	-	-	-	-
11	Silver	2.2	0.039	0.052	No
12	Thallium	6.3	0.046	0.023	No
13	Zinc	86	26	5.1	No
14	**Cyanide**	**2.9**	**8.8**	**0.52**	**Yes** [5]
15	Asbestos [7]	-	-	-	-
16	2,3,7,8-TCDD	1.4×10^{-8}	$<1.0 \times 10^{-5}$	2.7×10^{-8}	No
	Dioxin TEQ	**1.4×10^{-8}**	**1.4×10^{-11}**	**4.1×10^{-8}**	**Yes** [8]
17	Acrolein	780	<2.5	<0.5	No
18	Acrylonitrile	0.66	<1.0	0.03	No
19	Benzene	71	0.059	<0.05	No
20	Bromoform	360	0.37	<0.15	No
21	Carbon Tetrachloride	4.4	<0.069	0.06	No
22	Chlorobenzene	21,000	<0.05	<0.18	No
23	Chlorodibromomethane	34	0.13	<0.05	No
24	Chloroethane	No Criterion	<0.31	<0.38	U
25	2-Chloroethylvinyl ether	No Criterion	<0.5	<0.28	U
26	Chloroform	No Criterion	2.2	<0.19	U
27	Dichlorobromomethane	46	<0.2	<0.05	No
28	1,1-Dichloroethane	No Criterion	<0.04	<0.05	U

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
29	1,2-Dichloroethane	99	<0.09	0.04	No
30	1,1-Dichloroethylene	3.2	<0.086	<0.21	No
31	1,2-Dichloropropane	39	<0.055	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.055	<0.16	No
33	Ethylbenzene	29,000	<0.05	<0.26	No
34	Methyl Bromide	4,000	<0.16	<0.3	No
35	Methyl Chloride	No Criterion	<0.13	<0.3	U
36	Methylene Chloride	1,600	0.17	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.11	<0.05	No
38	Tetrachloroethylene	8.9	<0.082	<0.05	No
39	Toluene	200,000	0.083	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.06	<0.22	No
41	1,1,1-Trichloroethane	No Criterion	<0.05	<0.19	U
42	1,1,2-Trichloroethane	42	<0.08	<0.05	No
43	Trichloroethylene	81	<0.06	<0.2	No
44	Vinyl Chloride	525	<0.07	<0.25	No
45	2-Chlorophenol	400	0.93	<0.7	No
46	2,4-Dichlorophenol	790	$<5.8 \times 10^{-3}$	<0.9	No
47	2,4-Dimethylphenol	2,300	<0.098	<0.8	No
48	2-Methyl- 4,6-Dinitrophenol	765	3.3	<0.6	No
49	2,4-Dinitrophenol	14,000	0.14	<0.7	No
50	2-Nitrophenol	No Criterion	<0.14	<0.8	U
51	4-Nitrophenol	No Criterion	<1	<0.5	U
52	3-Methyl 4-Chlorophenol	No Criterion	<0.27	<0.8	U
53	Pentachlorophenol	7.9	0.93	<0.6	No
54	Phenol	4,600,000	0.18	<0.5	No
55	2,4,6-Trichlorophenol	6.5	0.039	<0.97	No
56	Acenaphthene	2,700	$<4.8 \times 10^{-3}$	0.002	No
57	Acenaphthylene	No Criterion	$<5.8 \times 10^{-3}$	0.001	U
58	Anthracene	110,000	$<4.1 \times 10^{-3}$	0.001	No
59	Benzidine	0.00054	<0.29	<0.0003	No
60	**Benzo(a)Anthracene**	**0.049**	**0.2**	**0.005**	**Yes**
61	Benzo(a)Pyrene	0.049	$<3.2 \times 10^{-3}$	0.002	No
62	Benzo(b)Fluoranthene	0.049	$<3.2 \times 10^{-3}$	0.005	No
63	Benzo(ghi)Perylene	No Criterion	$<6.7 \times 10^{-3}$	0.003	U
64	Benzo(k)Fluoranthene	0.049	$<4.3 \times 10^{-3}$	0.002	No
65	Bis(2-Chloroethoxy)Methane	No Criterion	<0.3	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	2×10^{-3}	<0.3	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<8.4 x 10	<0.6	No
68	**Bis(2-Ethylhexyl)Phthalate**	**5.9**	**11**	**<0.5**	**Yes**
69	4-Bromophenyl Phenyl Ether	No Criterion	<0.17	<0.23	U

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
70	Butylbenzyl Phthalate	5,200	<0.029	<0.5	No
71	2-Chloronaphthalene	4,300	<0.25	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criterion	<0.2	<0.3	U
73	Chrysene	0.049	$<4.6 \times 10^{-3}$	0.002	No
74	Dibenzo(a,h)Anthracene	0.049	$<8.9 \times 10^{-3}$	0.001	No
75	1,2-Dichlorobenzene	17,000	<0.08	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.071	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.072	<0.18	No
78	3,3 Dichlorobenzidine	0.077	$<7.6 \times 10^{-3}$	<0.0002	No
79	Diethyl Phthalate	120,000	0.19	<0.2	No
80	Dimethyl Phthalate	2,900,000	0.073	<0.2	No
81	Di-n-Butyl Phthalate	12,000	0.41	<0.5	No
82	2,4-Dinitrotoluene	9.1	$<6.2 \times 10^{-3}$	<0.27	No
83	2,6-Dinitrotoluene	No Criterion	$<5 \times 10^{-3}$	<0.29	U
84	Di-n-Octyl Phthalate	No Criterion	<0.019	<0.38	U
85	**1,2-Diphenyhydrazine**	**0.54**	**0.59**	**0.004**	**Yes**
86	Fluoranthene	370	$<6.4 \times 10^{-3}$	0.011	No
87	Fluorene	14,000	$<6 \times 10^{-3}$	0.002	No
88	Hexachlorobenzene	0.00077	$<4.1 \times 10^{3}$	0.00002	No
89	Hexachlorobutadiene	50	$<3.2 \times 10^{-3}$	<0.3	No
90	Hexachlorocyclopentadiene	17,000	0.96	<0.3	No
91	Hexachloroethane	8.9	$<6.4 \times 10^{-3}$	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	$<6.1 \times 10^{-3}$	0.004	No
93	Isophorone	600	<0.32	<0.3	No
94	Naphthalene	No Criterion	$<4.5 \times 10^{-3}$	0.009	U
95	Nitrobenzene	1,900	<0.32	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.74	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.35	<0.0002	No
98	N-Nitrosodiphenylamine	16	<0.18	<0.001	No
99	Phenanthrene	No Criterion	$<5.2 \times 10^{-3}$	0.006	U
100	Pyrene	11,000	$<5.4 \times 10^{-3}$	0.019	No
101	1,2,4-Trichlorobenzene	No Criterion	<0.084	<0.3	U
102	Aldrin	0.00014	$<2.8 \times 10^{-3}$	<0.0000085	No
103	Alpha-BHC	0.013	$<3.1 \times 10^{-3}$	0.0005	No
104	Beta-BHC	0.046	$<6.9 \times 10^{-3}$	0.0004	No
105	Gamma-BHC	0.063	$<4.5 \times 10^{-3}$	0.001	No
106	Delta-BHC	No Criterion	2.4×10^{-3}	0.0001	U
107	Chlordane	0.00059	$<2.5 \times 10^{-3}$	0.00014	No
108	4,4'-DDT	0.00059	$<1.7 \times 10^{-4}$	0.0002	No
109	4,4'-DDE	0.00059	$<1.8 \times 10^{-4}$	0.001	No
110	**4,4'-DDD**	**0.00084**	**8.5×10^{-3}**	**0.0003**	**Yes**

CTR No.	Pollutant	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Result [3]
111	Dieldrin	0.00014	$<1.4 \times 10^{-4}$	0.0003	No
112	Alpha-Endosulfan	0.0087	7×10^{-3}	0.0001	No
113	Beta-Endosulfan	0.0087	$<4.6 \times 10^{-4}$	0.0001	No
114	Endosulfan Sulfate	240	$<3.3 \times 10^{-4}$	0.0001	No
115	Endrin	0.0023	$<1.8 \times 10^{-4}$	0.00004	No
116	Endrin Aldehyde	0.81	$<5.3 \times 10^{-4}$	<0.005	No
117	Heptachlor	0.00021	$<4.1 \times 10^{-4}$	0.00002	Yes
118	Heptachlor Epoxide	0.00011	$<2.5 \times 10^{-4}$	0.0001	No
119-125	PCBs sum [6]	-	-	-	-
126	Toxaphene	0.0002	0.002	<0.00000082	No
	Ammonia	**1.24**	**1.3**	**0.22**	**Yes**

Footnotes:

[1] The MEC and ambient background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (DL).

[2] The MEC or ambient background concentration is "Unavailable" when there are no monitoring data for the constituent.

[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
= No, if MEC and B are < WQC or all effluent data are undetected
= Unknown (U) if no criteria have been promulgated or data are insufficient.

[4] The maximum effluent and ambient background concentrations are the total chromium concentration. The chromium (III) and chromium (IV) concentrations are unknown but less than these values.

[5] WQBELs are required based on Basin Plan sections 7.2.1.2 and 4.7.2.2.

[6] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs. A TMDL has also been developed for selenium in North San Francisco Bay. Basin Plan section 7.2.4.5 finds that small industrial wastewater dischargers have no reasonable potential to cause or contribute to the selenium impairment in San Francisco Bay segments and, therefore, is not required to have numeric effluent limitations.

[7] Asbestos sampling is only required for discharges to waters with the municipal or domestic supply (MUN) beneficial use.

[8] Reasonable potential is based on Triggers 2 and 3 because San Francisco Bay is 303(d)-listed for dioxin-TEQ and elevated levels of dioxin-TEQ are found in San Francisco Bay fish tissue. Dioxin-TEQ is also present in the discharge.

4.3.3.2.2. **Acute Toxicity.** Basin Plan section 4.5.5.3.1 requires acute toxicity monitoring and limitations, implying there is reasonable potential for the discharge to cause or contribute to exceedances of the acute toxicity water quality objective.

4.3.3.2.3. **Chronic Toxicity.** There is no reasonable potential for chronic toxicity in the receiving water, and no WQBEL is required. The Technical Support Document for Water Quality-based Toxics Control allows for mixing zones and dilution credits to be considered when conducting a reasonable potential analysis. Basin Plan section 4.5.5.3.2 allows chronic toxicity dilution credits "comparable to those allowed for numeric chemical-specific objectives." Fact Sheet section 4.3.4.2 establishes a chronic toxicity mixing zone and dilution credit of 27:1 (D = 26) based on initial dilution. This is conservative because the translated criterion for chronic toxicity is

expressed as a four-day average, and the dilution was calculated using a maximum four-day average flow, as explained in Fact Sheet section 4.3.4.2.4 below. The Discharger conducted chronic toxicity tests once per quarter during the previous order term. The maximum single-sample chronic toxicity result was 9.4 TUc. Applying the dilution credit of 27:1 to 9.4 TUc results in 0.35 TUc, which is less than the translated chronic toxicity objective (1.0 TUc). Therefore, there is no reasonable potential for chronic toxicity in the receiving water, and no WQBEL is required.

4.3.3.2.4. **Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the Regional Monitoring Program, which routinely monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality.

4.3.3.3. **Discharge Point 002.** Stormwater discharges from Discharge Point 002 are subject to the narrative technology-based requirements discussed in Fact Sheet section 4.2.2.2. These requirements, including development and implementation of a Stormwater Pollution Prevention Plan, ensure that stormwater discharges will not contain pollutants that cause or contribute to exceedances of narrative or numeric water quality objectives.

4.3.4. Water Quality-Based Effluent Limitations

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. Apart from acute toxicity (discussed below), the WQBEL calculations are based on the procedures in SIP section 1.4.

4.3.4.1. **WQBEL Expression.** NPDES regulations at 40 C.F.R section 122.44(d) require that permit limitations for industrial dischargers be expressed as maximum daily and average monthly limitations, unless impracticable.

4.3.4.2. **Mixing Zones and Dilution Credits.** SIP section 1.4.2 allows dilution credits under certain circumstances. The Discharger submitted a study titled *Mixing Zone Study at Carquinez Strait Outfall 001* (September 27, 2018) that estimates the minimum initial dilution at Discharge Point 001 using U.S. EPA supported Visual Plumes model. This showed a minimum initial dilution of 27:1 under conservative assumptions (i.e., ambient current speed of zero and stratified conditions).

4.3.4.2.1. **Bioaccumulative Pollutants.** For certain bioaccumulative pollutants, no mixing zone is established, and dilution credit is denied. Specifically, these pollutants include dioxin and furan compounds, which appear on the CWA section 303(d) list for Carquinez Strait because, based on available data on the concentrations of these pollutants in aquatic organisms, sediment, and the water column, they impair Central San Francisco Bay beneficial uses. The following factors suggest insufficient assimilative capacity in San Francisco Bay for these pollutants.

Tissue samples taken from San Francisco Bay fish show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay*, May 1997). The results of a 1994 San Francisco Bay pilot study, presented in *Contaminated Levels in Fish Tissue from San Francisco Bay* (Regional Water Board, 1994) also show elevated levels of chemical contaminants in fish tissues. The Office of Environmental Health and Hazard Assessment completed a preliminary review of the data in the 1994 report and in December 1994 issued an interim consumption advisory covering certain fish species in San Francisco Bay due to the levels of some of these pollutants. The Office of Environmental Health and Hazard Assessment updated this advisory in a May 2011 report, *Health Advisory and Safe Eating Guidelines for San Francisco Bay Fish and Shellfish*, which still suggests insufficient assimilative capacity in San Francisco Bay for 303(d)-listed pollutants. Therefore, dilution credits are denied for bioaccumulative pollutants on the 303(d) list for which data are lacking on sources and significant uncertainty exists about how different sources contribute to bioaccumulation.

4.3.4.2.2. **Non-Bioaccumulative Pollutants (except ammonia and chronic toxicity).** For non-bioaccumulative pollutants (except ammonia and chronic toxicity), mixing zones corresponding to a conservative dilution credit of 10:1 (D=9) have been established. The 10:1 dilution credit is based, in part, on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit. The dilution credit is limited for the following reasons:

4.3.4.2.2.1. San Francisco Bay is a complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. A water body-by-water body approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.

4.3.4.2.2.2. Because of the complex hydrology of San Francisco Bay, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider the three-dimensional

nature of San Francisco Bay currents resulting from the interaction of tidal flushes and seasonal freshwater outflows. Being heavier and colder than freshwater, ocean saltwater enters San Francisco Bay on a twice-daily tidal cycle, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters. The locations of this mixing and interaction change depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of San Francisco Bay, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

4.3.4.2.3. **Ammonia.** For ammonia, mixing zones corresponding to a conservative estimate of actual initial dilution are established to calculate the effluent limitations. This is justified because ammonia, a non-persistent pollutant, quickly disperses and degrades to a non-toxic state, and cumulative toxicity is unlikely. This Order uses the 27:1 dilution ratio (D=26) to calculate effluent limitations.

4.3.4.2.4. **Chronic Toxicity.** This Order establishes a mixing zone corresponding to a chronic toxicity dilution credit of 27:1 (D = 26). This is conservative because the translated criterion for chronic toxicity is expressed as a four-day average and the dilution credit is based on a maximum four-day average flow.

4.3.4.3. **WQBEL Calculations.** Appendix F-1 shows the WQBEL calculations for 1,2-diphenylhydrazine, 4-4'DDD, dioxin-TEQ, ammonia, benzo(a)anthracene, bis(2-ethylhexyl) phthalate, cadmium, copper, cyanide, lead, and nickel. The priority pollutant WQBELs are calculated as required by SIP section 1.4. This same methodology is used as guidance to calculate the dioxin-TEQ and ammonia WQBELs.

The acute toxicity effluent limitations based on Basin Plan Table 4-3. Based on Basin Plan section 3.3.20, if the Discharger can demonstrate that ammonia causes acute toxicity in excess of the acute toxicity limitations in this Order, and that the ammonia in the discharge complies with the ammonia effluent limitations in this Order, then such toxicity does not constitute a violation of the effluent limitations for whole effluent acute toxicity.

4.4. Discharge Requirement Considerations

4.4.1. **Anti-Backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4), and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous order. The requirements of this Order are at least as stringent as those in the previous order.

This Order does not retain effluent limits for benzo(b)fluoranthene, chrysene, dieldrin, and selenium from the previous order because data no longer indicate reasonable potential for benzo(b)fluoranthene, chrysene, dieldrin, and selenium to exceed water quality objectives at Discharge Point 001 (see Table F-9). Eliminations of these limitations is consistent with State Water Board Order WQ 2001-16.

4.4.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. It does not authorize lowering water quality as compared to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. Although, this Order includes a higher dilution credit to evaluate reasonable potential for chronic toxicity, water quality will not be adversely affected because treatment performance is expected to remain unchanged. Further, consistent with the previous order, the Discharger must take actions to identify and reduce toxicity if effluent samples contain more than 10 TUc. This Order does not allow for an increased flow, a reduced level of treatment, or increased effluent limitations relative to the previous order.

4.4.3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based requirements implement minimum, applicable federal technology-based requirements. In addition, this Order contains more stringent effluent limitations as necessary to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives, so they are also applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

5. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections 5.1 and 5.2 of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water

limitation in section 5.3 of the Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

6. RATIONALE FOR PROVISIONS

6.1. Standard Provisions

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into permits either expressly or by reference.

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G contains standard provisions that supplement the provisions in Attachment D. This Order omits the federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

Attachment S contains stormwater provisions consistent with the State Water Board's General Permit for Stormwater Discharges Associated with Industrial Activities (NPDES General Permit CAS000001), including requirements for the Discharger to prepare a Stormwater Pollution Prevention Plan, to evaluate best management practices performance using stormwater action levels (stormwater action levels are not effluent limitations), and to submit an annual stormwater report. These requirements are necessary to minimize pollutant loads in stormwater discharges originating from the Facility.

6.2. Monitoring and Reporting Provisions

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more information, see Fact Sheet section 7.

6.3. Special Provisions

6.3.1. Reopener Provisions

These provisions are based on 40 C.F.R. sections 122.62 and 122.63 and allow modification of this Order and its effluent limitations as necessary in response to

updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

6.3.2. Special Studies and Additional Monitoring Requirements

This Order does not include WQBELs for pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to evaluate monitoring data to verify that the reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to 40 C.F.R. section 122.41(h) and Water Code section 13383, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

6.3.3. Pollutant Minimization Program

This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

6.3.4. Other Special Provisions

6.3.4.1. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. This Order requires the Discharger to implement source control and pollution prevention for identified sources. Additional actions may be necessary depending on the three-year rolling mean copper concentration in Central San Francisco Bay. Data from the San Francisco Estuary Institute website compiled for 2011-2015 indicate no degradation of San Francisco Bay water quality with respect to copper (https://www.sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0).

6.3.4.2. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The Basin Plan requires a cyanide action plan to ensure compliance with State and federal antidegradation policies when cyanide limitations are based on site-specific objectives.

6.3.4.3. **Average Selenium Load.** This provision is based on Basin Plan section 7.2.4.5. The information will be used to confirm that selenium loads are consistent with wasteload allocations. The requirements regarding treatment of estimated and non-detect values are consistent with the load calculations performed for the North San Francisco Bay Selenium TMDL.

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements.

Water Code section 13383 also authorizes the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (Attachment E) of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements.

Attachment E contains the MRP for this Order. It specifies sampling stations, pollutants to be monitored (including all parameters for which effluent limitations are specified), monitoring frequencies, and reporting requirements. The following provides the rationale for the MRP requirements.

7.1. Monitoring Requirements Rationale

7.1.1. **Effluent Monitoring.** Effluent flow monitoring is necessary to understand Facility operations. Monitoring for the other parameters is necessary to evaluate compliance with this Order's effluent limitations and to conduct future reasonable potential analyses.

7.1.2 **Stormwater Monitoring**. Stormwater monitoring is necessary to evaluate compliance with this Order's discharge prohibitions and to confirm that the Discharger's stormwater best management practices are effective and sufficient.

7.1.3. **Toxicity Monitoring.** Acute and chronic toxicity tests are necessary to evaluate compliance with this Order's effluent limitations and to conduct future reasonable potential analyses. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity exceeds the trigger for accelerated monitoring and Toxicity Reduction Evaluations based on Basin Plan sections 4.5.5.3.2 and 4.5.5.3.3 and Basin Plan Table 4-5.

The Discharger conducted a chronic toxicity screening phase study for this permit reissuance. The final report, dated November 17, 2020, identified giant kelp (*Macrocystis pyrifera)* as the most sensitive species. The MRP specifies that the Discharger use giant kelp for chronic toxicity testing. If *Macrocystis pyrifera* is unavailable, the Discharger may use its second most sensitive species, Mediterranean mussel (*Mytilus galloprovincialis*) as a substitute.

7.1.4. **Receiving Water Monitoring.** The Discharger is required to continue participating in the Regional Monitoring Program, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. This monitoring is necessary to characterize the receiving water and the effects of the discharge this Order authorizes.

7.1.5. **Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires some dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program that evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract

laboratories, and evaluates each laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES program. There are two options to comply: (1) the Discharger may obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, the Discharger may submit results from the most recent Water Pollution Performance Evaluation Study. MRP section 1.4 requires the Discharger to ensure that the results of the DMR-QA Study or most recent Water Pollution Performance Evaluation Study are submitted to the State Water Board, which forwards the results to U.S. EPA.

7.2. Monitoring Requirements Summary

The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order. In addition to undertaking the monitoring below, the Discharger must conduct receiving water monitoring by continuing to participate in the Regional Monitoring Program.

Table F-9. Monitoring Requirements Summary

Parameter [1]	**Effluent EFF-001** [2]	**Stormwater EFF-002** [2]
Flow	Continuous/D	----
Total Suspended Solids	2/Month	Each Occurrence
Oil and Grease	1/Quarter	Each Occurrence
pH	Continuous/D	Each Occurrence
Temperature	Continuous/D	----
Ammonia, Total	1/Quarter	----
Cadmium, Total Recoverable	1/Month	----
Copper, Total Recoverable	1/Month	2/Year
Lead, Total Recoverable	1/Month	----
Nickel, Total Recoverable	1/Month	----
Selenium, Total Recoverable	2/Year	----
Zinc, Total Recoverable	----	2/Year
Cyanide, Total	1/Month	----
Bis (2-Ethlyhexyl) Phthalate	2/Year	----
Benzo(a)Anthracene	2/Year	----
1,2 Diphenylhydrazine	2/Year	----
4,4'-DDD	2/Year	----
Dioxin-TEQ	2/Year	----
Acute Toxicity	1/Month	----
Chronic Toxicity	2/Year	----
Priority Pollutants	2/Year	----
Standard Observations	----	Each Occurrence

Footnotes:

[1] The Discharger must also comply with the monitoring requirements in the Mercury and PCBs Watershed Permit (NPDES Permit CA0038849).

[2] The MRP defines these sampling frequencies.

8. PUBLIC PARTICIPATION

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

8.1. Notification of Interested Parties. 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. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at waterboards.ca.gov/sanfranciscobay.

8.2. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person, by e-mail, or by mail to the to the attention of Robert Schlipf.

Written comments were due at the Regional Water Board office by 5:00 p.m. on May 10, 2021.

8.3. Public Hearing. The Regional Water Board held a public hearing on the tentative Order during its regular meeting at the following date and time:

Date: June 9, 2021
Time: 9:00 a.m.

Contact: Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov

Interested persons were provided notice of the hearing and information on how to participate. During the public hearing, the Regional Water Board heard testimony pertinent to the discharge, and Order.

Dates and venue can change. The Regional Water Board's web address is https://www.waterboards.ca.gov/sanfranciscobay, where one can access the current agenda for changes.

8.4. Reconsideration of Waste Discharge Requirements. Any person aggrieved by this Regional Water Board action 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. The State Water Board must receive the petition at the following address within 30 calendar days of the date of Regional Water Board action:

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

A petition may also be filed by email at waterqualitypetitions@waterboards.ca.gov.

For instructions on how to file a water quality petition for review, see waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

8.5. Information and Copying. The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the Regional Water Board address above by making an appointment with the Regional Water Board's custodian of records. Document copying may be arranged by calling (510) 622-2300.

8.6. Register of Interested Persons. Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.

8.7. Additional Information. Requests for additional information or questions regarding this Order should be directed to Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov.

APPENDIX F-1
CALCULATIONS FOR WATER QUALITY BASED EFFLUENT LIMITS

Table F-1-A. WQBEL Calculations

Pollutant	1,2 Diphenylhydrazine	4,4'-DDD	Total Ammonia (Acute)	Total Ammonia (Chronic)	Benzo(a) Anthracene	Bis(2-Ethylhexyl) Phthalate	Cadmium
Units	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L
Basis and Criteria type	Human Health Criteria	Human Health Criteria	Basin Plan and CTR Salt Water Aquatic Life (Acute)	Basin Plan and CTR Salt Water Aquatic Life (Chronic)	Human Health Criteria	Human Health Criteria	Basin Plan Freshwater Criteria
Criteria -Acute	-----	-----	4.7	-----	-----	-----	3.4
Criteria -Chronic	-----	-----	-----	1.2	-----	-----	1.0
Site-Specific Objective Criteria - Acute	-----	-----	-----	-----	-----	-----	-----
Site-Specific Objective Criteria - Chronic	-----	-----	-----	-----	-----	-----	-----
Water Effects Ratio (WER)	1	1	1	1	1	1	1
Lowest WQO	0.54	8.4×10^{-4}	4.7	1.2	4.9E-02	5.9	1.0
Site Specific Translator - MDEL	-----	-----	-----	-----	-----	-----	-----
Site Specific Translator - AMEL	-----	-----	-----	-----	-----	-----	-----
Dilution Factor (D)	9	9	26	26	9	9	9
No. of samples per month	4	4	4	30	4	4	4
Aquatic life criteria analysis required? (Y/N)	N	N	Y	Y	N	N	Y
HH criteria analysis required? (Y/N)	Y	Y	N	N	Y	Y	N
Applicable Acute WQO	-----	-----	4.7	-----	-----	-----	3.4
Applicable Chronic WQO	-----	-----	-----	1.2	-----	-----	1.0
HH Criteria	0.54	8.4×10^{-4}	-----	-----	4.9E-02	5.9	-----
Background (Maximum Conc. for Aquatic Life Calc.)	-----	-----	0.22	0.07	-----	-----	0.13

Pollutant	1,2 Diphenylhydrazine	4,4'-DDD	Total Ammonia (Acute)	Total Ammonia (Chronic)	Benzo(a) Anthracene	Bis(2-Ethylhexyl) Phthalate	Cadmium
Background (Average Conc. for Human Health Calc.)	0.7	1.1×10^{-4}	-----	-----	1.4×10^{-3}	0.6	-----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	Y	N	N	N	N	N
ECA Acute	-----	-----	120	-----	-----	-----	33
ECA Chronic	-----	-----	-----	32	-----	-----	9.1
ECA Human Health	0.54	7.4×10^{-3}	-----	-----	0.48	0.54	-----
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	Y	Y	N	N	Y	N	Y
Avg of effluent data points	-----	-----	0.43	0.43	-----	19	-----
Std Dev of effluent data points	-----	-----	0.44	0.44	-----	44	-----
CV Calculated	-----	-----	1.0	1.0	-----	2.0	-----
CV (Selected) - Final	0.6	0.6	1.0	1.0	0.6	2.0	0.6
ECA Acute Mult99	-----	-----	0.2	-----	-----	-----	0.32
ECA Chronic Mult99	-----	-----	-----	0.88	----	-----	0.53
LTA Acute	-----	-----	24	-----	-----	-----	11
LTA Chronic	-----	-----	-----	28	-----	-----	4.8
Minimum of LTAs	-----	-----	24	28	-----	-----	4.8
AMEL Mult95	1.6	1.6	2.0	1.3	1.6	2.8	1.6
MDEL Mult99	3.1	3.1	5.1	5.1	3.1	8.6	3.1
AMEL (Aquatic Life)	-----	-----	47	37	-----	-----	7.5
MDEL (Aquatic Life)	-----	-----	120	140	-----	-----	15
MDEL/AMEL Multiplier	2.0	2.0	2.6	3.8	2.0	3.1	2.0
AMEL (Human Health)	0.54	7.4×10^{-3}	-----	-----	0.48	54	-----
MDEL (Human Health)	1.1	1.5×10^{-2}	-----	-----	0.96	170	-----

Pollutant	1,2 Diphenylhydrazine	4,4'-DDD	Total Ammonia (Acute)	Total Ammonia (Chronic)	Benzo(a) Anthracene	Bis(2-Ethylhexyl) Phthalate	Cadmium
Minimum of AMEL for Aq. Life vs HH	0.5	7.4×10^{-3}	47	37	0.48	54	7.5
Minimum of MDEL for Aq. Life vs HH	1.1	1.5×10^{-2}	120	140	0.96	170	15
Previous Order Limit - AMEL	-----	-----	15	15	0.44	53	-----
Previous Order Limit - MDEL	-----	-----	46	46	0.89	110	-----
Final Limit - AMEL	0.5	7.4×10^{-3}	15	15	0.44	53	7.5
Final Limit - MDEL	1.1	1.5×10^{-2}	46	46	0.89	110	15

Table F-1-B. WQBEL Calculations

Pollutant	Copper	Cyanide	Dioxin-TEQ	Lead	Nickel
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	Basin Plan Criteria Site Specific	Basin Plan Criteria Site Specific	Basin Plan Narrative	Basin Plan and CTR Freshwater Criteria	Basin Plan and CTR Saltwater Criteria
Criteria -Acute	3.9	-----	-----	69	74
Criteria -Chronic	2.5	-----	-----	2.7	8.1
Site-Specific Objective Criteria - Acute	9.4	9.4	-----	-----	N/A
Site-Specific Objective Criteria - Chronic	6.0	2.9	-----	-----	N/A
Water Effects Ratio (WER)	2.4	1	1	1	1
Lowest WQO	6	2.9	1.4×10^{-8}	2.7	30
Site Specific Translator - MDEL	0.66	-----	-----	-----	0.57
Site Specific Translator - AMEL	0.38	-----	-----	-----	0.27
Dilution Factor (D)	9	9	0	9	9
No. of samples per month	4	4	4	4	4

Pollutant	Copper	Cyanide	Dioxin-TEQ	Lead	Nickel
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	Y	Y
HH criteria analysis required? (Y/N)	N	Y	Y	N	Y
Applicable Acute WQO	14	9.4	----	69	130
Applicable Chronic WQO	16	2.9	----	2.7	30
HH Criteria	-----	2.2×10^{5}	1.4×10^{-8}	-----	4.6×10^{3}
Background (Maximum Conc. for Aquatic Life Calc.)	2.5	0.52	-----	0.8	3.7
Background (Average Conc. for Human Health Calc.)	-----	0.9	2.2×10^{-8}	-----	2.2
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	Y	N	N
ECA Acute	120	89	----	680	1300
ECA Chronic	140	24	----	20	270
ECA HH	-----	2.2×10^{6}	1.4×10^{-8}	-----	4.6×10^{3}
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N	Y	Y	N
Avg of effluent data points	11	2.3	----	-----	13
Std Dev of effluent data points	9.3	1.7	----	-----	10
CV Calculated	0.52	0.71	----	-----	0.77
CV (Selected) - Final	0.52	0.71	0.6	0.6	0.77
ECA Acute Mult99	0.36	0.28	----	0.32	0.26
ECA Chronic Mult99	0.57	0.48	----	0.53	0.45
LTA Acute	43	25	----	220	340
LTA Chronic	79	12	----	10	120
Minimum of LTAs	43	12	----	10	120

Pollutant	Copper	Cyanide	Dioxin-TEQ	Lead	Nickel
AMEL Mult95	1.5	1.7	1.6	1.6	1.7
MDEL Mult99	2.8	3.6	3.1	3.1	3.9
AMEL (Aquatic Life)	63	19	----	16	210
MDEL (Aquatic Life)	120	41	----	32	470
MDEL/AMEL Multiplier	1.9	2.2	2.0	2.0	2.2
AMEL (Human Health)	-----	2.2×10^{6}	1.4×10^{-8}	-----	-----
MDEL (Human Health)	-----	4.8×10^{6}	2.8×10^{-8}	-----	-----
Minimum of AMEL for Aq. Life vs HH	63	19	1.4×10^{-8}	16	210
Minimum of MDEL for Aq. Life vs HH	120	42	2.8×10^{-8}	33	470
Previous Order Limit - AMEL	53	21	1.4×10^{-8}	14	190
Previous Order Limit - MDEL	120	36	2.8×10^{-8}	27	500
Final Limit - AMEL	53	19	1.4×10^{-8}	14	190
Final Limit - MDEL	120	36	2.8×10^{-8}	27	470

ATTACHMENT G – REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)

CONTENTS

TABLES

ATTACHMENT G – REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)

APPLICABILITY

This document supplements the requirements of Federal Standard Provisions (Attachment D). For clarity, these provisions are arranged using to the same headings as those used in Attachment D.

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply – Not Supplemented

1.2. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

1.3. Duty to Mitigate – Supplement to Attachment D, Provision 1.3.

1.3.1. **Contingency Plan.** The Discharger shall maintain a Contingency Plan as prudent in accordance with current facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan (see Provision 1.3.2, below) into one document. In accordance with Regional Water Board Resolution No. 74-10, discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below may be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code section 13387. The Contingency Plan shall, at a minimum, provide for the following:

1.3.1.1. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;

1.3.1.2. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;

1.3.1.3. Emergency standby power;

1.3.1.4. Protection against vandalism;

1.3.1.5. Expeditious action to repair failures of, or damage to, equipment, including any sewer lines;

1.3.1.6. Reporting of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges; and

1.3.1.7. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.

1.3.2. **Spill Prevention Plan.** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and to minimize the effects of any such discharges. The Spill Prevention Plan shall do the following:

1.3.2.1. Identify the possible sources of accidental discharge, untreated or partially-treated waste bypass, and polluted drainage;

1.3.2.2. State when current facilities and procedures became operational and evaluate their effectiveness; and

1.3.2.3. Predict the effectiveness of any proposed facilities and procedures and provide an implementation schedule with interim and final dates when the proposed facilities and procedures will be constructed, implemented, or operational.

1.4. Proper Operation and Maintenance – Supplement to Attachment D, Provision 1.4

1.4.1. **Operation and Maintenance Manual.** The Discharger shall maintain an Operation and Maintenance Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the Operation and Maintenance Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The Operation and Maintenance Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.

1.4.2. **Wastewater Facilities Status Report.** The Discharger shall maintain a Wastewater Facilities Status Report and regularly review, revise, or update it, as necessary. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

1.4.3. **Proper Supervision and Operation of Publicly-Owned Treatment Works (POTWs).** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, section 3680, of the California Code of Regulations.

1.5. Property Rights – Not Supplemented

1.6. Inspection and Entry – Not Supplemented

1.7. Bypass – Not Supplemented

1.8. Upset – Not Supplemented

1.9. Other – Addition to Attachment D

1.9.1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code section 13050.

1.9.2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

1.9.3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

2. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

3. STANDARD PROVISIONS – MONITORING

3.1. Sampling and Analyses – Supplement to Attachment D, Provisions 3.1 and 3.2

3.1.1. **Certified Laboratories.** Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code section 13176.

3.1.2. **Minimum Levels.** For the 126 priority pollutants, the Discharger should use the analytical methods listed in Table G-1 unless the Monitoring and Reporting Program (MRP, Attachment E) requires a particular method or minimum level (ML). All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3.1.3. **Monitoring Frequency.** The MRP specifies the minimum sampling and analysis schedule.

3.1.3.1. **Sample Collection Timing**

3.1.3.1.1. The Discharger shall collect influent samples on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative influent sampling plan if it is representative of plant influent and complies with all other permit requirements.

3.1.3.1.2. The Discharger shall collect effluent samples on days coincident with influent sampling, unless otherwise stipulated by the MRP. If influent sampling is not required, the Discharger shall collect effluent samples on varying days selected at random, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative effluent sampling plan if it is representative of plant discharge and in compliance with all other permit requirements.

3.1.3.1.3. The Discharger shall collect effluent grab samples during periods of daytime maximum peak flows (or peak flows through secondary treatment units for facilities that recycle effluent).

3.1.3.1.4. Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay the MRP requires. During the course of the bioassay, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event that a bioassay result does not comply with effluent limitations, the Discharger shall analyze the retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limitations.

3.1.3.1.4.1. The Discharger shall perform bioassays on final effluent samples; when chlorine is used for disinfection, bioassays shall be performed on effluent after chlorination and dechlorination; and

3.1.3.1.4.2. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un ionized ammonia whenever test results fail to meet effluent limitations.

3.1.3.2. **Conditions Triggering Accelerated Monitoring**

3.1.3.2.1. **Average Monthly Effluent Limitation Exceedance.** If the results from two consecutive samples of a constituent monitored in a particular month exceed the average monthly effluent limitation for any parameter (or if the required sampling frequency is once per month or less and the monthly sample exceeds the average monthly effluent limitation), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter complies with the average monthly effluent limitation.

3.1.3.2.2. **Maximum Daily Effluent Limitation Exceedance.** If a sample result exceeds a maximum daily effluent limitation, the Discharger shall, within 24 hours after the result is received, increase its sampling frequency to daily until the results from two samples collected on consecutive days show compliance with the maximum daily effluent limitation.

3.1.3.2.3. **Acute Toxicity.** If final or intermediate results of an acute bioassay indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay is less than

70 percent), the Discharger shall initiate a new test as soon as practical or as described in applicable State Water Board plan provisions that become effective after adoption of these Regional Standard Provisions. The Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report.

3.1.3.2.4. **Chlorine.** The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limitation is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring.

3.1.3.2.5. **Bypass.** Except as indicated below, if a Discharger bypasses any portion of its treatment facility, it shall monitor flows and collect samples at affected discharge points and analyze samples for all constituents with effluent limitations on a daily basis for the duration of the bypass. The Discharger need not accelerate chronic toxicity monitoring. The Discharger also need not collect and analyze samples for mercury, dioxin-TEQ, and PCBs after the first day of the bypass. The Discharger may satisfy the accelerated acute toxicity monitoring requirement by conducting a flow-through test or static renewal test that captures the duration of the bypass (regardless of the method specified in the MRP). If bypassing disinfection units only, the Discharger shall only monitor bacteria indicators daily.

3.1.3.2.5.1. **Bypass for Essential Maintenance.** If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section 1.7.2, the Executive Officer may reduce the accelerated monitoring requirements above if the Discharger (i) monitors effluent at affected discharge points on the first day of the bypass for all constituents with effluent limitations, except chronic toxicity; and (ii) identifies and implements measures to ensure that the bypass will continue to comply with effluent limitations.

3.1.3.2.5.2. **Approved Wet Weather Bypasses.** If a Discharger bypasses a treatment unit or permitted outfall during wet weather with Executive Officer approval pursuant to Attachment D section 1.7.4, the Discharger shall monitor flows and collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze daily for TSS using 24 hour composites (or more frequent increments) and for bacteria indicators with effluent limitations using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze daily the retained samples for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity.

Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

3.2. Standard Observations – Addition to Attachment D

3.2.1. **Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. Standard observations shall include the following:

3.2.1.1. **Floating and Suspended Materials (e.g., oil, grease, algae, and other macroscopic particulate matter) —** presence or absence, source, and size of affected area.

3.2.1.2. **Discoloration and Turbidity** — color, source, and size of affected area.

3.2.1.3. **Odor** — presence or absence, characterization, source, and distance of travel.

3.2.1.4. **Beneficial Water Use** — estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.

3.2.1.5. **Hydrographic Condition** — time and height of high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time).

3.2.1.6. **Weather Conditions** — wind direction, air temperature, and total precipitation during five days prior to observation.

3.2.2. **Wastewater Effluent Observations.** The following requirements only apply when the MRP requires standard observations of wastewater effluent. Standard observations shall include the following:

3.2.2.1. **Floating and Suspended Material of Wastewater Origin** (e.g., oil, grease, algae, and other macroscopic particulate matter) — presence or absence.

3.2.2.2. **Odor** — presence or absence, characterization, source, distance of travel, and wind direction.

3.2.3. **Beach and Shoreline Observations.** The following requirements only apply when the MRP requires standard observations of beaches or shorelines. Standard observations shall include the following:

3.2.3.1. **Material of Wastewater Origin —** presence or absence, description of material, estimated size of affected area, and source.

3.2.3.2. **Beneficial Use —** estimate of number of people participating in recreational water contact, non-water contact, and fishing activities.

3.2.4. **Waste Treatment and/or Disposal Facility Periphery Observations.** The following requirements only apply when the MRP requires standard observations of the periphery of waste treatment or disposal facilities. Standard observations shall include the following:

3.2.4.1. **Odor** — presence or absence, characterization, source, and distance of travel.

3.2.4.2. **Weather Conditions** — wind direction and estimated velocity.

4. STANDARD PROVISIONS – RECORDS

4.1. Records to be Maintained – Supplement to Attachment D, Provision 4.1

The Discharger shall maintain records in a manner and at a location (e.g., the wastewater treatment plant or the Discharger's offices) such that the records are accessible to Regional Water Board staff. The minimum retention period specified in Attachment D, Provision IV, shall be extended during the course of any unresolved litigation regarding permit-related discharges, or when requested by Regional Water Board or U.S. EPA, Region IX, staff.

A copy of the permit shall be maintained at the discharge facility and be available at all times to operating personnel.

4.2. Records of Monitoring – Supplement to Attachment D, Provision 4.2

Monitoring records shall include the following:

4.2.1. **Analytical Information.** Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

4.2.2. **Disinfection Process.** For the disinfection process, records shall include the following:

4.2.2.1. For bacteriological analyses:

4.2.2.1.1. Wastewater flow rate at the time of sample collection; and

4.2.2.1.2. Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in the MRP).

4.2.2.2. For the chlorination process (when chlorine is used for disinfection), at least daily average values for the following:

4.2.2.2.1. Chlorine residual of treated wastewater as it enters the chlorine contact basin (mg/L);

4.2.2.2.2. Chlorine dosage (kg/day); and

4.2.2.2.3. Dechlorination chemical dosage (kg/day).

4.2.3. **Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

4.2.3.1. Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and

4.2.3.2. Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

4.2.4. **Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:

4.2.4.1. Chronological log of treatment process bypasses;

4.2.4.2. Identification of treatment processes bypassed;

4.2.4.3. Beginning and ending dates and times of bypasses;

4.2.4.4. Bypass durations;

4.2.4.5. Estimated bypass volumes; and

4.2.4.6. Description of, or reference to other reports describing, the bypasses, their cause, the corrective actions taken (except for wet weather blending explicitly approved within the permit and in compliance with any related permit conditions), and any additional monitoring conducted.

4.2.5. **Treatment Plant Overflows.** The Discharger shall retain a chronological log of overflows at the treatment plant, including the headworks and all units and appurtenances downstream, and records supporting the information provided in accordance with Provision 5.5.2, below.

4.3. Claims of Confidentiality – Not Supplemented

5. STANDARD PROVISIONS – REPORTING

5.1. Duty to Provide Information – Not Supplemented

5.2. Signatory and Certification Requirements – Not Supplemented

5.3. Monitoring Reports – Supplement to Attachment D, Provision 5.3

5.3.1. **Self-Monitoring Reports.** For each reporting period established in the MRP, the Discharger shall submit a self-monitoring report to the Regional Water Board in accordance with the requirements listed in the MRP and below:

5.3.1.1. **Transmittal Letter.** Each self-monitoring report shall be submitted with a transmittal letter that includes the following:

5.3.1.1.1. Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;

5.3.1.1.2. Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;

5.3.1.1.3. Causes of the violations;

5.3.1.1.4. Corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedules for implementation (the Discharger may refer to previously submitted reports that address the corrective actions);

5.3.1.1.5. Explanation for any data invalidation. Data should not be submitted in a self-monitoring report if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate a measurement after submitting it in a self-monitoring report, the Discharger shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. The formal request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation (e.g., laboratory sheet, log entry, test results), and a discussion of the corrective actions taken or planned (with a time schedule for completion) to prevent recurrence of the sampling or measurement problem;

5.3.1.1.6. Description of blending, if any. If the Discharger blends, it shall describe the duration of blending events and certify whether the blending complied with all conditions for blending;

5.3.1.1.7. Description of other bypasses, if any. If the Discharger bypasses any treatment units (other than blending), it shall describe the duration of the bypasses and effluent quality during those times; and

5.3.1.1.8. Signature. The transmittal letter shall be signed in accordance with Attachment D, Provision 5.2.

5.3.1.2. **Compliance Evaluation Summary.** Each self-monitoring report shall include a compliance evaluation summary that addresses each parameter for which the permit specifies effluent limitations, the number of samples taken during the monitoring period, and the number of samples that exceed the effluent limitations.

5.3.1.3. **More Frequent Monitoring.** If the Discharger monitors any pollutant more frequently than required by the MRP, the Discharger shall include the results of such monitoring in the calculation and reporting of the data submitted in the self-monitoring report.

5.3.1.4. **Analysis Results**

5.3.1.4.1. **Tabulation.** Each self-monitoring report shall include tabulations of all required analyses and observations, including parameters, dates, times, sample stations, types of samples, test results, method detection limits, method minimum levels, and method reporting levels (if applicable), signed by the laboratory director or other responsible official.

5.3.1.4.2. **Multiple Samples.** Unless the MRP specifies otherwise, when determining compliance with effluent limitations (other than instantaneous effluent limitations) and more than one sample result is available, the Discharger shall compute the arithmetic mean. If the data set contains one or more results that are “Detected, but Not Quantified (DNQ) or “Not Detected” (ND), the Discharger shall instead compute the median in accordance with the following procedure:

5.3.1.4.2.1. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

5.3.1.4.2.2. The median of the data set shall be determined. If the data set has an odd number of data points, the median is the middle value. If the data set has an even number of data points, the median is the average of the two values around the middle, unless one or both of these values is ND or DNQ, in which case the median shall be the lower of the two results (where DNQ is lower than a quantified value and ND is lower than DNQ).

5.3.1.4.3. **Duplicate Samples.** The Discharger shall report the average of duplicate sample analyses when reporting for a single sample result (or the median if one or more of the duplicates is DNQ or ND [see Provision 5.3.1.4.2, above]). For bacteria indicators, the Discharger shall report the geometric mean of the duplicate analyses.

5.3.1.4.4. **Dioxin-TEQ.** The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the reporting level, the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (MLs) to zero. The Discharger shall calculate and report dioxin-TEQ using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table G-1:

$$\text{Dioxin-TEQ} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where: C_x = measured or estimated concentration of congener x
TEF_x = toxicity equivalency factor for congener x
BEF_x = bioaccumulation equivalency factor for congener x

Table G-1
Minimum Levels, Toxicity Equivalency Factors, and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	2005 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0003	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.03	0.2
2,3,4,7,8-PeCDF	50	0.3	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0003	0.02

5.3.1.5. **Results Not Yet Available.** The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses may require additional time to complete analytical processes and report results. In these cases, the Discharger shall describe the circumstances in the self-monitoring report and include the data for these parameters and relevant discussions of any violations in the next self-monitoring report due after the results are available.

5.3.1.6. **Annual Self-Monitoring Reports.** By the date specified in the MRP, the Discharger shall submit an annual self-monitoring report covering the previous calendar year. The report shall contain the following:

5.3.1.6.1. Comprehensive discussion of treatment plant performance, including documentation of any blending or other bypass events, and compliance with the permit. This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve the performance and reliability of wastewater collection, treatment, or disposal practices;

5.3.1.6.2. List of approved analyses, including the following:

5.3.1.6.2.1. List of analyses for which the Discharger is certified;

5.3.1.6.2.2. List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory need not be submitted but shall be retained onsite); and

5.3.1.6.2.3. List of “waived” analyses, as approved;

5.3.1.6.3. Plan view drawing or map showing the Discharger’s facility, flow routing, and sampling and observation station locations; and

5.3.1.6.4. Results of facility report reviews. The Discharger shall regularly review, revise, and update, as necessary, the Operation and Maintenance Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report so these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall describe or summarize its review and evaluation procedures, recommended or planned actions, and estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure that they remain up-to-date.

5.4. Compliance Schedules – Not supplemented

5.5. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision 5.5

5.5.1. **Oil or Other Hazardous Material Spills**

5.5.1.1. Within 24 hours of becoming aware of a spill of oil or other hazardous material not contained onsite and completely cleaned up, the Discharger shall report as follows:

5.5.1.1.1. If the spill exceeds reportable quantities for hazardous materials listed in 40 C.F.R. part 302. The Discharger shall call the California Office of Emergency Services (800 852-7550).

5.5.1.1.2. If the spill does not exceed reportable quantities for hazardous materials listed in 40 C.F.R., part 302, the Discharger shall call the Regional Water Board (510-622-2369).

5.5.1.2. The Discharger shall submit a written report to the Regional Water Board within five working days following either of the above telephone notifications unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

5.5.1.2.1. Date and time of spill, and duration if known;

5.5.1.2.2. Location of spill (street address or description of location);

5.5.1.2.3. Nature of material spilled;

5.5.1.2.4. Quantity of material spilled;

5.5.1.2.5. Receiving water body affected, if any;

5.5.1.2.6. Cause of spill;

5.5.1.2.7. Estimated size of affected area;

5.5.1.2.8. Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

5.5.1.2.9. Corrective actions taken to contain, minimize, or clean up the spill;

5.5.1.2.10. Future corrective actions planned to prevent recurrence, and implementation schedule; and

5.5.1.2.11. Persons or agencies notified.

5.5.2. Unauthorized Municipal Wastewater Treatment Plant Discharges[1]

5.5.2.1. **Two-Hour Notification.** For any unauthorized discharge that enters a drainage channel or surface water, the Discharger shall, as soon as possible, but not later than two hours after becoming aware of the discharge, notify the California Office of Emergency Services (800-852-7550) and the local health officer or director of environmental health with jurisdiction over the affected water body. Notification shall include the following:

5.5.2.1.1. Incident description and cause;

5.5.2.1.2. Location of threatened or involved waterways or storm drains;

5.5.2.1.3. Date and time that the unauthorized discharge started;

5.5.2.1.4. Estimated quantity and duration of the unauthorized discharge (to the extent known), and estimated amount recovered;

5.5.2.1.5. Level of treatment prior to discharge (e.g., raw wastewater, primary-treated wastewater, or undisinfected secondary-treated wastewater); and

5.5.2.1.6. Identity of person reporting the unauthorized discharge.

5.5.2.2. **Five-Day Written Report.** Within five business days following the two-hour notification, the Discharger shall submit a written report that includes, in addition to the information listed in Provision 5.5.2.1, above, the following:

5.5.2.2.1. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

5.5.2.2.2. Efforts implemented to minimize public exposure to the unauthorized discharge;

5.5.2.2.3. Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of receiving water) and extent of sampling if conducted;

5.5.2.2.4. Corrective measures taken to minimize the impact of the unauthorized discharge;

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[1] California Code of Regulations, Title 23, section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially-treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment, or disposal system.

5.5.2.2.5. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;

5.5.2.2.6. Summary of Spill Prevention Plan or Operation and Maintenance Manual modifications to be made, if necessary, to minimize the potential for future unauthorized discharges; and

5.5.2.2.7. Quantity and duration of the unauthorized discharge, and the amount recovered.

5.6. Planned Changes – Not supplemented

5.7. Anticipated Noncompliance – Not supplemented

5.8. Other Noncompliance – Not supplemented

5.9. Other Information – Not supplemented

6. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

8. DEFINITIONS – Addition to Attachment D

More definitions can be found in Attachment A of this NPDES Permit.

8.1. Arithmetic Calculations –

8.1.1. **Geometric Mean.** The antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

Geometric Mean = Anti log ($1/N \sum \text{Log } C_i$)

or

Geometric Mean = $(C_1 \times C_2 \times \ldots \times C_N)^{1/N}$

Where “N” is the number of data points for the period analyzed and “C” is the concentration for each of the “N” data points.

8.1.2. **Mass Emission Rate.** The rate of discharge expressed in mass. The mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N} \sum_{i=1}^{N} Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N}\sum_{i=1}^{N} Q_i C_i$$

In which "N" is the number of samples analyzed in any calendar day and "Q_i" and "C_i" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" grab samples that may be taken in any calendar day. If a composite sample is taken, "C_i" is the concentration measured in the composite sample and "Q_i" is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow weighted average of the same constituent in the combined waste streams as follows:

$$C_d = \text{Average daily concentration} = \frac{1}{Q_i}\sum_{i=1}^{N} Q_i C_i$$

In which "N" is the number of component waste streams and "Q" and "C" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" waste streams. "Q_t" is the total flow rate of the combined waste streams.

8.1.3. **Removal Efficiency.** The ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

Removal Efficiency (%) =
100 x [1 - (Effluent Concentration / Influent Concentration)]

8.2. Blending – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.

8.3. Composite Sample – a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in

the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative protocol.

8.4. Duplicate Sample – a second sample taken from the same source and at the same time as an initial sample (such samples are typically analyzed identically to measure analytical variability).

8.5. Grab Sample – an individual sample collected during a short period not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.

8.6. Overflow – the intentional or unintentional spilling or forcing out of untreated or partially-treated waste from a transport system (e.g., through manholes, at pump stations, or at collection points) upstream of the treatment plant headworks or from any part of a treatment plant.

8.7. Priority Pollutants – those constituents referred to in 40 C.F.R. part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule.

8.8. Untreated waste – raw wastewater.

Table G-2
List of Monitoring Parameters, Analytical Methods, and Minimum Levels (µg/L)[1]

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
1	Antimony	204.2	-	-	-	-	10	5	50	0.5	5	0.5	-	1000
2	Arsenic	206.3	-	-	-	20	-	2	10	2	2	1	-	1000
3	Beryllium	-	-	-	-	-	20	0.5	2	0.5	1	-	-	1000
4	Cadmium	200 or 213	-	-	-	-	10	0.5	10	0.25	0.5	-	-	1000
5a	Chromium (III)	SM 3500	-	-	-	-	-	-	-	-	-	-	-	-
5b	Chromium (VI)	SM 3500	-	-	-	10	5	-	-	-	-	-	-	1000
	Chromium (total)[3]	SM 3500	-	-	-	-	50	2	10	0.5	1	-	-	1000
6	Copper	200.9	-	-	-	-	25	5	10	0.5	2	-	-	1000
7	Lead	200.9	-	-	-	-	20	5	5	0.5	2	-	-	10,000
8	Mercury	1631[4]	-	-	-	-	-	-	-	-	-	-	-	-
9	Nickel	249.2	-	-	-	-	50	5	20	1	5	-	-	1000
10	Selenium	200.8 or SM 3114B or C	-	-	-	-	-	5	10	2	5	1	-	1000
11	Silver	272.2	-	-	-	-	10	1	10	0.25	2	-	-	1000
12	Thallium	279.2	-	-	-	-	10	2	10	1	5	-	-	1000
13	Zinc	200 or 289	-	-	-	-	20	-	20	1	10	-	-	-
14	Cyanide	SM 4500 CN^- C or I	-	-	-	5	-	-	-	-	-	-	-	-
15	Asbestos (only required for dischargers to MUN waters)[5]	0100.2[6]	-	-	-	-	-	-	-	-	-	-	-	-
16	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613	-	-	-	-	-	-	-	-	-	-	-	-
17	Acrolein	603	2.0	5	-	-	-	-	-	-	-	-	-	-
18	Acrylonitrile	603	2.0	2	-	-	-	-	-	-	-	-	-	-
19	Benzene	602	0.5	2	-	-	-	-	-	-	-	-	-	-
33	Ethylbenzene	602	0.5	2	-	-	-	-	-	-	-	-	-	-
39	Toluene	602	0.5	2	-	-	-	-	-	-	-	-	-	-
20	Bromoform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
21	Carbon Tetrachloride	601	0.5	2	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
22	Chlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
23	Chlorodibromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
24	Chloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
25	2-Chloroethylvinyl Ether	601	1	1	-	-	-	-	-	-	-	-	-	-
26	Chloroform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
75	1,2-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
76	1,3-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
77	1,4-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
27	Dichlorobromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
28	1,1-Dichloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
29	1,2-Dichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
31	1,2-Dichloropropane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
34	Methyl Bromide or Bromomethane	601	1.0	2	-	-	-	-	-	-	-	-	-	-
35	Methyl Chloride or Chloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
36	Methylene Chloride or Dichloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
37	1,1,2,2-Tetrachloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
38	Tetrachloroethylene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
40	1,2-Trans-Dichloroethylene	601	0.5	1	-	-	-	-	-	-	-	-	-	-
41	1,1,1-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
42	1,1,2-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
43	Trichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
44	Vinyl Chloride	601	0.5	2	-	-	-	-	-	-	-	-	-	-
45	2-Chlorophenol	604	2	5	-	-	-	-	-	-	-	-	-	-
46	2,4-Dichlorophenol	604	1	5	-	-	-	-	-	-	-	-	-	-
47	2,4-Dimethylphenol	604	1	2	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5	-	-	-	-	-	-	-	-	-	-
49	2,4-Dinitrophenol	604	5	5	-	-	-	-	-	-	-	-	-	-
50	2-Nitrophenol	604	-	10	-	-	-	-	-	-	-	-	-	-
51	4-Nitrophenol	604	5	10	-	-	-	-	-	-	-	-	-	-
52	3-Methyl-4-Chlorophenol	604	5	1	-	-	-	-	-	-	-	-	-	-
53	Pentachlorophenol	604	1	5	-	-	-	-	-	-	-	-	-	-
54	Phenol	604	1	1	-	50	-	-	-	-	-	-	-	-
55	2,4,6-Trichlorophenol	604	10	10	-	-	-	-	-	-	-	-	-	-
56	Acenaphthene	610 HPLC	1	1	0.5	-	-	-	-	-	-	-	-	-
57	Acenaphthylene	610 HPLC	-	10	0.2	-	-	-	-	-	-	-	-	-
58	Anthracene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5	-	-	-	-	-	-	-	-	-	-
61	Benzo(a)Pyrene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
62	Benzo(b) Fluoranthene or 3,4 Benzofluoranthene	610 HPLC	-	10	10	-	-	-	-	-	-	-	-	-
63	Benzo(ghi)Perylene	610 HPLC	-	5	0.1	-	-	-	-	-	-	-	-	-
64	Benzo(k)Fluoranthene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
74	Dibenzo(a,h)Anthracene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
86	Fluoranthene	610 HPLC	10	1	0.05	-	-	-	-	-	-	-	-	-
87	Fluorene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
92	Indeno(1,2,3-cd)Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
100	Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5	-	-	-	-	-	-	-	-	-	-
70	Butylbenzyl Phthalate	606 or 625	10	10	-	-	-	-	-	-	-	-	-	-
79	Diethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
80	Dimethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
81	Di-n-Butyl Phthalate	606 or 625	-	10	-	-	-	-	-	-	-	-	-	-
84	Di-n-Octyl Phthalate	606 or 625	-	10	-	-	-	-	-	-	-	-	-	-
59	Benzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
65	Bis(2-Chloroethoxy)Methane	625	-	5	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
66	Bis(2-Chloroethyl)Ether	625	10	1	-	-	-	-	-	-	-	-	-	-
67	Bis(2-Chloroisopropyl) Ether	625	10	2	-	-	-	-	-	-	-	-	-	-
69	4-Bromophenyl Phenyl Ether	625	10	5	-	-	-	-	-	-	-	-	-	-
71	2-Chloronaphthalene	625	-	10	-	-	-	-	-	-	-	-	-	-
72	4-Chlorophenyl Phenyl Ether	625	-	5	-	-	-	-	-	-	-	-	-	-
73	Chrysene	625	-	10	5	-	-	-	-	-	-	-	-	-
78	3,3'-Dichlorobenzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
82	2,4-Dinitrotoluene	625	10	5	-	-	-	-	-	-	-	-	-	-
83	2,6-Dinitrotoluene	625	-	5	-	-	-	-	-	-	-	-	-	-
85	1,2-Diphenylhydrazine[7]	625	-	1	-	-	-	-	-	-	-	-	-	-
88	Hexachlorobenzene	625	5	1	-	-	-	-	-	-	-	-	-	-
89	Hexachlorobutadiene	625	5	1	-	-	-	-	-	-	-	-	-	-
90	Hexachlorocyclopentadiene	625	5	5	-	-	-	-	-	-	-	-	-	-
91	Hexachloroethane	625	5	1	-	-	-	-	-	-	-	-	-	-
93	Isophorone	625	10	1	-	-	-	-	-	-	-	-	-	-
94	Naphthalene	625	10	1	0.2	-	-	-	-	-	-	-	-	-
95	Nitrobenzene	625	10	1	-	-	-	-	-	-	-	-	-	-
96	N-Nitrosodimethylamine	625	10	5	-	-	-	-	-	-	-	-	-	-
97	N-Nitrosodi-n-Propylamine	625	10	5	-	-	-	-	-	-	-	-	-	-
98	N-Nitrosodiphenylamine	625	10	1	-	-	-	-	-	-	-	-	-	-
99	Phenanthrene	625	-	5	0.05	-	-	-	-	-	-	-	-	-
101	1,2,4-Trichlorobenzene	625	1	5	-	-	-	-	-	-	-	-	-	-
102	Aldrin	608	0.005	-	-	-	-	-	-	-	-	-	-	-
103	α-BHC	608	0.01	-	-	-	-	-	-	-	-	-	-	-
104	β-BHC	608	0.005	-	-	-	-	-	-	-	-	-	-	-
105	γ-BHC (Lindane)	608	0.02	-	-	-	-	-	-	-	-	-	-	-
106	δ-BHC	608	0.005	-	-	-	-	-	-	-	-	-	-	-
107	Chlordane	608	0.1	-	-	-	-	-	-	-	-	-	-	-
108	4,4'-DDT	608	0.01	-	-	-	-	-	-	-	-	-	-	-
109	4,4'-DDE	608	0.05	-	-	-	-	-	-	-	-	-	-	-
110	4,4'-DDD	608	0.05	-	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
111	Dieldrin	608	0.01	-	-	-	-	-	-	-	-	-	-	-
112	Endosulfan (alpha)	608	0.02	-	-	-	-	-	-	-	-	-	-	-
113	Endosulfan (beta)	608	0.01	-	-	-	-	-	-	-	-	-	-	-
114	Endosulfan Sulfate	608	0.05	-	-	-	-	-	-	-	-	-	-	-
115	Endrin	608	0.01	-	-	-	-	-	-	-	-	-	-	-
116	Endrin Aldehyde	608	0.01	-	-	-	-	-	-	-	-	-	-	-
117	Heptachlor	608	0.01	-	-	-	-	-	-	-	-	-	-	-
118	Heptachlor Epoxide	608	0.01	-	-	-	-	-	-	-	-	-	-	-
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5	-	-	-	-	-	-	-	-	-	-	-
126	Toxaphene	608	0.5	-	-	-	-	-	-	-	-	-	-	-

Footnotes:

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

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

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

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

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

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

[7] Detected as azobenzene.

ATTACHMENT S – STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

CONTENTS

TABLE

ATTACHMENT S – STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

APPLICABILITY

These stormwater provisions only apply to facilities that do not direct all stormwater flows from proves areas to a wastewater treatment plant's headwork or do not enroll in NPDES Permit CAS000001 (General Permit for Stormwater Discharges Associated with Industrial Activities).

1. STORMWATER PROVISIONS – PERMIT COMPLIANCE

1.1. Stormwater Pollution Prevention Plan (SWPP)

The Discharger shall prepare a SWPPP that includes the following elements:

1.1.1. Facility name and contact information;

1.1.2. Site map;

1.1.3. List of industrial materials;

1.1.4. Description of potential sources;

1.1.5. Assessment of potential pollutant sources;

1.1.6. Minimum Best Management Practices (BMPs);

1.1.7. Advanced BMPs, if applicable;

1.1.8. Monitoring implementation plan;

1.1.9. Annual comprehensive facility compliance evaluation; and

1.1.10. Date SWPPP initially prepared and dates of each SWPPP amendment.

The SWPPP shall be designed in accordance with good engineering practices to achieve the following objectives:

- Identify and evaluate all pollutant sources that may affect stormwater discharge quality;
- Identify, assign, and implement control measures and management practices to reduce or prevent pollutants in stormwater discharges; and
- Identify and describe conditions or circumstances that may require revisions to the SWPPP.

The SWPPP shall be retained onsite, revised whenever necessary, and made available upon request of any Regional Water Board representative. The SWPPP may be combined with the Spill Prevention Plan (Attachment G section 1.3.2).

1.2. Site Map

The Discharger shall prepare one or more site maps that include notes, legends, a north arrow, and other data as appropriate to ensure the map is clear, legible and understandable, including the following:

1.2.1 The facility boundary, stormwater drainage areas within the facility boundary, and portions of any drainage area impacted by discharges from surrounding areas (the maps shall include the flow direction of each drainage area, on-facility surface water bodies, areas of soil erosion, and locations of nearby water bodies [e.g., rivers, lakes, wetlands] or municipal storm drain inlets that may receive the facility's industrial stormwater discharges and authorized non-stormwater discharges);

1.2.2. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);

1.2.3. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);

1.2.4. I dentification of all impervious areas, including paved areas, buildings, covered storage areas, or other roofed structures;

1.2.5. Locations where materials are directly exposed to precipitation and the locations where identified significant spills or leaks have occurred; and

1.2.6. Areas of industrial activity (the maps shall identify all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage and maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources).

1.3. List of Industrial Materials

The SWPPP shall contain a list of industrial materials handled at the facility and the locations where each material is stored, received, shipped, and handled, as well as the typical quantities and handling frequency.

1.4. Potential Pollutant Sources

The Discharger shall describe and assess potential stormwater pollutant sources, including the following:

1.4.1. **Industrial Processes.** Industrial processes may include manufacturing, cleaning, maintenance, recycling, and disposal. The SWPPP shall describe the type, characteristics, and approximate quantity of industrial materials used and areas protected by containment structures and the corresponding containment capacity.

1.4.2. **Material Handling and Storage Areas.** The SWPPP shall describe the type, characteristics, and quantity of industrial materials handled or stored; shipping, receiving, and loading procedures; spill and leak prevention and response procedures; and areas protected by containment structures and the corresponding containment capacity.

1.4.3. **Dust and Particulate Generating Activities.** The SWPPP shall describe the discharge locations, source type, and characteristics of the dust or particulate pollutant.

1.4.4. **Significant Spills and Leaks.** The Discharger shall evaluate the facility for areas where spills and leaks can occur. The SWPPP shall list any industrial materials spilled or leaked in significant quantities and discharged from the facility's stormwater conveyance system within the previous five years, including but not limited to any chemicals identified in 40 C.F.R. section 302 as reported on U.S. EPA Form R and any oil and hazardous substances discharged in excess of reportable quantities (40 C.F.R. §§ 110, 117, and 302). The SWPPP shall also list any industrial materials spilled or leaked in significant quantities that had the potential to be discharged from the facility's stormwater conveyance system within the previous five years. For each listed industrial material spill and leak, the SWPPP shall include the location, characteristics, and approximate quantity of the material spilled or leaked; the approximate quantity of the material discharged; the cleanup or remedial actions taken or planned; the approximate quantity of remaining material that could be discharged; and the preventive measures taken to ensure that spills or leaks do not reoccur.

1.4.5. **Non-Stormwater Discharges.** The SWPPP shall describe all non-stormwater discharges, including the source, quantity, frequency, characteristics, and associated drainage area, and indicate whether these discharges are authorized or unauthorized.

1.4.6. **Erodible Surfaces.** The SWPPP shall describe any facility locations where soil erosion may be caused by industrial activity, contact with stormwater, authorized and unauthorized non-stormwater discharges, or run-on from areas surrounding the facility.

1.5. Assessment of Potential Pollutant Sources

The SWPPP shall include a narrative assessment of all areas of industrial activity with potential industrial pollutant sources, including, at a minimum, the following:

1.5.1. Facility areas with likely sources of pollutants;

1.5.2. Pollutants likely to be present in industrial stormwater discharges;

1.5.3. Approximate quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each industrial material handled, produced, stored, recycled, or disposed;

1.5.4. Degree to which the pollutants associated with such materials may be exposed to, and mobilized by, contact with stormwater;

1.5.5. Direct and indirect pathways by which pollutants may be exposed to stormwater;

1.5.6. Sampling, visual observation, and inspection records;

1.5.7. Effectiveness of existing BMPs to reduce or prevent pollutants in industrial stormwater discharges; and

1.5.8. Estimated effectiveness of implementing, to the extent feasible, minimum BMPs to reduce or prevent pollutants in industrial stormwater discharges.

Based upon the assessment, the SWPPP shall identify facility areas where the minimum BMPs described in Provision 1.6, below, will not adequately reduce or prevent pollutants in stormwater discharges and any necessary advanced BMPs, as described in Provision 1.7, below, for those areas.

1.6. Minimum Best Management Practices (BMPs)

The Discharger shall, to the extent feasible, implement and maintain the following BMPs:

1.6.1. **Good Housekeeping.** The Discharger shall do the following:

1.6.1.1. Observe all outdoor areas associated with industrial activity, including stormwater discharge locations, drainage areas, conveyance systems, waste handling and disposal areas, and perimeter areas affected by off-facility materials or stormwater run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly;

1.6.1.2. Minimize or prevent material tracking;

1.6.1.3. Minimize dust generated from industrial materials or activities;

1.6.1.4. Ensure that all facility areas impacted by rinse or wash waters are cleaned as soon as possible;

1.6.1.5. Cover all stored industrial materials that can be readily mobilized by contact with stormwater;

1.6.1.6. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;

1.6.1.7. Prevent disposal of any rinse or wash waters or industrial materials into the stormwater conveyance system;

1.6.1.8. Minimize stormwater discharges from non-industrial areas (e.g., stormwater flows from employee parking areas) that contact industrial areas of the facility; and,

1.6.1.9. Minimize authorized non-stormwater discharges from non-industrial areas (e.g., potable water, fire hydrant testing) that contact areas of the sanitary or industrial facility.

1.6.2. **Preventative Maintenance.** The Discharger shall (1) identify all equipment and systems used outdoors that may spill or leak pollutants, (2) observe the identified equipment and systems to detect leaks or identify conditions that may result in the development of leaks, (3) establish an appropriate schedule for maintenance of identified equipment and systems, and (4) establish procedures for prompt maintenance and repair of equipment and maintenance of systems when conditions exist that may result in the development of spills or leaks.

1.6.3. **Spill and Leak Prevention and Response.** The Discharger shall (1) establish procedures and controls to minimize spills and leaks; (2) develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system (spilled or leaked industrial materials shall be cleaned promptly and disposed of properly); (3) identify and describe all necessary and appropriate spill and leak response equipment, locations of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and (4) identify and train appropriate spill and leak response personnel.

1.6.4. **Material Handling and Waste Management.** The Discharger shall do the following:

1.6.4.1. Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm;

1.6.4.2. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powers, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;

1.6.4.3. Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;

1.6.4.4. Divert run-on and stormwater generated from within the facility away from all stockpiled materials;

1.6.4.5. Clean all spills of industrial materials or wastes that occur during handling in accordance with spill response procedures; and,

1.6.4.6. Observe and clean, as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

1.6.5. **Erosion and Sediment Control.** The Discharger shall (1) implement effective wind erosion controls; (2) provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storms; (3) maintain effective perimeter controls and stabilize site entrances and exits to sufficiently control discharges of erodible materials; and (4) divert run-on and stormwater generated from within the facility away from erodible materials.

1.6.6. **Employee Training.** The Discharger shall ensure that all personnel implementing the SWPPP are properly trained with respect to BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities. The Discharger shall identify which personnel need to be trained, their responsibilities, and the type of training they are to receive and maintain documentation of completed training and the personnel that received the training with the SWPPP.

1.6.7. **Quality Assurance and Record Keeping.** The Discharger shall (1) develop and implement management procedures to ensure that appropriate personnel implement all SWPPP elements; (2) develop methods of tracking and recording BMP implementation; and (3) maintain BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years.

1.7. Action Levels and Advanced BMPs

If the Discharger samples total suspended solids (TSS), oil and grease, or pH in excess of an action level in Table S-1, the Discharger shall review the SWPPP to identify appropriate modifications to existing BMPs or additional BMPs as necessary to reduce pollutant discharge concentrations to levels below the action level. The Discharger shall revise the SWPPP accordingly before the next storm, if possible, or as soon as practical, and in no event later than three months following the exceedance.

Table S-1. Stormwater Action Levels

Parameter	Unit	Instantaneous Action Level	Annual Action Level
Total Suspended Solids	mg/L	400	100
Oil and Grease	mg/L	25	15
pH	s.u.	6.0-9.0[1]	----

Footnotes:

[1] Values below or above this range require action.

If, upon subsequent monitoring, the pollutants measured in Table S-1 continue to exceed their respective action levels, the Discharger shall further evaluate its BMPs and update its SWPPP accordingly to include advanced BMPs in addition to the minimum BMPs described in Provision 1.6, above. The Discharger shall, to the extent feasible, implement and maintain any advanced BMPs identified pursuant to Provision 1.5.8, above, as necessary to reduce or prevent discharges of pollutants in stormwater discharges in a manner that reflects best industry practice considering technological availability and economic practicability and achievability. Advanced BMPs may include one or more of the following:

1.7.1. **Exposure Minimization BMPs**. These include storm resistant shelters (either permanent or temporary) that prevent the contact of stormwater with identified industrial materials.

1.7.2. **Stormwater Containment and Discharge Reduction BMPs.** These include BMPs that divert, infiltrate, reuse, contain, retain, or reduce the volume of stormwater runoff.

1.7.3. **Treatment Control BMPs.** These include mechanical, chemical, biologic, or any other treatment technology that will meet the treatment design standard.

1.8. BMP Descriptions

The SWPPP shall identify each BMP being implemented at the facility, including the following:

1.8.1. The pollutants the BMP is designed to reduce or prevent;

1.8.2. The frequency, times of day, or conditions when the BMP is scheduled for implementation;

1.8.3. The locations within each area of industrial activity or industrial pollutant source where the BMP shall be implemented;

1.8.4. The individual responsible for implementing the BMP;

1.8.5. The procedures, including maintenance procedures, and instructions to implement the BMP effectively; and

1.8.6. The equipment and tools necessary to implement the BMP effectively.

1.9. Annual Comprehensive Facility Compliance Evaluation

The Discharger shall conduct one annual facility evaluation for each reporting year (July 1 to June 30). If the Discharger conducts an annual evaluation fewer than 8 months, or more than 16 months, after it conducts the previous annual evaluation, it shall document the justification for doing so. The Discharger shall revise the SWPPP, as appropriate, and implement the revisions within 90 days of the annual evaluation. At a minimum, the annual evaluations shall consist of the following:

1.9.1. A review of all sampling, visual observation, and inspection records conducted during the previous reporting year;

1.9.2. An inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the stormwater conveyance system;

1.9.3. An inspection of all drainage areas previously identified as having no exposure to industrial activities and materials;

1.9.4. An inspection of equipment needed to implement the BMPs; and

1.9.5. An assessment of any other factors needed to comply with the requirements of the Annual Stormwater Report (see Provision 3.1, below).

2. STORMWATER PROVISIONS – MONITORING

2.1. Monthly Visual Observations

2.1.1. At least once per month, the Discharger shall visually observe each drainage area for the following:

2.1.1.1. The presence or indication of prior, current, or potential unauthorized non-stormwater discharges and their sources;

2.1.1.2. Authorized non-stormwater discharges, sources, and associated BMPs; and

2.1.1.3. Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential sources of industrial pollutants.

2.1.2. The monthly visual observations shall be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.

2.1.3. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted monthly visual observations (see Provision 3.1, below).

2.2. Sampling Event Visual Observations

Sampling event visual observations shall be conducted at the same time sampling occurs at a discharge location. At each discharge location where a sample is obtained, the Discharger shall observe the discharge of stormwater associated with industrial activity.

2.2.1. The Discharger shall ensure that visual observations of stormwater discharged from containment sources (e.g., secondary containment or storage ponds) are conducted at the time that the discharge is sampled.

2.2.2. If the Discharger employs volume-based or flow-based treatment BMPs, it shall sample any bypass that occurs while the visual observations and sampling of stormwater discharges are conducted.

2.2.3. The Discharger shall visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and sources of any discharged pollutants.

2.2.4. If a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.

2.2.5. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted sampling event visual observations (see Provision 4.1, below).

2.3. Visual Observation Records

The Discharger shall maintain records of all visual observations. Records shall include the date, approximate time, locations observed, presence and probable source of any observed pollutants, name of persons who conducted the observations, and any response actions and/or additional SWPPP revisions necessary in response to the visual observations.

2.4. SWPPP Revisions

The Discharger shall revise its BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed.

2.5. Sampling and Analysis

2.5.1. The Discharger shall collect and analyze stormwater samples as specified in the MRP.

2.5.2. Samples shall be (1) representative of stormwater associated with industrial activities and any commingled authorized non-stormwater dischargers; or (2) associated with the discharge of contained stormwater.

2.5.3. On a facility-specific basis, the Discharger shall also analyze additional parameters that serve as indicators of the presence of all industrial pollutants identified in the pollutant source assessment. These additional parameters may be modified (added or removed) in accordance with any updated SWPPP pollutant source assessment.

3. STORMWATER PROVISIONS – REPORTING

3.1. Annual Stormwater Report

The results of the Discharger's Annual Comprehensive Facility Compliance Evaluation shall be reported in the Annual Stormwater Report to the Regional Water Board no later than July 30. The Discharger shall include in the Annual Stormwater Report the following:

3.1.1. A compliance checklist that indicates whether the Discharger has complied with or addressed all applicable requirements of the SWPPP;

3.1.2. An explanation for any non-compliance requirements within the reporting year, as indicated in the compliance checklist;

3.1.3. An identification, including page numbers and sections, of all revisions made to the SWPPP within the reporting year; and

3.1.4. The date(s) of the annual evaluation.

4. STORMWATER PROVISIONS – DEFINTIONS

4.1. Authorized Non-Stormwater Discharges – non-stormwater discharges are authorized if they meet the following conditions:

4.1.1. Fire-hydrant and fire prevention or response system flushing;

4.1.2. Potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems;

4.1.3. Drinking fountain water and atmospheric condensate, including refrigeration, air conditioning, and compressor condensate;

4.1.4. Irrigation drainage and landscape watering, provided that all pesticides, herbicides, and fertilizers have been applied in accordance with manufacturer's labels;

4.1.5. Uncontaminated natural springs, groundwater, foundation drainage, footing drainage;

4.1.6. Seawater infiltration where the seawater is discharged back into the source; or,

4.1.7. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from cooling towers (e.g., “piped” cooling tower blowdown or drains).

4.2. Stormwater – stormwater runoff, snow melt runoff, and surface runoff and drainage, excluding infiltration and runoff from agricultural land.