

San Francisco Bay Regional Water Quality Control Board

TENTATIVE ORDER No. R2-2017-XXXX NPDES No. CA0038768

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

Table 1. Discharger Information

Discharger	City of American Canyon
Facility Name	American Canyon Water Reclamation Facility and its collection system
Facility Address	151 Mezzetta Court American Canyon, CA 94503 Napa County
CIWQS Place Number	205477

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Advanced-Secondary Treated Municipal Wastewater	38.1879°N	-122.2771°W	North Slough
003	Advanced-Secondary Treated Municipal Wastewater	38.1849°N	-122.2791°W	Constructed Freshwater Wetlands

Table 3. Administrative Information

This Order was adopted on:	<DATE>
This Order shall become effective on:	May 1, 2017
This Order shall expire on:	April 30, 2022
CIWQS Regulatory Measure Number	< Number>
The Discharger shall file a Report of Waste Discharge for updated WDRs in accordance with California Code of Regulations, title 23, and as an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	August 3, 2021
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Major

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on the date indicated above.

Bruce H. Wolfe, Executive Officer

Contents

I.	Facility Information	4
II.	Findings	4
III.	Discharge Prohibitions	4
IV.	Effluent Limitations and Discharge Specifications	5
V.	Receiving Water Limitations	7
VI.	Provisions	8
	A. Standard Provisions	8
	B. Monitoring and Reporting	8
	C. Special Provisions	8
	1. Reopener Provisions	8
	2. Effluent Characterization Study and Report	9
	3. Pollutant Minimization Program	10
	4. Special Provisions for Publicly Owned Treatment Works (POTWs)	12
	5. Other Special Provisions	13

Tables

Table 1.	Discharger Information	1
Table 2.	Discharge Locations	1
Table 3.	Administrative Information	1
Table 4.	Effluent Limitations	5
Table 5.	Copper Action Plan	13
Table 6.	Cyanide Action Plan	14

Attachments

Attachment A – Definitions	A-1
Attachment B – Facility Maps	B-1
Attachment C – Process Flow Diagrams	C-1
Attachment D – Federal Standard Provisions	D-1
Attachment E – Monitoring and Reporting Program (MRP)	E-1
Attachment F – Fact Sheet	F-1
Attachment G – Regional Standard Provisions and Monitoring and Reporting Requirements	G-1
Attachment H – Pretreatment Requirements	H-1

I. FACILITY INFORMATION

Information describing the American Canyon Water Reclamation Facility and its collection system (collectively, the Facility) is summarized in Table 1 and Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), finds:

- A. 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 a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States as listed in Table 2 subject to the WDRs in this Order.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) 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 H are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** Provisions VI.C.5.c and d, and Attachment E (Monitoring and Reporting Program [MRP]), section IV.B of this Order implement State law only. They are not required or authorized under the federal CWA; consequently, violations of these provisions are subject to the enforcement remedies available under the Porter-Cologne Water Quality Control Act.
- D. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2011-0046 (previous order) is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions of 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 past violations of the previous order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater at a location or in a manner different than described in this Order is prohibited.

- B.** Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section I.G.
- C.** Average dry weather effluent flow in excess of 2.5 million gallons per day is prohibited at Discharge Point No. 001 and the point where effluent is diverted to the recycled water system (combined). Average dry weather effluent flow shall be determined from three consecutive dry weather months each year, with compliance based on flows measured at Monitoring Locations EFF-001 and REC-001, described in the MRP.
- D.** Any sanitary sewer overflow that results in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited.
- E.** Discharge to the receiving water at Discharge Point No. 001 to the North Slough is prohibited during the dry season of each year, from May 1 through October 31, unless Facility inflow will exceed the influent storage capacity (after factoring in anticipated wet weather storage needs) and Facility effluent flow will exceed the capacity of the recycled water distribution and storage system (described in Fact Sheet section II.A.5) to meet recycled water demand. Discharge shall not arise as a result of the Discharger's failure to produce, use, or supply demand for recycled water that the Regional Water Board has authorized. Discharge during the dry season shall be monitored and meet applicable effluent limitations and discharge specifications, and shall consist of fully treated effluent.

If there is discharge during the dry weather season, the Discharger shall describe in the transmittal letter of the next self-monitoring report the reasons for the discharge, with supporting information, and include a table that describes the volume and duration of the discharge to the receiving water. In accordance with the MRP, all discharge volume and quality data shall be reported in the appropriate monthly self-monitoring report.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The Discharger shall comply with the following effluent limitations at Discharge Point Nos. 001 and 003, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	10	15	---	---	---
Total Suspended Solids (TSS)	mg/L	10	15	---	---	---
Oil and Grease	mg/L	---	---	10	---	---
pH ^[1]	standard units	---	---	---	6.5	8.5
Total Residual Chlorine ^[2]	mg/L	---	---	---	---	0.0
Turbidity	NTU	---	---	10	---	---
Copper, Total Recoverable	µg/L	10	---	16	---	---
Nickel, Total Recoverable	µg/L	7.6	---	11	---	---
Cyanide, Total	µg/L	6.9	---	14	---	---
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	2.8 x 10 ⁻⁸	---	---
Ammonia, Total	mg/L as N	2.0	3.0	---	---	---

Unit Abbreviations:

mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
µg/L = micrograms per liter
NTU = nephelometric turbidity units

Footnotes:

- [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.
- [2] The Discharger may elect to use a continuous on-line monitoring system for measuring flows, chlorine, and sulfur dioxide dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that false positive chlorine residual exceedances are not violations of the effluent limitation.

- A. Percent Removal.** In each calendar month, the average monthly BOD₅ and TSS percent removal shall not be less than 85 percent at Discharge Point Nos. 001 and 003, with compliance evaluated using effluent data at Monitoring Location EFF-001 and influent data at Monitoring Locations INF-001 and INF-002 as described in the MRP. The arithmetic mean effluent BOD₅ and TSS concentration at Monitoring Location EFF-001 shall not exceed 15 percent of the flow-weighted arithmetic mean influent BOD₅ and TSS concentrations at Monitoring Locations INF-001 and INF-002.
- B. Enterococcus.** Discharges at Discharge Point Nos. 001 and 003 shall comply with an enterococci bacteria effluent limitation of 35 most probable number per 100 milliliters (MPN/100 mL) as a geometric mean of all samples in a calendar month, with compliance measured at Monitoring Location EFF-001 as described in the MRP.
- C. Acute Toxicity.** Discharges at Discharge Point Nos. 001 and 003 shall comply with the following limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:
1. An 11-sample median value of not less than 90 percent survival; and
 2. An 11-sample 90th percentile value of not less than 70 percent survival.

These acute toxicity limitations are defined as follows:

- **11-sample median.** A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.
- **11-sample 90th percentile.** A bioassay test showing survival of less than 70 percent represents 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.

If the Discharger can demonstrate that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge complies with the total ammonia effluent limitations in Tables 4 of this Order, then such toxicity does not constitute a violation of this effluent limitation.

V. RECEIVING WATER LIMITATIONS

- A.** The discharge shall not cause the following conditions to exist in receiving waters at any place:
1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
 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;
 3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
 4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 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;
 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;
 7. Coloration that causes nuisance or adversely affects beneficial uses;
 8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
 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.
- B.** The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:
1. Dissolved Oxygen 5.0 mg/L, minimum
 (during dry season from May 1 through October 31)
 7.0 mg/L, minimum
 (all other times)
 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.
 2. Dissolved Sulfide Natural background levels.

3. 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.

- C. 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 outside the near-field mixing zone. 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.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all “Standard Provisions” in Attachment D.
2. The Discharger shall comply with all applicable provisions of the “Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits” (Attachment G).

B. Monitoring and Reporting

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto, and applicable sampling and reporting requirements in Attachments D and G.

C. Special Provisions

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:

- a. If present or future investigations demonstrate that the discharges governed by this Order have or will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b. 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 and wasteload allocations in the TMDLs. 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.
- c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- d. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.

- e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Permit No. CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a storm water pollutant control strategy.
- g. If the Discharger discharges during May 1 through October 31 and the discharge resulted from the Discharger's failure to produce, use, or supply demand for recycled water that the Regional Water Board has authorized.
- h. Or as otherwise authorized by law.

The Discharger may request a permit modification based on any of the circumstances above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses.

2. Effluent Characterization Study and Report

- a. **Study Elements.** The Discharger shall continue to characterize and evaluate the discharge from the following discharge points to verify that the "no" or "unknown" reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples at the monitoring station set forth below, as defined in the MRP, at no less than the frequency specified below:

Discharge Points	Monitoring Location	Minimum Frequency
001 and 003	EFF-001	Once per year

In addition, if there is a discharge from Discharge Point No. 001 during the dry season (i.e., from May 1 through October 31) lasting more than four days, the Discharger shall collect an additional sample.

The samples shall be analyzed for the priority pollutants listed in Attachment G, Table C, except for those priority pollutants with effluent limitations where the MRP already requires more frequent monitoring, and except for those pollutants for which there are no water quality criteria (see Fact Sheet Table F-6). Compliance with this requirement shall be achieved in accordance with the specifications of Attachment G sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any of these pollutants 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 excursion above 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 VI.C.3.

b. Reporting Requirements

- i. Routine Reporting.** The Discharger shall, within 45 days of receipt of analytical results, report the following in the transmittal letter for the appropriate self-monitoring report:
 - (a)** Indication that a sample for this characterization study was collected; and
 - (b)** Identification of priority pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-6 for the criteria), and the detected concentrations of those pollutants.
- ii. Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report.
- iii. Final Report.** The Discharger shall submit a final report that presents all these data with the application for permit reissuance.

3. Pollutant Minimization Program

- a.** 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.
- b.** The Discharger shall submit an annual report no later than February 28 each year. Each annual report shall include at least the following information:
 - i. Brief description of treatment plant.** The description shall include the service area and treatment plant processes.
 - ii. 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.
 - iii. 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.
 - iv. 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.

- v. 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 treatment facilities. The Discharger may provide a forum for employees to provide input.
- vi. Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.
- vii. 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 VI.C.3.b.iii, iv, v, and vi.
- viii. Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
- ix. Evaluation of Pollutant Minimization Program and task effectiveness.** This Discharger shall use the criteria established in Provision VI.C.3.b.vii to evaluate the program and task effectiveness.
- x. 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.
- c.** 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:

 - i.** A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
 - ii.** A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.
- d.** If triggered by the reasons set forth in Provision VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:

- i. 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;
- ii. Quarterly monitoring for the reportable priority pollutants in the influent to the Facility. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;
- iii. 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;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
- v. Inclusion of the following specific items within the annual report required by Provision VI.C.3.b above:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) List of potential sources of the reportable priority pollutants;
 - (c) Summary of all actions undertaken pursuant to the control strategy; and
 - (d) Description of actions to be taken in the following year.

4. Special Provisions for Publicly Owned Treatment Works (POTWs)

- a. **Pretreatment Program.** The Discharger shall implement and enforce its pretreatment program in accordance with the substantive requirements in federal pretreatment regulations (40 C.F.R. part 403) and the requirements in Attachment H, "Pretreatment Requirements," except that the Discharger is not required to have a pretreatment program that meets the criteria established in 40 CFR 403.9 or requires approval in accordance with 40 CFR 403.11. The Discharger's responsibilities include, but are not limited to, the following:
 - i. Enforcement of the National Pretreatment Standards of 40 C.F.R. sections 403.5 and 403.6;
 - ii. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 C.F.R. part 403);
 - iii. Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H; and
 - iv. Evaluation of the need to revise local limits under 40 C.F.R. section 403.5(c)(1) and, within 180 days following the effective date of this Order, submission of a report describing the changes, with a plan and schedule for implementation.

b. Sludge and Biosolids Management

- i. Sludge and biosolids treatment and storage shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
 - ii. Sludge and biosolids treatment and storage facilities shall be adequate to divert surface runoff from adjacent areas, to protect site boundaries from erosion, and to prevent conditions that would cause drainage from stored materials. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal state that may occur.
 - iii. This Order does not authorize permanent onsite sludge or biosolids storage or disposal. A Report of Waste Discharge shall be filed and the site brought into compliance with applicable regulations prior to commencement of any such activity.
- c. **Collection System Management.** The Discharger is subject to the requirements of, and shall comply with, State Water Board Order No. 2006-0003-DWQ (Statewide General Waste Discharge Requirements for Sanitary Sewer Systems), as amended by State Water Board Order No. WQ 2013-0058-EXEC and any subsequent order updating these requirements.

5. Other Special Provisions

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

Table 5. Copper Action Plan

Task	Compliance Date
<p>1. Implement Copper Control Program</p> <p>Continue implementing existing program described in the Discharger's plan dated February 28, 2012, to reduce identified copper sources, including, as applicable, taking the following actions:</p> <ol style="list-style-type: none"> a. Providing education and outreach to the public (e.g., focusing on proper pool and spa maintenance and plumbers' roles in reducing corrosion); b. If corrosion is a significant copper source, working cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensuring that local plumbing contractors implement best management practices to reduce corrosion in pipes; and c. Educating plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges. 	Implementation shall be ongoing.
<p>2. Implement Additional Actions</p> <p>If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration in San Pablo Bay exceeds 3.0 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.</p>	With next annual pollution prevention report due February 28 (at least 90 days following notification).
<p>3. Report Status</p> <p>Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 2 above, and provides a schedule for actions to be taken within the next 12 months.</p>	With annual pollution prevention report due February 28 each year.

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

Table 6. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Sources Submit an up-to-date inventory of potential cyanide sources. If no cyanide source is identified, Tasks 2 and 3, below, are not required unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. In this case, notify the Executive Officer and implement Tasks 2 and 3.	With annual pollution prevention report due February 28, 2018
2. Implement Cyanide Control Program Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements: <ul style="list-style-type: none"> 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. Inspection elements may be based on U.S. EPA guidance, such as <i>Industrial User Inspection and Sampling Manual for POTWs</i> (EPA 831-B-94-01). c. Develop and distribute educational materials regarding the need to prevent cyanide discharges to sources included in the control program. d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. e. Collect a follow-up influent cyanide sample within 5 days of becoming aware of an influent cyanide concentration greater than 23 µg/L. For purposes of this Order, a “significant cyanide discharge” is occurring if the follow-up sample cyanide concentration also exceeds 23 µg/L.	Implementation shall be ongoing.
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 prevention 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.	With annual pollution prevention report due February 28 each year

- c. Anaerobically Digestible Material.** If the Discharger receives hauled-in anaerobically-digestible material for injection into an anaerobic digester, the Discharger shall notify the Regional Water Board and develop and implement Standard Operating Procedures for this activity. The Standard Operating Procedures shall be developed by the effective date of this Order or prior to initiation of hauling. The Standard Operating Procedures shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; spill response; avoidance of the introduction of materials that could cause interference, pass through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall train its staff on the Standard Operating Procedures and maintain records for a minimum of three years for each load received,

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

- d. Constructed Freshwater Wetlands Management.** The Discharger shall continue to operate and maintain the constructed wetlands in accordance with the Discharger's *Constructed Wetlands Demonstration Project Management Plan* (August 2001), or the most recent version developed in accordance with the Regional Water Board's *Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands* (Resolution No. 94-086). The Discharger shall include monitoring results from any monitoring described in the plan in its monthly self-monitoring reports, and shall report results of the wildlife monitoring census described in the plan quarterly. The Discharger shall report any factors that could affect the finding of net environmental benefit (see Fact Sheet section IV.B) in its annual report. Such factors could include, for example, changes in the ability of the discharge to support freshwater wetlands or changes in plant and animal species and uses.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

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

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

Average Monthly Effluent Limitation (AMEL)

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

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Carcinogenic

Known to cause cancer in living organisms.

Coefficient of Variation

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

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

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

Detected, but Not Quantified (DNQ)

Sample result 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 by conducting a mixing zone study or modeling the discharge and receiving water.

Effluent Concentration Allowance (ECA)

Value derived from the water quality criterion/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 Bay

Indentation along the coast that encloses an area of oceanic water within a 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 the substance below the ML value 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 are 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 include, 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 do not include 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 set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between $n/2$ and $n/2+1$).

Method Detection Limit (MDL)

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

Minimum Level (ML)

Concentration at which the entire analytical system gives 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 the 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 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 that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in 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 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. 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 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 having a municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)

Measure of variability calculated as follows:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

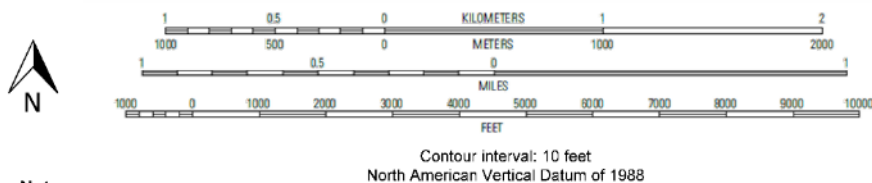
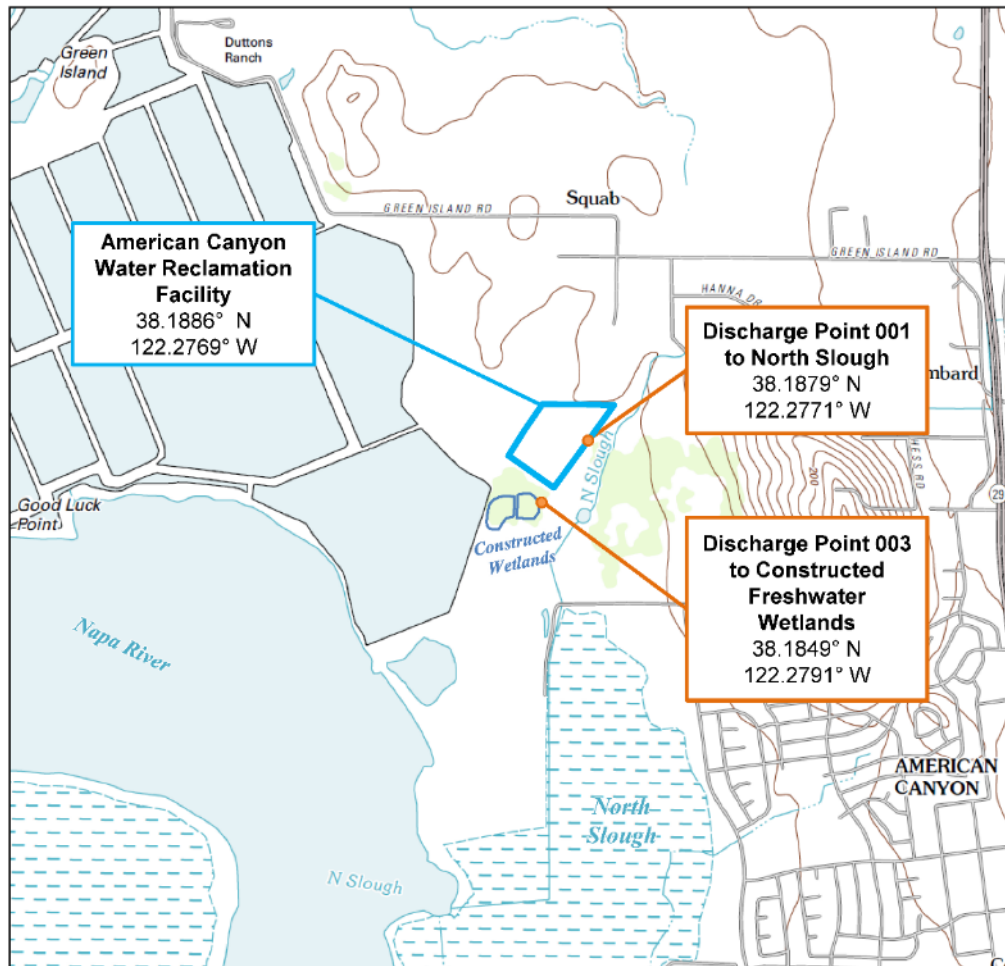
Toxicity Reduction Evaluation (TRE)

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.

ATTACHMENT B – FACILITY MAPS

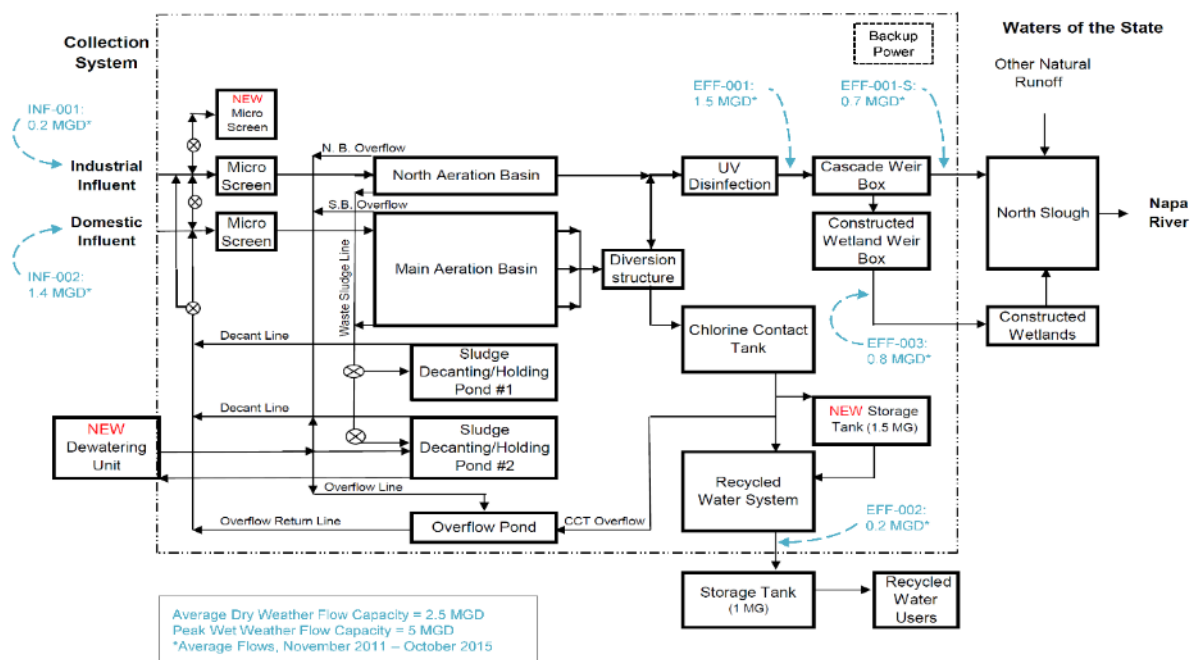
City of American Canyon
American Canyon Water Reclamation Facility
NPDES Permit No. CA0038768

Figure 1: Topographic Map of Facility and Discharge Points



Notes:
Background is an excerpt from the 2015 USGS 7.5 Minute Maps for the Cuttings Wharf Quadrangle.
There are no spring or drinking water wells located within 1/4 mile of the facility.

ATTACHMENT C – PROCESS FLOW DIAGRAMS



City of American Canyon - American Canyon Water Reclamation Facility - NPDES Permit No. CA0038768

Figure 4: Treatment Plant Flow Schematic

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS—PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or 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.)
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).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. 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).)

D. Proper Operation and Maintenance

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

E. Property Rights

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

F. Inspection and Entry

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

G. Bypass

1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

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

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment

should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

- c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

- 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 I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

- a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)
- b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

H. 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. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.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).)
- 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)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

- b.** The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c.** The Discharger submitted notice of the upset as required in Standard Provisions—Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d.** The Discharger complied with any remedial measures required under Standard Provisions—Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
- 3. Burden of proof.** In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS—MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B.** 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 required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
 - 1.** The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either (a) the method ML is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter, or (b) the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in a facility's discharge is

high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

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).)

IV. STANDARD PROVISIONS—RECORDS

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

V. STANDARD PROVISIONS—REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which 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.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)
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: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 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 municipality, State, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).)

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 V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

- c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions—Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)
6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)
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).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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, 2020, 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 V.J. 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).)

2. The following shall be included as information that must be reported within 24 hours:
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (Alternatively, for 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 VII.A.1).) (40 C.F.R. § 122.41(l)(1)(ii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State 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).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions—Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision—Reporting V.E 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 V.E 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).)

I. Other Information

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

J. 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. § 127.2(c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS—ENFORCEMENT

- A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. 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)):

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)):
 - a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 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));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
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)):
 - a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. 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)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(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 (MRP)

Contents

I.	General Monitoring Provisions	E-2
II.	Monitoring Locations	E-2
III.	Influent Monitoring Requirements	E-3
IV.	Effluent Monitoring Requirements.....	E-4
	A. Discharge Point Nos. 001 and 003	E-4
	1. Monitoring Location EFF-001	E-4
	2. Monitoring Location EFF-001-S	E-5
	3. Monitoring Location EFF-003	E-6
	B. Recycled Water Distribution.....	E-6
V.	Toxicity Testing Requirements	E-7
	A. Acute Toxicity.....	E-7
	B. Chronic Toxicity	E-7
VI.	Receiving Water Monitoring Requirements.....	E-11
VII.	Pretreatment and Biosolids Monitoring Requirements	E-12
VIII.	Reporting Requirements	E-13
	A. General Monitoring and Reporting Requirements.....	E-13
	B. Self-Monitoring Reports (SMRs).....	E-13
	C. Discharge Monitoring Reports (DMRs)	E-16
IX.	Modifications to Attachment G	E-16
X.	Modifications to Attachment H	E-19

Tables

Table E-1.	Monitoring Locations	E-2
Table E-2.	Influent Monitoring	E-3
Table E-3.	Effluent Monitoring – Monitoring Location EFF-001	E-4
Table E-4.	Effluent Monitoring – Monitoring Location EFF-001-S.....	E-5
Table E-5.	Effluent Monitoring – Monitoring Location EFF-003	E-6
Table E-6.	Effluent Monitoring – Monitoring Location REC-001	E-6
Table E-7.	Receiving Water Monitoring	E-11
Table E-8.	Pretreatment and Biosolids Monitoring.....	E-12
Table E-9.	CIWQS Reporting	E-14
Table E-10.	Monitoring Periods	E-14

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State laws and regulations.

I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. 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), this MRP shall prevail.
- B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, 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.
- C. The Discharger shall ensure that 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

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Sampling Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Influent	INF-001	Any point at the plant headworks where all waste tributary to the North Aeration Basin (i.e., industrial waste) is present and preceding any phase of treatment. <i>Discharge Point: Latitude 38.18772°N Longitude – 122.27817°W</i>
Influent	INF-002	Any point at the plant headworks where all waste tributary to the Main Aeration Basin (i.e., domestic waste) is present and preceding any phase of treatment. <i>Discharge Point: Latitude 38.18772°N Longitude – 122.27817°W</i>
Effluent	EFF-001	Any point following all treatment, including disinfection, prior to the cascade weir box where effluent is diverted either to Discharge Point No. 001 or 003. <i>Latitude 38.18819°N Longitude – 122.27733°W</i>
Effluent	EFF-001-S	Any point in the plant outfall to the North Slough after aeration at the cascade weir box and prior to contact with the receiving water. <i>Latitude 38.18792°N Longitude – 122. 27713°W</i>

Sampling Location Type	Monitoring Location Name	Monitoring Location Description ^[1]
Effluent	REC-001 (formerly EFF-002)	Any point following all treatment, including disinfection, after diversion to the Recycled Water System and prior to distribution to recycled water users. <i>Latitude 38.18830°N Longitude – 122.27719°W</i>
Effluent	EFF-003	Any point in the plant outfall to the constructed freshwater wetlands after the cascade weir box and prior to contact with the constructed wetlands. <i>Latitude 38.18792°N Longitude – 122.27719°W</i>
Receiving Water	RSW-001	A point in the North Slough directly above the center of the outfall. <i>Latitude 38.18781°N Longitude – 122.27706°W</i>
Receiving Water	RSW-002	A point in the North Slough 500 feet downstream of the center of the outfall. <i>Latitude 38.18653 °N Longitude – 122.27708°W</i>
Receiving Water	RSW-003	A point in the North Slough 2,000 feet downstream of the center of the outfall. <i>Latitude 38.18111°N Longitude – 122.27811°W</i>
Receiving Water	RSW-004	Any point in Pond 1 of the constructed freshwater wetlands. <i>Latitude 38.18486°N Longitude – 122.28036°W</i>
Receiving Water	RSW-005	Any point in Pond 2 of the constructed freshwater wetlands. <i>Latitude 38.18397°N Longitude – 122.28144°W</i>
Biosolids	BIO-003	Any point after dewatering (i.e., post-screw press) and before disposal.

Footnote:

^[1] Latitudes and longitudes are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor treatment plant influent at Monitoring Location INF-001 and INF-002 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week ^[2]
Total Suspended Solids (TSS)	mg/L	C-24	1/Week ^[2]
Cyanide ^[3]	µg/L	Grab	1/Month

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons
mg/L = milligrams per liter
µg/L = micrograms per liter

Sample Types

C-24 = 24-hour composite sample
Continuous = measured continuously
Grab = grab sample

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily
1/Week = once per week
1/Month = once per month

Footnotes:

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

- Daily average flow (MGD)
 - Total monthly flow volume (MG)
- [2] BOD₅ and TSS samples shall be collected concurrently with effluent samples.
- [3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Discharge Point Nos. 001 and 003

1. Monitoring Location EFF-001

The Discharger shall monitor discharges from Discharge Point Nos. 001 and 003 at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D
pH ^[2]	standard units	Continuous or Grab	5/Week ^[3]
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅) ^[4]	mg/L	C-24	1/Week
Total Suspended Solids (TSS) ^[4]	mg/L	C-24	1/Week
Oil and Grease	mg/L	Grab	1/Month
Total Residual Chlorine	mg/L	Grab	Continuous/H ^[5]
Enterococcus Bacteria ^[6]	MPN/100mL	Grab	2/Week
Turbidity	NTU	C-24	2/Week
Temperature ^[7]	°C	Grab	5/Week ^[3]
Salinity	ppt	Grab	1/Week
Acute Toxicity ^[8]	% Survival	Flow-through	1/Month
Chronic Toxicity ^[9]	TU _c	C-24	1/Quarter
Ammonia, Total	mg/L as N	C-24	1/Month ^[3]
Copper, Total Recoverable	µg/L	C-24	1/Month
Nickel, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total ^[10]	µg/L	Grab	1/Month
Dioxin-TEQ	µg/L	Grab	2/Year
Standard Observations ^[11]	---	---	1/Month

Unit Abbreviations:

MGD	= million gallons per day
MG	= million gallons
mg/L	= milligrams per liter
mg/L as N	= milligrams per liter as nitrogen
µg/L	= micrograms per liter
MPN/100 mL	= most probable number per 100 milliliters
NTU	= Nephelometric Turbidity Units
TU _c	= chronic toxicity units, equal to 100/NOEL, where NOEL = IC ₂₅ , EC ₂₅ , or NOEC
°C	= degrees Celsius
%	= percent
% survival	= percent survival

Sample Types:

C-24 = 24 hour composite
Grab = grab sample
Continuous = measured continuously
Flow-through = continuous flow of diverted treated effluent for the duration of the acute toxicity bioassay

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily
Continuous/H = measured continuously (or, if infeasible, at least hourly), and recorded and reported daily
1/Week = once per week
2/Week = two times per week
5/Week = once per day five days per week
1/Month = once per month
1/Quarter = once per quarter
2/Year = twice per year

Footnotes:

- [1] The following flow information shall be reported in monthly self-monitoring reports:
 - Daily average flow (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.
- [3] Ammonia, temperature, and pH monitoring shall occur concurrently to allow for calculation of the un-ionized ammonia fraction. If pH or temperature is monitored continuously, the daily average may be used to calculate the un-ionized ammonia fraction.
- [4] BOD₅ and TSS samples shall be collected concurrently with influent samples. BOD₅ and TSS percent removal shall be reported for each calendar month in accordance with section IV.B of the Order.
- [5] When chlorine is used for disinfection, effluent residual chlorine concentrations shall be monitored at least hourly. The Discharger shall describe all excursions of the chlorine limit in the transmittal letter of self-monitoring reports as required by Attachment G section V.C.1.a.
- [6] Results may be reported as colony forming units per 100 milliliters (CFU/100 mL) if the laboratory method used provides results in CFU/100 mL.
- [7] If temperature is monitored continuously, the daily average temperature for each day shall be reported in self-monitoring reports.
- [8] Acute bioassay tests shall be performed in accordance with MRP section V.A.
- [9] Chronic bioassay tests shall be performed in accordance with MRP section V.B.
- [10] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest edition.
- [11] Consistent with section III.C.2 of the Regional Standard Provisions (Attachment G).

2. Monitoring Location EFF-001-S

The Discharger shall monitor discharges from Discharge Point No. 001 (to the North Slough) at Monitoring Location EFF-001-S as follows:

Table E-4. Effluent Monitoring – Monitoring Location EFF-001-S

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons
mg/L = milligrams per liter
% Saturation = percent saturation

Sampling Types:

Continuous = measured continuously
Grab = grab sample

Sampling Frequencies

Continuous/D = measured continuously, and recorded and reported daily
1/Week = once per week

Footnote:

- ^[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
 - Total monthly flow volume (MG)

3. Monitoring Location EFF-003

The Discharger shall monitor discharges from Discharge Point No. 003 (to the constructed wetlands) at Monitoring Location EFF-003 as follows:

Table E-5. Effluent Monitoring – Monitoring Location EFF-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons
mg/L = Milligrams per liter
% Saturation = percent saturation

Sampling Types:

Continuous = measured continuously
Grab = grab sample

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily
1/Week = once per week

Footnotes:

- ^[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
 - Total monthly flow volume (MG)

B. Recycled Water Distribution

The Discharger shall monitor discharges of treated wastewater to the recycled water distribution system at Monitoring Location REC-001, as follows.

Table E-6. Effluent Monitoring – Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD/MG	Continuous	Continuous/D

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons

Sampling Type:

Continuous = measured continuously

Sampling Frequency:

Continuous/D = measured continuously, and recorded and reported daily

Footnote:

- ^[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
 - Total monthly flow volume (MG)

V. TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

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 continuous flow-through bioassays. Static renewal acute toxicity bioassays may be substituted if flow-through bioassays are not practicable.
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.
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. 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 may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference.
5. Bioassay water 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).

B. Chronic Toxicity

1. Monitoring Requirements

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

- b. Test Species.** The test species shall be the mysid shrimp (*Americamysis bahia*) unless a more sensitive species is identified. If using this 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.

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

- i.** The Discharger shall monitor routinely one per calendar quarter.
- ii.** From November 1 through April 30, the Discharger shall accelerate monitoring to monthly after exceeding a three-sample median of 1 chronic toxicity unit (TUC) or a single-sample maximum of 2 TUC. From May 1 through October 31, the Discharger shall accelerate monitoring to monthly after exceeding a single-sample maximum of 1 TUC. Based on the TUC results, the Executive Officer may specify a different accelerated monitoring frequency to ensure that accelerated monitoring provides useful information.
- iii.** The Discharger shall return to routine monitoring if accelerated monitoring does not exceed the trigger in ii, above.
- iv.** If accelerated monitoring confirms consistent toxicity in excess of the trigger in ii, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section V.B.3, below.
- v.** The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below the trigger in ii, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

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

- d. 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 first edition (EPA/600/R-95-136), *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, currently third edition (EPA-821-R-02-014) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth edition (EPA-821-R2-02-013). If these protocols

prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) 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.

- e. **Dilution Series.** The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25% effluent with a control (0% effluent). 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.

2. Reporting Requirements

- a. The Discharger shall provide chronic toxicity test results with self-monitoring reports and shall include the following, at a minimum, for each test:
 - i. Sample date
 - ii. Test initiation date
 - iii. Test species
 - iv. End point values for each dilution (e.g., number of young, growth rate, percent survival)
 - v. 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 to 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.
 - vi. IC₁₅, IC₂₅, IC₄₀, and IC₅₀ values (or EC₁₅, EC₂₅, EC₄₀, and EC₅₀) as percent effluent
 - vii. TU_c values (100/NOEL) and upper and lower confidence intervals.
 - viii. Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)
 - ix. IC₅₀ or EC₅₀ values for reference toxicant tests
 - x. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, and ammonia)
- b. The Discharger shall provide the results of the most recent three chronic toxicity tests and the three-sample median in self-monitoring reports as TUC's.

3. Toxicity Reduction Evaluation (TRE)

- a.** 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.
- b.** Within 30 days of exceeding the chronic toxicity trigger in section V.B.1.c.ii, 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.
- c.** Within 30 days of completing an accelerated monitoring test observed to exceed the trigger in section V.B.1.c.ii, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all Executive Officer comments.
- d.** 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:
 - i.** Tier 1 shall consist of basic data collection (routine and accelerated monitoring).
 - ii.** Tier 2 shall consist of evaluation of treatment process optimization, including operational practices and in-plant process chemicals.
 - iii.** Tier 3 shall consist of a toxicity identification evaluation (TIE).
 - iv.** Tier 4 shall consist of evaluation of options for additional effluent treatment processes.
 - v.** Tier 5 shall consist of evaluation of options for modifications of in-plant treatment processes.
 - vi.** Tier 6 shall consist of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
- e.** 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 V.B.1.c.ii).
- f.** 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.
- g.** 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 limit.

- h.** 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.

VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program (RMP), which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. When discharging to the North Slough, the Discharger shall also monitor ambient receiving water conditions in the North Slough at Monitoring Locations RSW-001 through RSW-005 as follows:

Table E-7. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Monitoring Locations RSW-001 through RSW-003			
pH	standard units	Grab	1/Quarter
Turbidity	NTU	Grab	1/Quarter
Temperature	°C	Grab	1/Quarter
Salinity	ppt	Grab	1/Quarter
Total Ammonia ^[1]	mg/L as N	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
	% saturation	Grab	1/Quarter
Hardness	mg/L as CaCO ₃	Grab	1/Quarter
Standard Observations ^[2]	---	---	1/Month
Monitoring Locations RSW-004 and RSW-005			
Flow from Pond 2 to North Slough	MG	Continuous	Continuous
pH	standard units	Grab	1/Quarter
Temperature	°C	Grab	1/Quarter
Salinity	ppt	Grab	1/Quarter
Total Ammonia ^[1]	mg/L as N	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
	% saturation	Grab	1/Quarter
Hardness	mg/L as CaCO ₃	Grab	1/Quarter

Unit Abbreviations:

°C	= degrees Celsius
µg/L	= micrograms per liter
mg/L	= milligrams per liter
mg/L as CaCO ₃	= milligrams per liter as calcium carbonate
mg/L as N	= milligrams per liter as nitrogen
MG	= million gallons
NTU	= nephelometric turbidity units
ppt	= parts per thousand
% saturation	= percent saturation

Sample Type:

Continuous/D	= measured continuously and recorded or reported daily
Grab	= grab sample

Sampling Frequency:

Continuous = measured continuously and recorded once per day
1/Month = once per month

Footnotes:

- [1] Monitoring for total ammonia shall occur concurrently with monitoring for temperature and pH for determination of the un-ionized ammonia fraction.
[2] Standard observations are specified in Attachment G section III.C.1.

VII. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall comply with the following pretreatment monitoring requirements for influent at Monitoring Location INF-001, effluent at Monitoring Location EFF-001, and biosolids at Monitoring Location BIO-003. The Discharger shall report summaries of analytical results in annual and semi-annual pretreatment reports in accordance with Attachment H. If instructed to do so, the Discharger shall report biosolids analytical results with its electronic self-monitoring reports by manual entry, by EDF/CDF, or as an attached file.

Table E-8. Pretreatment and Biosolids Monitoring

Constituents	Sampling Frequency			Sample Type	
	Influent INF-001 ^[6]	Effluent EFF-001 ^[6]	Biosolids BIO-003 ^[7]	Influent and Effluent	Biosolids ^[7]
VOC ^[1]	2/Year	2/Year	^[7]	Grab	Grab
BNA ^[2]	2/Year	2/Year	^[7]	Grab	Grab
Metals and Other Elements ^[3]	1/Month	1/Month	^[7]	C-24 ^[8]	Grab
Hexavalent Chromium ^[4]	1/Month	1/Month	^[7]	Grab	Grab
Mercury ^[5]	1/Month	1/Month	^[7]	Grab	Grab
Cyanide, Total	1/Month	1/Month	^[7]	Grab	Grab

Sample Types:

C-24 = 24-hour composite

Grab = grab sample

Sampling Frequencies:

1/Month = once per month

2/Year = twice per year

Footnotes:

- [1] VOC: volatile organic compounds
[2] BNA: base/neutrals and acid extractable organic compounds
[3] Metals and other elements are arsenic, cadmium, copper, lead, nickel, selenium, silver, and zinc.
[4] The Discharger may choose to monitor and report total chromium instead of hexavalent chromium. Samples collected for total chromium measurements may be 24-hour composites.
[5] 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, except when levels are expected to exceed 10 µg/L, in which case use of ultra-clean sampling and analysis shall be optional.
[6] Influent and effluent monitoring conducted in accordance with MRP Tables E-2 and E-3 may be used to satisfy these pretreatment monitoring requirements.
[7] The biosolids sample shall be a composite of the biosolids to be disposed. Biosolids collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4.
[8] If an automatic compositor is used, the Discharger shall obtain 24-hour composite samples through flow-proportioned composite sampling. Alternatively, 24-hour composite samples may consist of discrete grab samples combined (volumetrically flow-weighted) prior to analysis or mathematically flow-weighted.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping, with modifications shown in sections IX and X, below.

B. Self-Monitoring Reports (SMRs)

1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) 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.
2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates and with the contents specified below:
 - a. **Monthly SMRs.** Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with monthly SMRs.

Monthly SMRs 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.

- b. **Annual SMRs.** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in sections V.C.1.f of Attachment G. See also Provisions VI.C.2 (Effluent Characterization Study and Report), VI.C.3 (Pollutant Minimization Program), and VI.C.6.d (Constructed Freshwater Wetlands Management) of this Order for requirements to submit reports with the annual SMR.
 - c. **Specifications for Submitting SMRs to CIWQS.** The Discharger shall submit analytical results and other information using one of the following methods:

Table E-9. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
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]
Volume and Duration of Blended Discharge ^[3]	Required for all blended effluent discharges	
Analytical Method	Not required (Discharger may select "data unavailable") ^[1]	
Collection Time Analysis Time	Not required (Discharger may select "0:00") ^[1]	

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).
- ^[3] The requirement for volume and duration of blended discharge applies only if this Order authorizes the Discharger to discharge blended effluent.

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.

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

Table E-10. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Order effective date	All times
1/Day	Order effective date	Daily, 12:00 a.m. through 11:59 p.m., or any 24-hour period that reasonably represents a calendar day for sampling purposes

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
1/Week 2/Week 5/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month
1/Quarter	Closest October 1, January 1, April 1, or July 1 before or after Order effective date ^[1]	January 1 through March 31 April 1 through June 30 July 1 through September 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 May 1 or November 1 before or after Order effective date ^[1]	November 1 through April 30 May 1 through October 31

Footnote:

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

4. Reporting Level (RL) and Method Detection Limit (MDL) Reporting. The Discharger shall report with each sample result the RL and 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:

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

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

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

5. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and in the Fact Sheet and 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 priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

C. Discharge Monitoring Reports (DMRs)

DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using the 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.

IX. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

A. Attachment G section V.C.1.c.2 is revised as follows.

- 2) When determining compliance with an average monthly or maximum daily effluent limitation and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or non-detect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - i. 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.
 - ii. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

B. Attachment G sections V.C.1.f and V.C.1.g are revised as follows, and section V.C.1.h (Reporting data in electronic format) is deleted.

f. Annual self-monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

- 1) Annual compliance summary table of treatment plant performance, including documentation of any blending events (this summary table is not required if the

Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);

- 2) Comprehensive discussion of treatment plant performance 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 performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);
- 3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater (this item is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
- 4) List of approved analyses, including the following:
 - (i) List of analyses for which the Discharger is certified;
 - (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and
 - (iii) List of "waived" analyses, as approved;
- 5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;
- 6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all stormwater to the headworks of its wastewater treatment plant); and
- 7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs addressed as follows, unless the Discharger submits SMRs electronically to CIWQS:

California Regional Water Quality Control Board
San Francisco Bay Region

1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

- h. Reporting data in electronic format – *Deleted*

C. Attachment G sections V.E.2, V.E.2.a, and V.E.2.c are revised as follows, and sections V.E.2.b (24-hour Certification) and V.E.2.d (Communication Protocol) are deleted.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants¹

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and supersede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008.

- a. Two (2)-Hour Notification

For any unauthorized discharges that enter a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the California Office of Emergency Services (CalOES, currently 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. Timely notification by the Discharger to CalOES also satisfies notification to the Regional Water Board. Notification shall include the following:

- 1) Incident description and cause;
- 2) Location of threatened or involved waterway(s) or storm drains;
- 3) Date and time the unauthorized discharge started;
- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;
- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and
- 6) Identity of the person reporting the unauthorized discharge.

- b. 24-hour Certification – *Deleted*

- c. 5-day Written Report

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.

Within five business days, the Discharger shall submit a written report that includes, in addition to the information required above, the following:

- 1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 2) Efforts implemented to minimize public exposure to the unauthorized discharge;
- 3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;
- 4) Corrective measures taken to minimize the impact of the unauthorized discharge;
- 5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;
- 6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and
- 7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol – *Deleted*

X. MODIFICATIONS TO ATTACHMENT H

This MRP modifies Attachment H as indicated below:

A. Attachment H, Appendix H-3, Signature Requirements for Pretreatment Annual and Semiannual Reports, is revised as follows.

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger (POTW - 40 CFR section 403.12 [m]). Signed copies of the reports shall be submitted to the State Water Board and the Regional Water Board through the electronic self-monitoring report (eSMR) module of the California Integrated Water Quality System (CIWQS). Signed copies of the reports shall also be submitted electronically to U.S. EPA at R9Pretreatment@epa.gov or as instructed otherwise.

**APPENDIX E-1
CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS**

I. Definition of Terms

- A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25} . If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (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-Kärber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.
- C. Inhibition concentration (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 IC_{25} 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.
- D. No observed effect concentration (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.

II. Chronic Toxicity Screening Phase Requirements

- A. The Discharger shall perform screening phase monitoring:
 - 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. 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.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
 - 1. Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables.

2. Two stages:
 - a. 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).
 - b. 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.
 3. Appropriate controls.
 4. Concurrent reference toxicant tests.
 5. Dilution series of 100%, 50%, 25%, 12.5%, 6.25%, and 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.
- C. 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 AE-1. Critical Life Stage Toxicity Tests for Estuarine Waters

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

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	<i>(Pimephales promelas)</i>	Survival; growth rate	7 days	4
Water flea	<i>(Ceriodaphnia dubia)</i>	Survival; number of young	7 days	4
Alga	<i>(Selenastrum capricornutum)</i>	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 AE-3. Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay ^[1]	
	Ocean	Marine/Estuarine	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]	0	1 or 2	3
Marine/Estuarine	4	3 or 4	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

I.	Permit Information	F-2
II.	Facility Description	F-3
	A. Wastewater and Biosolids Treatment	F-3
	B. Discharge Points and Receiving Waters	F-4
	C. Previous Requirements and Monitoring Data	F-5
	D. Compliance Summary	F-6
	E. Planned Changes	F-6
III.	Applicable Plans, Policies, and Regulations	F-7
IV.	Rationale For Effluent Limitations and Discharge Specifications	F-10
	A. Discharge Prohibitions	F-10
	B. Basin Plan Discharge Prohibition 1	F-11
	C. Technology-based Effluent Limitations	F-12
	1. Scope and Authority	F-12
	2. Effluent Limitations	F-12
	D. Water Quality-Based Effluent Limitations (WQBELs)	F-13
	1. Scope and Authority	F-13
	2. Beneficial Uses and Water Quality Criteria and Objectives	F-13
	3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis) ..	F-16
	4. Calculation of Water Quality-Based Effluent Limitations	F-24
	E. Discharge Requirement Considerations	F-26
V.	Rationale for Receiving Water Limitations	F-26
VI.	Rationale for Provisions	F-27
	A. Standard Provisions	F-27
	B. Monitoring and Reporting	F-27
	C. Special Provisions	F-27
	1. Reopener Provisions	F-27
	2. Effluent Characterization Study and Report	F-27
	3. Pollutant Minimization Program	F-28
	4. Special Provisions for Publicly Owned Treatment Works (POTWs)	F-28
	5. Other Special Provisions	F-28
VII.	Rationale for Monitoring and Reporting Program (MRP)	F-29
VIII.	Public Participation	F-32

Tables

Table F-1.	Facility Information	F-2
Table F-2.	Previous Effluent Limitations and Monitoring Data	F-5
Table F-3.	SSO Rates (total SSOs/100 miles of sewer)	F-6
Table F-4.	Beneficial Uses	F-8
Table F-5.	Secondary Treatment Requirements	F-12
Table F-6.	Priority Pollutant Reasonable Potential Analysis	F-17
Table F-7.	WQBEL Calculations	F-24
Table F-8.	Monitoring Requirements Summary	F-31

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 II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	2 283021001
CIWQS Place ID	205477
Discharger	City of American Canyon
Facility Name	American Canyon Water Reclamation Facility and its collection system
Facility Address	151 Mezzetta Court American Canyon CA 94503 Napa County
Facility Contact, Title, Phone	Stacey Ambrose Environmental Services Manager (707) 647-4542
Person Authorized to Sign and Submit Reports	Same as facility contact, or designee
Mailing Address	151 Mezzetta Court American Canyon CA 94503 Napa County
Billing Address	Same as mailing address
Facility Type	Publicly-owned treatment works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes (not subject to U.S. EPA approval)
Reclamation Requirements	Regional Water Board Order No. 96-011
Mercury and PCBs Requirements	NPDES Permit No. CA0038849
Nutrients Requirements	NPDES Permit No. CA0038873
Facility Permitted Flow	2.5 million gallons per day (MGD) (average dry weather flow)
Facility Design Flow	2.5 MGD (average dry weather flow) 4.0 MGD (peak dry weather flow) 5.0 MGD (peak wet weather flow)
Watershed	San Pablo Bay
Receiving Water	North Slough and constructed freshwater wetlands
Receiving Water Type	Estuarine

- A. The City of American Canyon (Discharger) owns and operates the American Canyon Water Reclamation Facility (plant) and its associated collection system (collectively, the Facility). The Facility is a publicly owned treatment works (POTW). The treatment plant provides advanced-secondary treatment of wastewater collected from its service area and discharges it to North Slough, a tributary to the tidal portion of the Napa River, during the wet weather season, and to constructed freshwater wetlands year-round.

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

- B.** The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038768. The Discharger was previously subject to Order No. R2-2011-0046 (previous order). Order No. R2-2016-0008 amended Order No. R2-2012-0016 to provide for an alternative monitoring program and remains in effect with this Order. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on March 3, 2016.

The Discharger is authorized to discharge subject to waste discharge requirements in this Order at the discharge locations described in Table 2 of this Order. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorization. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES regulation requirements for continuation of expired permits (40 C.F.R. § 122.6[d]).

- C.** 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.
- D.** The discharge is also regulated under NPDES Permit Nos. CA0038849 and CA0038873, which establish requirements on mercury and polychlorinated biphenyls (PCBs) and nutrients from wastewater discharges to San Francisco Bay. This Order does not affect those permits.

II. FACILITY DESCRIPTION

A. Wastewater and Biosolids Treatment

- 1. Location and Service Area.** The treatment plant is located at 151 Mezzetta Court, American Canyon, and provides advanced-secondary treatment of domestic and industrial wastewater from within the City of American Canyon. The Facility currently serves a population of approximately 20,470 and several industrial dischargers: a food processing facility, a winery, and a beverage bottling company. Attachment B provides a map of the treatment plant area.
- 2. Collection System.** The Facility owns and operates two segregated collection systems, one for domestic wastewater (85 to 90 percent of total influent) and one for industrial wastewater (10 to 15 percent of total influent). These collection systems include approximately 54 miles of gravity sewer, 4.9 miles of force main, and five pump stations.
- 3. Wastewater Treatment.** The treatment plant consists of an emergency overflow basin, headworks, micro-screening, grit removal, biological secondary treatment, membrane filtration, disinfection, and, for discharges at Discharge Point No.001, post-aeration. The treatment plant has an average daily treatment capacity of up to 2.5 MGD and a peak wet

weather capacity of 5.0 MGD. From November 2014 through October 2015, the plant treated a daily average of 1.5 MGD and a maximum daily flow of 4.7 MGD. Attachment C provides the treatment plant flow schematic.

The secondary treatment system consists of four parallel biological treatment trains, each providing anoxic and aerobic biological treatment, and membrane filtration. The four treatment trains can be used to segregate domestic wastewater (Main Aeration Basin) from industrial wastewater (North Aeration Basin). The Discharger has typically operated the plant to combine domestic and industrial wastewater before secondary treatment, but plans to segregate domestic wastewater from industrial wastewater more frequently as it increases recycled water production.

The plant has separate disinfection systems for treated wastewater discharges and recycled water. Treated wastewater discharges are disinfected by ultraviolet light (UV). Recycled water is disinfected using chlorine.

4. **Biosolids Management.** Biosolids generated during the treatment process are stored in two 5-million-gallon earthen clay-lined sludge storage basins, one of which is lined with hypalon. The basins provide biosolids storage capacity sufficient for an estimated 10 years. Biosolids from the sludge storage basins are dewatered with a screw press then hauled by Recology, a waste hauling contractor, to the Hay Road Landfill in Solano County for use as alternative daily cover.
5. **Recycling.** The treatment plant produces recycled wastewater under the Regional Water Board's *General Water Reuse Order* (Order No. 96-011) year-round for irrigation and non-potable indoor uses such as toilet flushing. Domestic wastewater is typically lower in total dissolved solids than industrial wastewater, thus it is more suitable for recycling. The Discharger, American Canyon High School, and local vineyards use the recycled water produced by the plant for irrigation. The plant's recycling facilities include a one-million-gallon storage tank and a recently-constructed 1.5-million gallon storage tank; the Discharger also has at least ten miles of recycled water pipe.
6. **Stormwater Management.** The discharger directs all on-site stormwater to the plant headworks for treatment. Thus the Discharger does not require coverage under the State Water Board's general NPDES permit for stormwater discharges associated with industrial activities (NPDES General Permit No. CAS000001).

B. Discharge Points and Receiving Waters

The treatment plant either distributes treated wastewater for recycling or discharges it from Discharge Point No. 001 to the North Slough or Discharge Point No. 003 to two constructed wetland ponds (Pond 1 and Pond 2) tributary to the North Slough. The North Slough is a seasonal drainage area that collects stormwater runoff from a relatively small watershed on the eastern slope of Napa Valley, and is tributary to the Napa River, a water of the United States within the San Pablo Bay watershed. The North Slough wetlands are tidally influenced and wet year-round.

Treated wastewater is discharged at Discharge Point No. 001, a shallow water outfall, during the wet season (November 1 through April 30). Discharge at Discharge Point No. 001 is prohibited

during the dry season (May 1 through October 31). Treated wastewater is discharged year-round at Discharge Point No. 003 to constructed wetland Pond 1, then flows to Pond 2 through an outlet device, and eventually flows to the North Slough.

C. 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	Units	Effluent Limitations			Monitoring Data (09/2011 – 3/2016)
		Monthly Average	Weekly Average	Daily Maximum	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	10	15	---	6.0
Total Suspended Solids (TSS)	mg/L	10	15	---	22 ^[1]
BOD ₅ percent removal	%	85 (minimum)	---	---	99 ^[2]
TSS percent removal	%	85 (minimum)	---	---	95 ^[2]
Oil and Grease	mg/L	---	---	10	6.0
pH	standard units	6.5 – 8.5			6.7 – 8.0 ^[3]
Total Ammonia	mg/L as N	2.0	3.0	---	4.0 ^[4]
Total Residual Chlorine	mg/L	---	---	0.0 ^[5]	0.0
Turbidity	NTU	---	---	10	1.0
Enterococcus	MPN/100 mL	35 ^[6]	---	---	19
Copper, Total	µg/L	10	---	16	6.6
Nickel, Total	µg/L	7.6	---	11	5.4
Cyanide, Total	µg/L	6.9	---	14	8.4 ^[7]
Dioxin-TEQ	µg/L	1.4×10^{-8}	---	2.8×10^{-8}	Non-detect
Acute Toxicity	% Survival	Not less than 90% (11-Sample Median)			95 ^[8]
		Not less than 70% (11-Sample 90th Percentile)			80 ^[8]
Chronic Toxicity	TU _C	No chronic toxicity in the discharge as discharged			1.1 ^[9]

Abbreviations:

mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
µg/L = micrograms per liter
MPN/100 mL = most probable number per 100 milliliters
ND = not detected
NTU = nephelometric turbidity unit
TU_C = chronic toxicity units, equal to 100/NOEL, where NOEL = IC₂₅, EC₂₅, or NOEC
% = percent
% Survival = percent survival

Footnotes:

- ^[1] The Discharger did not violate the TSS effluent limitations of the previous order. The highest weekly and monthly averages determined in accordance with SIP section 2.4.5 were non-detect.
- ^[2] Lowest monthly average.
- ^[3] Range of lowest and highest pH values.
- ^[4] The Discharger did not violate the ammonia effluent limitations of the previous order. The highest weekly and monthly averages were 1.7 mg/L and 1.2 mg/L, respectively.
- ^[5] The total residual chlorine limitation is an instantaneous maximum.
- ^[6] The enterococcus limitation is expressed as a 30-day geometric mean.

- [7] The Discharger did not violate the cyanide monthly effluent limitation of the previous order because the highest monthly average was 4.7 µg/L.
- [8] Lowest 11-sample median and 11 Sample 90th percent survival. The lowest individual sample result was 93 percent survival.
- [9] This value represents effluent toxicity. The narrative chronic toxicity limit in the previous order related to conditions following discharge into the receiving water, where the toxicity was likely less due to dilution upon mixing with ambient water (Fact Sheet section IV.D.3.f discusses dilution in the context of toxicity).

D. Compliance Summary

- 1. Treatment Plant.** The Discharger did not violate the previous order's effluent limitations. The Discharger violated the previous order's monitoring requirements on two occasions, which the Regional Water Board addressed by requiring corrective actions to prevent recurrence. During the week of August 2, 2015, the Discharger missed a weekly turbidity analysis. The Discharger reviewed and updated its sampling calendar procedures and directed plant laboratory staff to use a new checklist of required analyses. During the week of May 1, 2016, the Discharger violated the previous order's ammonia monitoring requirements when a miscommunication with its contract laboratory resulted in the weekly ammonia sample not being analyzed. The Discharger required plant laboratory staff to refer to the checklist of required analyses when scheduling resamples and provided this updated procedure to the contract laboratory.
- 2. Collection System.** The table below shows the Discharger's sanitary sewer overflow (SSO) rates (total SSOs per 100 miles of collection system) for the years 2012 through 2015, the age and length of the collection system, and comparisons to the county and San Francisco Bay Region. Throughout the previous order term, the Discharger's SSO rates have generally been similar to other collection systems. The Discharger reported four SSOs from 2012 through 2015; none were capacity related, and just one reached surface waters. Future SSOs that reach waters of the United States may violate Prohibition III.D of this Order.

Table F-3. SSO Rates (total SSOs/100 miles of sewer)
(based on CIWQS data analysis completed in January 2016)^[1]

Medians	Length (miles)	Average Age of Pipe (years)	Total SSO Rate			
			2012	2013	2014	2015
City of American Canyon	59	43	1.7	0	5.1	0
Napa County median of 4 medium systems (10 to 99 miles)	18	42	13	6.3	5.7	0
San Francisco Bay Region median of 49 medium systems (10 to 99 miles)	38	43	9.3	12	6.3	---
San Francisco Bay Region median of all 132 systems	42	46	4.6	4.5	2.7	---

Footnote:

- [1] The State Water Board's *Enrollee's Guide to the SSO Database* defines "Total number of SSOs per 100 miles of Sewer" as "... the number of SSOs, for which the reporting Enrollee is responsible, for every 100 miles of pipe or sewer lines in an Enrollee's sanitary sewer system. Due to the large variation in facility specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of Enrollees and their sanitary sewer systems."

E. Planned Changes

The Discharger plans to complete the following projects during this permit term. These changes are presented for informational purposes only and are not requirements of this Order, except to the

extent that they pertain to increasing or ensuring reliability of wastewater treatment or collection systems. Their inclusion here does not imply Regional Water Board authorization. The Discharger must obtain any necessary permits or permit modifications to implement these changes.

- 1. Influent Flow Equalization Basin Improvements.** The Discharger is planning near-term improvements to the influent flow equalization basin to optimize treatment processes, decrease energy consumption, and increase treatment efficiency. In dry weather, this project would allow the Discharger to store industrial wastewater in the equalization basin during periods of recycled water production, providing the Discharger greater operational flexibility to produce recycled water using variable blends of industrial and domestic wastewater, or to segregate industrial and domestic wastewater more frequently. In wet weather, the equalization basin would provide storage for peak flows from the domestic and industrial collection systems.
- 2. Wastewater Collection System Master Plan Projects.** The Discharger's updated 2015 Wastewater Collection System Master Plan identifies several projects to improve the wastewater collection system, with a combined cost of up to \$53 million. These projects include upsizing gravity sewer line segments; constructing a new Green Island Pump Station; constructing a new Main Basin Pump Station; modifying the split at Rio Del Mar and Rio Grande intersection; and rehabilitating existing gravity sewers, laterals, and associated manholes.
- 3. Recycled Water Capital Improvement Plan Projects.** The Discharger's updated 2015 Recycled Water Master Plan identified opportunities to install 47,000 linear feet of new recycled water distribution pipelines to current and future recycled water users. These users would include parks, schools, and industrial customers. A new pump station and looping of the distribution system would improve system reliability and pressure.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260) for discharges to waters of the State. This Order is also issued pursuant to 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 at the discharge location described in Table 2 subject to the WDRs in this Order.
- B. California Environmental Quality Act.** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act, Public Resources Code division 13, chapter 3 (commencing with § 21100). Provisions and requirements in this Order implementing State law only are further exempt from CEQA pursuant to the categorical exemption for existing facilities (Cal. Code Regs., tit. 40, § 15301).
- C. State and Federal Regulations, Policies, and Plans**
 - 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 cycOrder implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, are to be considered suitable or potentially suitable for municipal or domestic supply.

Discharge Point No. 001 discharges to the North Slough, tributary to the tidal portion of the Napa River; Discharge Point No. 003 discharges to constructed wetlands tributary to the North Slough. Total dissolved solids exceed 3,000 mg/L in the tidal portion of the Napa River. Therefore, the tidal portion of the Napa River meets an exception to State Water Board Resolution No. 88-63 and does not support the municipal or domestic supply beneficial use. Beneficial uses applicable to the tidal portion of the Napa River are listed below:

Table F-4. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Napa River (tidal)	Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

- 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. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. This Order implements the sediment quality objectives of this plan.
- National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in 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. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

- 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 No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The 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 No. 68-16.
 - 7. 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.
 - 8. Recycled Water Policy.** The State Water Board adopted Resolution No. 2013-0003 on January 22, 2013, titled *Policy for Water Quality Control for Recycled Water*, which is intended to promote sustainable local water supplies by increasing the acceptance and promoting the use of recycled water. The policy sets a goal to increase the use of recycled water statewide by at least one million acre feet per year (afy) over the 2002 baseline-level by 2020 and by at least two million afy by 2030. Consistent with the policy, the Regional Water Board is to exercise its authority to the fullest extent possible to encourage the use of recycled water, and to develop watershed-based salt and nutrient management plans to ensure use of recycled water does not degrade groundwater resources. Requirements of this Order implement the policy.
 - 9. Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect beneficial uses, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all Endangered Species Act requirements.
- D. Impaired Waters.** On July 30, 2015, 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 303(d)-listed pollutants. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve water quality standards. The North Slough is not on the 303(d) list but is tributary to the Napa River, which is tributary to San Pablo Bay. These water bodies are 303(d)-listed for the pollutants discussed below:
- 1. Napa River.** The Napa River is listed as an impaired water body for nutrients, pathogens, and sediment. On February 29, 2008, U.S. EPA approved a pathogens TMDL for the Napa

River; On September 9, 2009, the Regional Water Board adopted a sediment TMDL for the Napa River. This Order's effluent limitations for enterococcus bacteria and total suspended solids are consistent with the pathogens and sediment TMDLs. Nutrient discharges to the Napa River are currently regulated by the Nutrient Watershed Permit (NPDES No. CA0038873, Order No. R2-2014-0014). If additional nutrient control measures are necessary, the Regional Water Board will implement such measures through that permit.

2. **San Pablo Bay.** San Pablo Bay is listed as an impaired water body for chlordane, DDT, dieldrin, dioxin and furan compounds, mercury, 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. NPDES Permit No. CA0038849 implements the mercury and PCBs TMDLs with respect to discharges covered by this Order. On August 23, 2016, U.S. EPA approved a selenium TMDL for North San Francisco Bay, including San Pablo Bay. This Order implements the TMDL as it applies to the Discharger. The selenium TMDL does not require effluent limits for municipal wastewater dischargers because these discharges have an insignificant impact on North Bay water quality. As shown in Fact Sheet section IV.C.3, chlordane, DDT, and dieldrin have not been detected in Facility discharges. Facility discharges are also not a source of invasive species as the discharges are disinfected.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants 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; 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.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge at a location or in a manner different than described in this Order):** 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.
2. **Discharge Prohibition III.B (No bypass to waters of the United States):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G).
3. **Discharge Prohibition III.C (No average dry weather effluent flow in excess of 2.5 MGD):** This Order prohibits average dry weather effluent flows greater than the plant's design average dry weather treatment capacity (i.e., its historical and tested treatment reliability) of 2.5 MGD. Exceeding this flow could result in lower treatment reliability and greater potential to violate water quality requirements.

- 4. Discharge Prohibition III.D (No sanitary sewer overflows to waters of the United States):** Basin Plan Table 4-1, Discharge Prohibition 15, and the CWA prohibit the discharge of wastewater to surface waters, except as authorized under an NPDES permit. Publicly owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards (33 U.S.C. § 1311[b][1][B and C]). A sanitary sewer overflow that results in the discharge of raw sewage or wastewater not meeting this Order's effluent limitations to waters of the United States is therefore prohibited under the Basin Plan and the CWA.
- 5. Discharge Prohibition III.E (No discharge from Discharge Point No. 001, except May 1 through October 31):** This prohibition is retained from the previous order and is based on Basin Plan Table 4-1, Discharge Prohibition 1, which prohibits wastewater discharges with particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum of at least 10:1 initial dilution. The North Slough is a seasonal tidal wetland that does not provide 10:1 dilution during the dry season; therefore, discharge is prohibited during this period to protect beneficial uses of the receiving water. Discharge from Discharge Point No. 001 is allowed from November 1 through April 30, as discussed in Fact Sheet section IV.B below.

B. Basin Plan Discharge Prohibition 1

This Order allows discharge of treated wastewater at Discharge Point No. 001 during the wet season and Discharge Point No. 003 year-round without a minimum initial dilution of at least 10:1. Basin Plan Discharge Prohibition 1 (Basin Plan Table 4-1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point where the discharge does not receive an initial dilution of at least 10:1. However, Basin Plan section 4.2 allows exceptions to Discharge Prohibition 1 when an inordinate burden would be placed on the Discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means; net environmental benefits would be derived as a result of the discharge; or a discharge is approved as part of a reclamation project. This Order grants exceptions to Discharge Prohibition 1 for the discharges from Discharge Point Nos. 001 and 003 as described below.

- 1. Discharge Point No. 001.** The wet-season discharge from Discharge Point No. 001 qualifies for an exception to Discharge Prohibition 1 under Basin Plan section 4.2 because construction of a deep-water outfall to provide dilution would be inordinately burdensome and the Discharger provides an equivalent level of protection. Construction of a deep-water outfall would be inordinately burdensome because the treatment plant is located 10 miles from the nearest deep water channel, in Carquinez Strait. The Discharger provides an equivalent level of protection by providing advanced-secondary treatment (see Fact Sheet section IV.C.2).
- 2. Discharge Point No. 003.** The discharge from Discharge Point No. 003 qualifies for an exception to Discharge Prohibition 1 by the same rationale as that for Discharge Point No. 001. Furthermore, this year-round discharge provides a net environmental benefit by supporting constructed freshwater wetlands that would not exist without the discharge. The constructed wetlands are managed consistent with the Regional Water Board's *Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands* (Regional Water Board Resolution 94-086). Multiple varieties of vegetation have been cultivated in the freshwater wetlands to create nesting habitat for fresh and brackish water bird species.

Provision VI.C.5.d of this Order requires quarterly biological surveys. The constructed freshwater wetlands also provide a transition zone to the brackish wetlands of the North Slough.

C. Technology-based Effluent Limitations

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 discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. The Basin Plan contains additional requirements for certain pollutants.

Table F-5. Secondary Treatment Requirements

Parameter	Monthly Average	Weekly Average
BOD ₅ ^[1]	30 mg/L	45 mg/L
CBOD ₅ ^[1]	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
BOD ₅ (or CBOD ₅) and TSS Removal	85 percent or greater	---
pH	6.0 – 9.0 standard units	

Abbreviations:

BOD₅ = biochemical oxygen demand (5 days at 20°C)
CBOD₅ = carbonaceous biochemical oxygen demand (5 days at 20°C)
mg/L = milligrams per liter
TSS = total suspended solids

Footnote:

^[1] CBOD₅ limitations may be substituted for BOD₅ limitations.

2. Effluent Limitations

- a. **BOD₅ and TSS.** The BOD₅ and TSS effluent limitations, including the 85 percent removal requirement, are unchanged from the previous permit. BOD₅ and TSS concentration-based effluent limitations established in this Order are more stringent than the secondary treatment standards require. These more stringent limits demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.B). Effluent data show that compliance with these more stringent limits is feasible.
- b. **Oil and Grease.** The oil and grease effluent limitation is more stringent than required by Basin Plan Table 4-2. This more stringent limit demonstrates a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.B). Effluent data show that compliance with this more stringent limit is feasible.
- c. **pH.** This Order's pH effluent limitations are based on the pH water quality objectives at Basin Plan section 3.3.9, which are more stringent than those required by the Secondary Treatment Standards.

- d. Total Residual Chlorine.** The total residual chlorine effluent limitation is based on Basin Plan Table 4-2. The Monitoring and Reporting Program (MRP, Attachment E) allows for determining false positives when using continuous devices based on the fact that continuous instruments occasionally have anomalous spikes and it is chemically improbable to have free chlorine present in the presence of sodium bisulfite. The allowance for using only on-the-hour measurements for mandatory minimum penalty assessment purposes under Water Code section 13385.1 is based on a 2004 strategy developed between the Regional Water Board and the Bay Area Clean Water Agencies.
- e. Turbidity.** The turbidity effluent limitation represents adequate and reliable secondary and advanced-secondary wastewater treatment. This limitation demonstrates a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.B). Effluent data show that compliance with this limit is feasible for the Facility's advanced wastewater treatment technologies.
- f. Total Ammonia.** The total ammonia effluent limitations are retained from the previous order. These limits ensure that the Facility maintains its existing ammonia removal and nitrification performance and thus maintains current receiving water conditions with respect to ammonia. Effluent data show that compliance with these limits is feasible.

D. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

This Order contains WQBELs that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable 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, 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 (40 C.F.R. § 122.44 [d] [1] [vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria, and to protect designated uses of receiving waters as specified in the Basin Plan.

2. Beneficial Uses and Water Quality Criteria and Objectives

Fact Sheet section III.C.1 (Table F-4) identifies the beneficial uses of the tidal portion of the Napa River. Water quality criteria and objectives to protect these beneficial uses are described below.

- a. Basin Plan Objectives.** The Basin Plan specifies numeric water quality objectives, such as numeric objectives for 10 priority pollutants and un-ionized ammonia, and narrative water quality objectives for toxicity and bioaccumulation. Water quality objectives for

un-ionized ammonia are translated into ionized ammonia as described in Fact Sheet section IV.D.3.d; narrative water quality objectives for dioxin-TEQ and chronic toxicity are translated into numeric objectives as described below.

- i. **Ammonia.** Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L as an annual median and 0.16 mg/L as a maximum for Central San Francisco Bay and upstream. These water quality objectives apply to the tidal portion of the Napa River.
- ii. **Dioxin-TEQ.** The Basin Plan narrative water quality bioaccumulation objective 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 Central San Francisco Bay 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 of the regulation of dioxin and dioxin-like compounds through the use of 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 WQBELs for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme” (65 Fed. Reg. 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 1998, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes region (40 C.F.R. part 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 1998 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. The 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.

- iii. 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.” It further states, “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.”

For purposes of this Order, the narrative chronic toxicity water quality objective is translated into a numeric criterion of 1.0 chronic toxicity unit (TUC). Toxic units are an indicator of the pollutant of concern (i.e., toxicity). At 1.0 TUC, there is no observable detrimental effect when an 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 *Technical Support Document for Water Quality-based Toxics Control* (Technical Support Document or TSD) (EPA/505/2-90-001, section 3.3.3, “Step 3: Decision Criteria for Permit Limit Development,” page 60), U.S. EPA recommends that 1.0 TUC be used as a criterion continuous concentration, which generally implies a four-day average (TSD, Appendix D, page D-2).

- b. 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 the North Slough in the vicinity of this discharge and to the constructed wetlands because they are not drinking water sources, as described in Fact Sheet section III.C.1.
- c. 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 San Pablo Bay, to which the North Slough is tributary via the Napa River.
- d. Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains the following narrative water quality objective: “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.
- e. Receiving Water Salinity.** The North Slough is estuarine in the vicinity of the discharge. Basin Plan section 4.6.2 (like the CTR and the 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. The receiving water for

this discharge is estuarine based on salinity data collected from Monitoring Location RSW-003 from September 2011 to October 2015. During that period, the salinity was greater than 10 ppt in 86 percent of the samples and between 1.0 and 10 ppt in 14 percent of the samples. Therefore, the reasonable potential analysis and WQBELs are based on the more stringent of the fresh and saltwater water quality criteria and objectives.

- f. Receiving Water Hardness.** Ambient hardness values collected at RSW-003, located 2,000 feet downstream of the discharge to the North Slough, were used to calculate freshwater WQOs that are hardness dependent. Because hardness is used to calculate freshwater objectives, the hardness data set was censored to 8 data points to eliminate values when the receiving water salinity was above 10 ppt. These hardness data all exceeded 400 mg/L as calcium carbonate. U.S. EPA recommends using a maximum hardness of 400 mg/L as calcium carbonate for freshwater criteria (Fed. Reg Vol 65, No. 97, page. 31692, May 18, 2000). Therefore, a hardness of 400 mg/L as calcium carbonate was used to calculate the freshwater WQOs for this Order.
- g. Site-Specific Metals Translators.** Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45 [c]). 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 water quality objectives. In determining the need for and calculating WQBELs for applicable metals, CTR default translators were used, except for copper. Site-specific copper translators that the Napa Sanitation District developed in its *Napa River Copper Translator Study* (Larry Walker Associates, June 2002) were used: 0.57 (acute) and 0.42 (chronic).

3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis)

Assessing whether a pollutant has reasonable potential to exceed a water quality objective is the fundamental step in determining whether a WQBEL is required.

- a. Available Data.** The reasonable potential analysis for this Order is based on effluent monitoring data the Discharger collected from October 2011 through March 2016. The reasonable potential analysis is based on ambient conventional pollutant monitoring data the Discharger collected from November 2011 through October 2015 and priority pollutant data reported in *Collaborative Napa River Receiving Water Evaluation* (2003) and supplemented with additional data collected for copper, nickel, and selenium in 2008 and 2009. Total ammonia calculations are based on receiving water data collected from October 2011 through March 2016.

In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. Provision VI.C.2 of this Order requires the Discharger to continue monitoring for such constituents in its effluent using analytical methods that provide the best feasible detection limitations. When

additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision VI.C.2 of this Order still requires monitoring for such pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 of this 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.

- b. Methodology.** For most pollutants, 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 for other pollutants in this Order 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:
- i. Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ($MEC \geq \text{water quality objective}$).
 - ii. Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the water quality objective ($B > \text{water quality objective}$) *and* the pollutant is detected in any effluent sample.
 - iii. Trigger 3** is activated if a review of other information indicates that a water quality-based effluent limit is needed to protect beneficial uses.
- c. Priority Pollutants and Dioxin-TEQ.** The following table presents the maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the reasonable potential analysis, along with the reasonable potential analysis results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not water quality objectives for all pollutants, and monitoring data are unavailable for others. The pollutants that exhibit reasonable potential are copper, nickel, cyanide, and dioxin-TEQ. Dioxin-TEQ has reasonable potential because San Pablo Bay, to which the North Slough is tributary (via the Napa River), is 303(d)-listed for dioxin-TEQ and dioxin-TEQ was detected in the effluent.

Table F-6. Priority Pollutant Reasonable Potential Analysis

CTR No.	Pollutants	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 Results ^[3]
1	Antimony	4,300	0.66	1.7	No
2	Arsenic	36	1.3	34	No
3	Beryllium	No Criteria	<0.060	<0.060	U
4	Cadmium	7.3	0.020	0.040	No

CTR No.	Pollutants	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 Results ^[3]
5a	Chromium (III)	644	8.4	2.6	No
5b	Chromium (VI)	11	3.0	0.40	No
6	Copper	14	6.6	4.9	Yes
7	Lead	8.5	0.23	0.80	No
8	Mercury ^[4]	---	---	---	---
9	Nickel	8	5.4	9.2	Yes
10	Selenium ^[4]	---	---	---	---
11	Silver	2.2	0.11	<0.020	No
12	Thallium	6.3	<0.050	0.30	No
13	Zinc	86	62	10	No
14	Cyanide	2.9	8.4	0.36	Yes
15	Asbestos	No Criteria	---	---	U
16	2,3,7,8-TCDD	1.4E-08	<4.7E-07	<6.4E-07	No
	Dioxin-TEQ	1.4E-08	<4.7E-07	1.7E-09	Yes
17	Acrolein	780	<1.7	<1.0	No
18	Acrylonitrile	0.66	<0.40	<1.0	No
19	Benzene	71	<0.18	<0.30	No
20	Bromoform	360	<0.15	<0.10	No
21	Carbon Tetrachloride	4.4	<0.16	<0.42	No
22	Chlorobenzene	21,000	<0.18	<0.19	No
23	Chlorodibromomethane	34	<0.17	<0.18	U
24	Chloroethane	No Criteria	<0.38	<0.34	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.31	U
26	Chloroform	No Criteria	12	1.5	No
27	Dichlorobromomethane	46	0.50	0.60	U
28	1,1-Dichloroethane	No Criteria	<0.19	<0.28	No
29	1,2-Dichloroethane	99	<0.18	<0.18	No
30	1,1-Dichloroethylene	3.2	<0.20	<0.37	No
31	1,2-Dichloropropane	39	<0.18	<0.20	No
32	1,3-Dichloropropylene	1,700	<0.16	<0.20	No
33	Ethylbenzene	29,000	<0.26	<0.30	No
34	Methyl Bromide	4,000	<0.17	<0.42	U
35	Methyl Chloride	No Criteria	<0.23	<0.36	No
36	Methylene Chloride	1,600	<0.20	<0.38	No
37	1,1,2,2-Tetrachloroethane	11	<0.10	<0.30	No
38	Tetrachloroethylene	8.8	<0.19	<0.32	No
39	Toluene	200,000	0.49	<0.25	No
40	1,2-Trans-Dichloroethylene	140,000	<0.16	<0.30	U
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.35	No
42	1,1,2-Trichloroethane	42	<0.16	<0.27	No
43	Trichloroethylene	81	<0.20	<0.29	No
44	Vinyl Chloride	525	<0.25	<0.34	No
45	2-Chlorophenol	400	<0.66	<0.40	No
46	2,4-Dichlorophenol	790	<0.66	<0.30	No

CTR No.	Pollutants	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 Results ^[3]
47	2,4-Dimethylphenol	2,300	<0.80	<0.30	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.60	<0.40	No
49	2,4-Dinitrophenol	14,000	<0.83	<0.30	U
50	2-Nitrophenol	No Criteria	<0.80	<0.30	U
51	4-Nitrophenol	No Criteria	<0.50	<0.20	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.58	<0.30	No
53	Pentachlorophenol	7.9	<0.60	<0.40	No
54	Phenol	4,600,000	<0.46	<0.20	No
55	2,4,6-Trichlorophenol	6.5	<0.74	<0.20	No
56	Acenaphthene	2,700	<0.010	<0.17	U
57	Acenaphthylene	No Criteria	<0.020	<0.030	No
58	Anthracene	110,000	<0.010	<0.16	No
59	Benzidine	0.00054	<3.4	<0.30	No
60	Benzo(a)Anthracene	0.049	<0.020	<0.12	No
61	Benzo(a)Pyrene	0.049	<0.010	<0.090	No
62	Benzo(b)Fluoranthene	0.049	<0.010	<0.11	U
63	Benzo(ghi)Perylene	No Criteria	<0.020	<0.060	No
64	Benzo(k)Fluoranthene	0.049	<0.010	<0.16	U
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.81	<0.30	No
66	Bis(2-Chloroethyl)Ether	1.4	<0.14	<0.30	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.41	<0.60	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<0.60	<0.30	U
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.43	<0.40	No
70	Butylbenzyl Phthalate	5,200	<0.64	<0.40	No
71	2-Chloronaphthalene	4,300	<0.57	<0.30	U
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.90	<0.40	No
73	Chrysene	0.049	<0.010	<0.14	No
74	Dibenzo(a,h)Anthracene	0.049	<0.020	<0.040	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.12	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.16	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.12	No
78	3,3 Dichlorobenzidine	0.077	<2.0	<0.30	No
79	Diethyl Phthalate	120,000	<0.70	<0.40	No
80	Dimethyl Phthalate	2,900,000	<0.68	<0.40	No
81	Di-n-Butyl Phthalate	12,000	<0.60	<0.40	No
82	2,4-Dinitrotoluene	9.1	<0.68	<0.30	U
83	2,6-Dinitrotoluene	No Criteria	<0.54	<0.30	U
84	Di-n-Octyl Phthalate	No Criteria	<0.50	<0.40	No
85	1,2-Diphenylhydrazine	0.54	<0.33	<0.30	No
86	Fluoranthene	370	<0.030	<0.030	No
87	Fluorene	14,000	<0.010	<0.020	No
88	Hexachlorobenzene	0.00077	<0.70	<0.40	No
89	Hexachlorobutadiene	50	<0.60	<0.20	No
90	Hexachlorocyclopentadiene	17,000	<0.45	<0.10	No

CTR No.	Pollutants	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 Results ^[3]
91	Hexachloroethane	8.9	<0.58	<0.20	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.020	<0.040	No
93	Isophorone	600	<0.81	<0.30	U
94	Naphthalene	No Criteria	<0.020	<0.050	No
95	Nitrobenzene	1,900	<0.74	<0.30	No
96	N-Nitrosodimethylamine	8.1	<0.50	<0.40	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.80	<0.30	No
98	N-Nitrosodiphenylamine	16	<0.50	<0.40	U
99	Phenanthrene	No Criteria	<0.010	<0.030	No
100	Pyrene	11,000	<0.020	<0.030	U
101	1,2,4-Trichlorobenzene	No Criteria	<0.59	<0.30	No
102	Aldrin	0.00014	<0.0020	<0.0030	No
103	Alpha-BHC	0.013	<0.0050	<0.0020	No
104	Beta-BHC	0.046	<0.0020	<0.0010	No
105	Gamma-BHC	0.063	<0.0040	<0.0010	U
106	Delta-BHC	No Criteria	<0.0020	<0.0010	No
107	Chlordane	0.00059	<0.0050	<0.0050	No
108	4,4'-DDT	0.00059	<0.0030	<0.0010	No
109	4,4'-DDE	0.00059	<0.0030	<0.0010	No
110	4,4'-DDD	0.00084	<0.0040	<0.0010	No
111	Dieldrin	0.00014	<0.0040	<0.0020	No
112	Alpha-Endosulfan	0.0087	<0.0040	<0.0020	No
113	beta-Endosulfan	0.0087	<0.0020	<0.0010	No
114	Endosulfan Sulfate	240	<0.0050	<0.0010	No
115	Endrin	0.0023	<0.0020	<0.0020	No
116	Endrin Aldehyde	0.81	<0.0020	<0.0020	No
117	Heptachlor	0.00021	<0.0030	<0.0030	No
118	Heptachlor Epoxide	0.00011	<0.0040	<0.0020	No
119-125	PCBs sum ^[4]	---	<0.040		---
126	Toxaphene	0.00020	<0.20	<0.20	No

Unit Abbreviation:

µg/L= micrograms per liter

Footnotes:

- ^[1] The maximum effluent concentration 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 maximum effluent concentration 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] 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, which includes Central San Francisco Bay. Basin Plan section 7.2.4.5 finds that municipal wastewater dischargers have no reasonable potential to cause or contribute to the selenium impairment in San Francisco Bay segments and, therefore, are not required to have numeric effluent limitations.

- d. Ammonia.** Ammonia is a toxic pollutant but not a priority pollutant as defined by the CTR; therefore, the procedure outlined in the Technical Support Document is used to determine if ammonia in the discharge has a reasonable potential to cause water quality objectives to be exceeded in the receiving water. The Technical Support Document allows the use of measured receiving water concentrations or receiving water concentrations projected from effluent data to perform reasonable potential analyses. The following summarizes the steps using effluent data:

- Step 1. Determine the number of total observations (n) for a set of effluent data and determine the highest value from that data set (the maximum effluent concentration or MEC).
- Step 2. Determine the coefficient of variation (CV) from the data set. For a data set where $n < 10$, the coefficient of variation is estimated to equal 0.6. For a data set where $n \geq 10$, the coefficient of variation is calculated as the standard deviation divided by the mean.
- Step 3. Determine an appropriate ratio, R, for projecting a selected upper-bound concentration (e.g., the 99th or 95th percentile) assuming a lognormal distribution. To do this, the percentile represented by the MEC in a data set of “n” samples, p_n , needs to be determined based on the desired confidence interval, e.g., 95% or 99%. The 95% confidence interval was used for evaluating reasonable potential for ammonia for this Order.

$$P_n = (1 - \text{confidence interval})^{1/n}$$

Then C_{P_n} and $C_{\text{upper bound}}$ corresponding to the MEC percentile (P_n) and the selected upper-bound percentile (typically 99th percentile) is calculated using the following equation.

$$C_p = \exp(Z_p \sigma - 0.5 \sigma^2)$$

In this equation, $\sigma^2 = \ln(CV^2 + 1)$, p is the percentile (upper bound or p_n), and Z_p is the standard normal distribution value for the percentile p (available from statistical references).

The ratio, R, is then calculated as follows:

$$R = C_{\text{upperbound}} / C_{P_n}$$

- Step 4. Multiply the MEC by the ratio, R, determined in Step 3, and use this value with the appropriate dilution to project the receiving water concentration (RWC).

$$RWC = MEC \times R / \text{dilution ratio}$$

- Step 5. Compare the projected receiving water concentration to the applicable water quality objective. If a receiving water concentration is greater than or equal to the objective, then there is reasonable potential.

- i. Ammonia Data Translation.** Un-ionized ammonia concentrations must be translated into total ammonia concentrations 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 the salinity, pH, and temperature of the receiving water. Salinity, pH, and temperature data from effluent and receiving water monitoring were used to determine the fraction of total ammonia in the un-ionized form based on the following equations:

$$\text{For salinity} < 1 \text{ ppt: fraction of NH}_3 = \frac{1}{1 + 10^{(pK - pH)}}$$

Where:

$$pK = 0.09018 + 2729.92/T$$

T = temperature in Kelvin

$$\text{For salinity} > 10 \text{ ppt: fraction of NH}_3 = \frac{1}{1 + 10^{(pK - pH)}}$$

Where:

$$pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T$$

I = the 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)

For the effluent, the equation for waters of salinity less than 1 ppt was used. For the receiving water, the appropriate equation was used, depending on whether the salinity was less than 1 ppt or greater than 10 ppt. For waters of intermediate salinity, the equation resulting in a higher un-ionized ammonia fraction was used.

- ii. **Dilution.** Because this Order does not grant dilution for pollutants (other than cyanide, as established in Basin Plan Table 4-6), the receiving water concentration projected from effluent data was assumed to be the same as the projected upper-bound concentration: $RWC = MEC \times R$ (see Step 4 above).
- iii. **Two Approaches.** According to the Technical Support Document, the reasonable potential analysis can be performed based on the receiving water concentration projected using effluent data (the steps summarized above) or the actual measured receiving water concentration. Both values may be compared directly with the Basin Plan un-ionized objectives:
 - (a) **Effluent Approach.** Effluent un-ionized ammonia concentrations were calculated using the pH and temperature data collected on the same 234 days as the ammonia samples (n=234). The MEC was 0.027 mg/L when expressed as un-ionized ammonia (as nitrogen). The confidence interval was set at 95 percent. The percentile represented by the MEC (Pn) was calculated to be 0.987, indicating that the MEC represents the 98.7th percentile of all observed ammonia effluent data. With the upper bound set at the 99th percentile, the R value was determined to be 1.04 (Cpn was 2.55 and Copper bound was 2.66), and the projected receiving water concentration was 0.028 mg/L, which is less than the Basin Plan un-ionized ammonia acute objective of 0.16 mg/L.

The highest actual running annual median un-ionized ammonia concentration based on the effluent data was calculated and compared with the chronic objective, which itself is expressed as an annual median. No projection is needed to establish the central tendency of the data. The maximum annual median, 0.0060 mg/L, is less than the annual median objective of 0.025 mg/L.

(b) Receiving Water Approach. Receiving water monitoring data from RSW-003 were collected for total ammonia, pH, salinity, and temperature. The maximum un-ionized ammonia concentration (0.012 mg/L) was less than the maximum water quality objective (0.16 mg/L). The highest running annual median un-ionized ammonia concentration (0.0050 mg/L) was less than the annual median water quality objective (0.025 mg/L).

iv. Conclusion. The Discharge does not exhibit reasonable potential. However, this Order retains the previous order's total ammonia WQBELs to ensure that the Discharger continues to successfully operate its treatment plant to reduce ammonia concentrations. Doing so will also ensure that effluent ammonia concentrations remain below Basin Plan objectives.

e. Acute Toxicity. Basin Plan section 4.5.5.3.1 requires acute toxicity monitoring and limitations.

f. Chronic Toxicity. The TSD allows for mixing zones and dilution credits to be considered when conducting an RPA. This analysis uses a dilution ratio of 3.25:1 ($D=2.25$), which is the same as the dilution credit for cyanide listed in Table 4-6 of the Basin Plan. This approach is consistent with Basin Plan section 4.5.5.3.2, which allows chronic toxicity dilution credits "comparable to those allowed for numeric chemical-specific objectives."

The Discharger conducted semi-annual chronic toxicity tests during the previous order term using the mysid shrimp (*Americamysis bahia*). The maximum single-sample chronic toxicity result was 1.1 TU_c in January 2012. Applying the dilution factor of $D=2.25$, the maximum chronic toxicity concentration in the receiving water is calculated to be 0.49 TU_c, below the translated water quality objective of 1.0 TU_c. Thus there is no reasonable potential for this discharge to cause or contribute to an exceedance of the water quality objective.

g. Enterococcus. Because this discharge includes domestic wastewater, there is reasonable potential for it to cause or contribute to exceedance of the Basin Plan Table 3-1 water quality objective for enterococcus bacteria. The enterococcus objective applies because the Napa River is an estuarine receiving water with the water contact recreation beneficial use.

h. Reasonable Potential Analysis for Sediment Quality. Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities; however, there is insufficient evidence directly linking compromised sediment conditions to the discharges subject to this Order to complete a reasonable potential analysis. Therefore, this Order requires the Discharger to participate in the Regional Monitoring Program (RMP), which monitors San Francisco Bay sediment

and seeks to identify stressors responsible for degraded sediment quality. Thus far, the monitoring has provided only limited information about potential stressors and sediment transport. The Regional Water Board is exploring options for obtaining additional information that may inform future analyses.

4. Calculation of 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. The WQBELs are based on the procedure specified in SIP section 1.4, which is required for priority pollutants. SIP section 1.4 is used as guidance for the other pollutants.

- a. **Dilution Credits.** SIP section 1.4.2 allows dilution credits under certain circumstances. Because Discharge Point Nos. 001 and 003 do not achieve at least 10:1 dilution, this Order denies dilution credits in the calculation of effluent limits other than those for cyanide. This Order grants a dilution credit of 3.25:1 ($D = 2.25$) for cyanide in accordance with Basin Plan Table 4-6.
- b. **WQBEL Calculations.** For those pollutants with reasonable potential, average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) are calculated as shown in the table below:

Table F-7. WQBEL Calculations

POLLUTANTS	Cyanide	Copper	Nickel	Dioxins
Units	µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	Basin Plan SSO	CTR/Basin Plan SSO	CTR	CTR
Criteria -Acute	9.4	-----	75	-----
Criteria -Chronic	2.9	-----	8.3	-----
SSO Criteria -Acute	9.4	9.4	-----	-----
SSO Criteria -Chronic	2.9	6.0	-----	-----
Water Effects Ratio (WER)	1	1	1	1
Lowest WQO	2.9	6.0	8.3	1.4E-08
Site Specific Translator - MDEL	-----	0.57	-----	-----
Site Specific Translator - AMEL	-----	0.42	-----	-----
Dilution Factor (D) (if applicable)	2.25	0	0	0
No. of samples per month	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N
HH criteria analysis required? (Y/N)	Y	N	Y	Y
Applicable Acute WQO	9.4	16	75	-----
Applicable Chronic WQO	2.9	14	8.3	-----
HH criteria	2.2E+05	-----	4,600	1.4E-08
Background (Maximum Conc for Aquatic Life calc)	0.36	4.9	9.2	-----
Background (Average Conc for Human Health calc)	0.40	-----	9.2	1.7E-09

POLLUTANTS	Cyanide	Copper	Nickel	Dioxins
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	Y
ECA acute	30	16	75	-----
ECA chronic	8.6	14	8.3	-----
ECA HH	7.2E+05	-----	4,600	1.4E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	Y
Avg of effluent data points	1.8	4.3	3.6	N/A
Std Dev of effluent data points	1.2	1.4	0.89	N/A
CV calculated	0.68	0.32	0.25	N/A
CV (Selected) - Final	0.68	0.32	0.25	0.60
ECA acute mult99	0.29	0.51	0.58	-----
ECA chronic mult99	0.49	0.70	0.75	-----
LTA acute	8.6	8.4	44	-----
LTA chronic	4.2	10	6.2	-----
minimum of LTAs	4.2	8.4	6.2	-----
AMEL mult95	1.6	1.3	1.2	1.6
MDEL mult99	3.5	2.0	1.7	3.1
AMEL (aq life)	6.9	11	7.6	
MDEL (aq life)	15	16	11	
MDEL/AMEL Multiplier	2.1	1.5	1.4	2.0
AMEL (human hlth)	7.1E+05	-----	4,600	1.4E-08
MDEL (human hlth)	1.5E+06	-----	6,500	2.8E-08
minimum of AMEL for Aq. life vs HH	6.9	11	7.6	1.4E-08
minimum of MDEL for Aq. Life vs HH	15	16	11	2.8E-08
Previous order limit (average monthly)	6.9	10	7.6	1.4E-08
Previous order limit (maximum daily)	14	16	11	2.8E-08
Final limit - AMEL	6.9	10	7.6	1.4E-08
Final limit - MDEL	14	16	11	2.8E-08

Unit Abbreviations:

mg/L as N = milligrams per liter as nitrogen
µg/L = micrograms per liter

- c. Acute Toxicity.** This Order includes acute toxicity WQBELs 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 WQBELs, and that the ammonia in the discharge complies with the total ammonia WQBELs in this Order, then such toxicity does not constitute a violation of the acute toxicity WQBELs.

- d. Enterococcus.** The enterococcus WQBEL is based on Basin Plan Table 4-2A, which requires an enterococcus limit for discharges of treated sewage to receiving waters with the water contact recreation beneficial use (REC-1).

E. Discharge Requirement Considerations

- 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. However, this Order does not retain the previous order's narrative chronic toxicity WQBEL at Discharge Point Nos. 001 and 003 because this pollutant does not demonstrate reasonable potential to cause or contribute to an exceedance of the water quality objectives at Discharge Point Nos. 001 and 003. Eliminating this limit is consistent with State Water Board Order No. WQ 2001-16.
- 2. Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. It continues the status quo with respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for a flow increase, a reduced level of treatment, or higher effluent limits relative to those in the previous order.
- 3. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and WQBELs for individual pollutants. This Order's 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 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 applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in Provisions V.A and V.B of this Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in Provision V.C of this Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

VI. RATIONALE FOR PROVISIONS

A. 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 federal standard 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.

B. Monitoring and Reporting

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 sections 13267 and 13383 also authorize 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 background regarding these requirements, see Fact Sheet section VII. Regional Water Board Order No. R2-2016-0008 allows the Discharger to opt into certain alternative monitoring requirements.

C. Special Provisions

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.

2. Effluent Characterization Study and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the MRP and Attachment G. Monitoring data are necessary to verify that the “no” and “unknown” reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to CWC section 13267, 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.

3. Pollutant Minimization Program

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

4. Special Provisions for Publicly Owned Treatment Works (POTWs)

- a. Pretreatment Program.** This provision is based on 40 C.F.R. part 403. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the treatment plant. This provision lists the Discharger's responsibilities regarding its pretreatment program and requires compliance with the provisions in Attachment H, "Pretreatment Requirements."
- b. Sludge and Biosolids Management.** This provision is based on Basin Plan section 4.17. "Sludge" refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. "Biosolids" refers to sludge that has been treated and may be beneficially reused.
- c. Collection System Management.** The Discharger's collection system is part of the Facility regulated by this Order. This provision requires compliance with State Water Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, as amended by State Water Board Order No. WQ 2013-0058-EXEC and any subsequent order updating these requirements. These State Water Board WDRs require public agencies that own or operate sanitary sewer systems with one or more miles of sewer lines to enroll for coverage and comply with requirements to develop sanitary sewer management plans and report sanitary sewer overflows, among other provisions and prohibitions. The State Water Board WDRs contain requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive and, therefore, more stringent than the standard provisions in Attachments D and G. Compliance with the State Water Board WDRs will satisfy the corresponding requirements in Attachments D and G.

5. Other Special Provisions

- a. 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. The Discharger submitted an inventory of potential copper sources on June 4, 2010. This Order requires the Discharger to implement pretreatment, source control, and pollution prevention for identified sources. No significant copper sources were found. Additional actions may be necessary depending on the three-year rolling mean copper concentration in Central or Lower San Francisco Bay. Data the San Francisco Estuary Institute compiled for 2011-2015 indicate no degradation of San Francisco Bay water quality with respect to copper (<http://www.sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0#overlay-context=content/copper-site-specific-objective-3-year-rolling-averages>).
- b. 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 threshold influent cyanide concentration indicating a

possible “significant cyanide discharge” in the Discharger’s service area is 23 µg/L. The maximum influent cyanide concentration found during the previous order term was 15 µg/L; an influent concentration greater than this by more than a factor of 1.5 could indicate a significant discharge.

- c. **Anaerobically Digestible Material.** Standard Operating Procedures are required for dischargers that accept hauled waste food, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt operations from separate and redundant permitting programs. If the Discharger does not accept fats, oil, and grease for resource recovery purposes, it is not required to develop and implement Standard Operating Procedures.

Some POTWs choose to accept organic material, such as waste food, fats, oils, and grease, into their anaerobic digesters to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the collection system and potentially causing sanitary sewer overflows. The California Department of Resources Recycling and Recovery has proposed to exclude publicly owned treatment works from Process Facility/Transfer Station permit requirements when the same activities are regulated under waste discharge requirements or NPDES permits. The proposed exclusion is restricted to anaerobically digestible materials that have been prescreened, slurried, processed, and conveyed in a closed system for co-digestion with regular sewage sludge. The exclusion assumes that the facility has developed Standard Operating Procedures for proper handling, processing, tracking, and management.

- d. **Constructed Freshwater Wetlands Management.** This provision consolidates provisions and monitoring requirements contained in the previous order. It requires the Discharger to continue management and monitoring of its constructed freshwater wetlands in accordance with the Discharger’s *Constructed Wetlands Demonstration Project Management Plan* (August 2001) or the most recent version, developed in accordance with the Regional Water Board’s *Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands* (Resolution No. 94-086). This provision is necessary to continue to receive an exception to Basin Plan discharge prohibition 1 as described in Fact Sheet section IV.B above.

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

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 these requirements.

A. Monitoring Requirements Rationale

- 1. **Influent Monitoring.** Influent flow monitoring is necessary to understand Facility operations. Influent BOD₅ and TSS monitoring is necessary to evaluate compliance with this Order’s 85 percent removal requirements. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order’s cyanide effluent limits implement site-specific cyanide water quality objectives.

2. **Effluent Monitoring.** Effluent flow monitoring at Monitoring Locations EFF-001, EFF-001-S, EFF-003, and REC-001 is necessary to understand Facility operations and to evaluate compliance with Discharge Prohibitions III.C and E, which prohibit average dry weather effluent flow greater than 2.5 MGD and dry season discharges from Discharge Point No. 001, respectively. Monitoring for the other parameters at Monitoring Locations EFF-001, EFF-001-S, and EFF-003 is necessary to evaluate compliance with this Order's effluent limitations and to provide information for future reasonable potential analyses.
3. **Acute Toxicity Testing.** Acute toxicity tests are necessary to evaluate compliance with the acute toxicity effluent limitations and to conduct future reasonable potential analyses.
4. **Chronic Toxicity Testing.** Chronic toxicity tests are necessary to provide information for future reasonable potential analyses. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity exceeds the triggers 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's March 2016 final chronic toxicity screening report found mysid shrimp (*Americamysis bahia*) to be the most sensitive species. Consistent with Basin Plan section 4.5.5.3.4, MRP section V.B.1.b requires the Discharger to conduct a new chronic toxicity screening phase study, as described in MRP Appendix E-1, prior to permit reissuance.

5. **Receiving Water Monitoring.** This Order retains most receiving water monitoring requirements from the previous order. Receiving water monitoring is necessary to evaluate compliance with receiving water limitations. Monitoring for hardness is necessary to determine applicable water quality objectives. Monitoring for pH and temperature is necessary to provide data to translate the Basin Plan's un-ionized ammonia water quality objectives into total ammonia criteria. Monitoring for total ammonia will be useful to complete future reasonable potential analyses.

The Discharger is also required to continue participating in the RMP, 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 discharges this Order authorizes.

This Order does not retain receiving water monitoring for total phosphate and chlorophyll *a* because these constituents are monitored under a separate RMP monitoring program.

6. **Pretreatment and Biosolids Monitoring.** The pretreatment and biosolids monitoring requirements for influent, effluent, and biosolids are necessary to evaluate compliance with the Discharger's pretreatment program requirements.
7. **Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program. The program annually evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories. There are two options to comply: (1) dischargers can obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, dischargers can submit results from the most recent Water Pollution

Performance Evaluation Study. Dischargers must submit results annually to the State Water Board, which then forwards the results to U.S. EPA.

B. 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.

Table F-8. Monitoring Requirements Summary

Parameter	Influent INF-001	Influent INF-002	Plant Effluent EFF-001	Plant Effluent EFF-001-S, REC-001, and EFF-003	Receiving Water RSW-001 through RSW-003 ^[1]	Receiving Water RSW-004 through RSW-005 ^[1]	Biosolids BIO-003
Flow	Continuous/D	Continuous/D	Continuous/D	Continuous/D	---	Continuous (Pond 2 to North Slough)	---
pH	---	---	5/Week	---	1/Quarter	1/Month	---
Biochemical Oxygen Demand, 5-day @ 20°C	2/Week	2/Week	1/Week	---	---	---	---
Total Suspended Solids	2/Week	2/Week	1/Week	---	---	---	---
BOD ₅ and TSS % Removal	---	---	1/Month	---	---	---	---
Oil and Grease	---	---	1/Month	---	---	---	---
Total Residual Chlorine	---	---	Continuous/H	---	---	---	---
Enterococcus	---	---	2/Week	---	---	---	---
Turbidity	---	---	2/Week	---	1/Quarter	---	---
Temperature	---	---	5/Week	---	1/Quarter	1/Quarter	---
Salinity	---	---	1/Week	---	1/Quarter	1/Quarter	---
Acute Toxicity	---	---	1/Month	---	---	---	---
Chronic Toxicity	---	---	1/Quarter	---	---	---	---
Ammonia, Total	---	---	1/Month	---	1/Quarter	1/Quarter	---
Copper, Total Recoverable	---	---	1/Month	---	---	---	---
Nickel, Total Recoverable	---	---	1/Month	---	---	---	---
Cyanide, Total	1/Month	1/Month	1/Month	---	---	---	1/Month
Dioxin-TEQ	---	---	2/Year	---	---	---	---
Priority Pollutants ^[2]	---	---	1/Year	---	---	---	---
Dissolved Oxygen	---	---	---	---	1/Quarter	---	---
Hardness	---	---	---	---	1/Quarter	1/Quarter	---

Parameter	Influent INF-001	Influent INF-002	Plant Effluent EFF-001	Plant Effluent EFF-001-S, REC-001, and EFF-003	Receiving Water RSW-001 through RSW-003 ^[1]	Receiving Water RSW-004 through RSW-005 ^[1]	Biosolids BIO-003
VOC ^[3]	2/Year	---	2/Year	---	---	---	2/Year
BNA ^[3]	2/Year	---	2/Year	---	---	---	2/Year
Metals and Other Elements ^[4]	1/Month	---	1/Month	---	---	---	1/Month
Standard Observations ^[8]	---	---	1/Month	---	1/Quarter	---	---

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily

1/Day = once per day

1/Hour = once per hour

1/Week = once per week

2/Week = twice per week

1/Month = once per month

1/Quarter = once per quarter

1/Year = once per year

2/Year = once per year

Footnotes:

^[1] The Discharger is also required to continue supporting the RMP.

^[2] Priority pollutant monitoring is required by Provision VI.C.2 of this Order.

^[3] VOC: volatile organic compounds; BNA: base/neutrals and acid extractable organic compounds

^[4] The metals and other elements are arsenic, cadmium, chromium (total and hexavalent), lead, mercury, nickel, selenium, silver, and zinc.

VIII. 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.

A. 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. Notification was provided through the *Napa Valley Register* in Napa. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at <http://www.waterboards.ca.gov/sanfranciscobay>.

B. 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 or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of John Madigan.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on March 13, 2017.

- C. Public Hearing.** The Regional Water Board held a public hearing on the tentative WDRs during its regular meeting at the following date and time, and at the following location:

Date: April 12, 2017
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: John Madigan, (510) 622-2405, John.Madigan@waterboards.ca.gov

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

Dates and venues change. The Regional Water Board web address is <http://www.waterboards.ca.gov/sanfranciscobay>, where one could access the current agenda for changes in dates and locations.

- D. Reconsideration of Waste Discharge Requirements.** Any aggrieved person may petition the State Water Board to review the Regional Water Board decision regarding the final WDRs. The State Water Board must receive the petition at the following address within 30 calendar days of the Regional Water Board action:

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

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

- E. Information and Copying.** The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m. (except noon to 1:00 p.m.), Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.
- F. 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.
- G. Additional Information.** Requests for additional information or questions regarding this Order should be directed to John Madigan, at (510) 622-2405 or John.Madigan@waterboards.ca.gov.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

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

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

Contents

I. STANDARD PROVISIONS - PERMIT COMPLIANCE	G-1
A. Duty to Comply.....	G-1
B. Need to Halt or Reduce Activity Not a Defense.....	G-1
C. Duty to Mitigate.....	G-1
1. Contingency Plan.....	G-1
2. Spill Prevention Plan	G-2
D. Proper Operation & Maintenance	G-2
1. Operation and Maintenance (O&M) Manual	G-2
2. Wastewater Facilities Status Report.....	G-2
3. Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs).....	G-3
E. Property Rights	G-3
F. Inspection and Entry	G-3
G. Bypass	G-3
H. Upset	G-3
I. Other.....	G-3
J. Storm water	G-3
1. Storm water Pollution Prevention Plan (SWPP Plan)	G-3
2. Source Identification	G-4
3. Storm water Management Controls.....	G-5
4. Annual Verification of SWPP Plan	G-6
K. Biosolids Management.....	G-6
II. STANDARD PROVISIONS – PERMIT ACTION	G-7
III. STANDARD PROVISIONS – MONITORING.....	G-7
A. Sampling and Analyses.....	G-7
1. Use of Certified Laboratories	G-7
2. Use of Appropriate Minimum Levels.....	G-7
3. Frequency of Monitoring.....	G-7
B. Biosolids Monitoring	G-10
1. Biosolids Monitoring Frequency	G-10
2. Biosolids Pollutants to Monitor.....	G-10
C. Standard Observations	G-10
1. Receiving Water Observations	G-10
2. Wastewater Effluent Observations	G-11
3. Beach and Shoreline Observations.....	G-11
4. Land Retention or Disposal Area Observations	G-11
5. Periphery of Waste Treatment and/or Disposal Facilities Observations.....	G-12
IV. STANDARD PROVISIONS – RECORDS.....	G-12
A. Records to be Maintained	G-12
B. Records of monitoring information.....	G-12
1. Analytical Information	G-12
2. Flow Monitoring Data	G-12
3. Wastewater Treatment Process Solids.....	G-13
4. Disinfection Process	G-13
5. Treatment Process Bypasses.....	G-13
6. Treatment Facility Overflows.....	G-14
C. Claims of Confidentiality	G-14
V. STANDARD PROVISIONS – REPORTING.....	G-14
A. Duty to Provide Information	G-14

B. Signatory and Certification Requirements	G-14
C. Monitoring Reports	G-14
1. Self Monitoring Reports	G-14
D. Compliance Schedules	G-18
E. Twenty-Four Hour Reporting	G-18
1. Spill of Oil or Other Hazardous Material Reports.....	G-18
2. Unauthorized Discharges from Municipal Wastewater Treatment Plants	G-19
F. Planned Changes	G-22
G. Anticipated Noncompliance.....	G-22
H. Other Noncompliance	G-22
I. Other Information	G-22
VI. STANDARD PROVISION – ENFORCEMENT	G-22
VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS.....	G-22
VIII. DEFINITIONS.....	G-22

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

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

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

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

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

- 1. Contingency Plan -** The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal 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 into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will 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, contain the provisions of a. through g. below.
 - a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

- b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.
 - c. Provisions of emergency standby power.
 - d. Protection against vandalism.
 - e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.
 - f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.
 - g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.
2. **Spill Prevention Plan** - The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:
- a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;
 - b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and
 - c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

- 1. **Operation and Maintenance (O&M) Manual** - The Discharger shall maintain an O&M 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 O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.
- 2. **Wastewater Facilities Status Report** - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. 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.

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 Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.
2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.
3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all storm water flows from the facility to the wastewater treatment plant headworks.

1. Storm Water Pollution Prevention Plan (SWPP Plan)

The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

- a. To identify pollutant sources that may affect the quality of storm water discharges; and
- b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to storm water discharges, or may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

- a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
- b. A site map showing the following:
 - 1) Storm water conveyance, drainage, and discharge structures;
 - 2) An outline of the storm water drainage areas for each storm water discharge point;
 - 3) Paved areas and buildings;
 - 4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;
 - 5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
 - 6) Surface water locations, including springs and wetlands; and
 - 7) Vehicle service areas.
- c. A narrative description of the following:
 - 1) Wastewater treatment process activity areas;
 - 2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;
 - 3) Material storage, loading, unloading, and access areas;
 - 4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and
 - 5) Methods of on-site storage and disposal of significant materials.
- d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm water pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the storm water drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).
2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).
3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.
4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by U.S. EPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

- 1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.
- 2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.
- 3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).
- 4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does

not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

- i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and
- ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

- 1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), 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 is in compliance with the monthly average limit.
- 2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.
- 3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).
- 4) 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 limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.
- 5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.
- 6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Section I.G.4, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-

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

When a bypass subject to Attachment D, Standard Provisions, Section I.G.2, occurs, or any bypass approved pursuant to section I.G.4 other than a bypass of secondary treatment, the Discharger shall monitor flows and analyze samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass (including acute toxicity using static renewals), except oil and grease, mercury, PCBs, dioxin-TEQ, and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

- 1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.
- 2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

- 3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.
- 4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.
- 5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

- 1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.
- 2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.
- 3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

<u>Metric tons biosolids/365 days</u>	<u>Frequency</u>
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

- Land Application: Arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc
- Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)
- Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (AttachmentD)

1. Receiving Water Observations

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

- a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.
- b. *Discoloration and turbidity*: description of color, source, and size of affected area.
- c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.
- d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.
- e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).
- f. *Weather conditions*:
 - 1) Air temperature; and
 - 2) Total precipitation during the five days prior to observation.

2. Wastewater Effluent Observations

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

- a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.
- b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

- a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.
- b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

- a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.

- b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).
- c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.
- d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

- a. *Odor*: presence or absence, characterization, source, and distance of travel.
- b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of U.S. EPA, Region IX.

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

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

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

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

- a. Total volume for each day; and
- b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

- a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
 - 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
 - 2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:
 - 1) Total volume or mass of dewatered biosolids for each calendar month;
 - 2) Solids content of the dewatered biosolids; and
 - 3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

- a. For bacteriological analyses:
 - 1) Wastewater flow rate at the time of sample collection; and
 - 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 this Order).
- b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:
 - 1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);
 - 2) Chlorine dosage (kg/day); and
 - 3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

- a. Identification of the treatment process bypassed;
- b. Dates and times of bypass beginning and end;
- c. Total bypass duration;

- d. Estimated total bypass volume; and
- e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

Each SMR shall be submitted with a transmittal letter. This letter shall include the following:

- 1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;
- 2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;
- 3) Causes of violations;
- 4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);
- 5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter 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. This 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, etc.], and discussion of the

corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.);

- 6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and
- 7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

- 1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.
- 2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - i. 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.
 - ii. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

- 3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (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 (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \sum (C_x \times \text{TEF}_x \times \text{BEF}_x)$$

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 A
Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 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	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	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	0.0001	0.02

d. Data reporting for 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 require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

- 1) Annual compliance summary table of treatment plant performance, including documentation of any blending events (this summary table is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
- 2) Comprehensive discussion of treatment plant performance 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 performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);
- 3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater (this item is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
- 4) List of approved analyses, including the following:
 - (i) List of analyses for which the Discharger is certified;
 - (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and
 - (iii) List of "waived" analyses, as approved;
- 5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;
- 6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and
- 7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

- a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.
- b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.
- c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:
 - 1) Date and time of spill, and duration if known;
 - 2) Location of spill (street address or description of location);
 - 3) Nature of material spilled;
 - 4) Quantity of material involved;
 - 5) Receiving water body affected, if any;
 - 6) Cause of spill;
 - 7) Estimated size of affected area;
 - 8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
 - 9) Corrective actions taken to contain, minimize, or clean up the spill;
 - 10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and
 - 11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants¹

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and supersede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008.

a. Two (2)-Hour Notification

For any unauthorized discharges that enter a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the California Emergency Management Agency (CalEMA, currently 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. Timely notification by the Discharger to CalEMA also satisfies notification to the Regional Water Board. Notification shall include the following:

- 1) Incident description and cause;
- 2) Location of threatened or involved waterway(s) or storm drains;
- 3) Date and time the unauthorized discharge started;
- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;
- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and
- 6) Identity of the person reporting the unauthorized discharge.

b. 5-Day Written Report

Within five business days, the Discharger shall submit a written report that includes, in addition to the information required above, the following:

- 1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 2) Efforts implemented to minimize public exposure to the unauthorized discharge;
- 3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;
- 4) Corrective measures taken to minimize the impact of the unauthorized discharge;
- 5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

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.

- 6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and
- 7) Quantity and duration of the unauthorized discharge, and the amount recovered.

Table B
Summary of Communication Requirements for Unauthorized Discharges¹ from
Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than 2 hours after becoming aware of the unauthorized discharge.	Electronic ² www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than 24 hours after becoming aware of the unauthorized discharge.	Electronic ³ www.wbers.net
3. Report	Regional Water Board	Within 5 business days of becoming aware of the unauthorized discharge.	Electronic ⁴ www.wbers.net

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.

² In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board's online system in electronic format.

³ In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board's online system in electronic format.

⁴ If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board's online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board's online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

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

1. Arithmetic Calculations

- a. Geometric mean is 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:

$$\text{Geometric Mean} = \text{Anti log} \left(\frac{1}{N} \sum_{i=1}^N \text{Log}(C_i) \right)$$

or

$$\text{Geometric Mean} = (C_1 * C_2 * \dots * C_N)^{1/N}$$

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

- b. 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:

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

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.

- c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.
- d. POTW removal efficiency is 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):

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

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.
3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.
4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.
5. Composite sample is 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 rate 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 sampling protocol for the given parameter subject to Executive Officer approval.
6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.
8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.
9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.
10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.
11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.
12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.
14. Untreated waste is raw wastewater.
15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C
List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	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) ⁸	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 (note) ⁹												
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) ¹⁰	0100.2 ¹¹												
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										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										

⁶ 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.

⁷ 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.

⁸ 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 µg/l).

⁹ 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 µg/l).

¹⁰ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

¹¹ Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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										
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 Benzo(b)fluoranthene	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										

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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										
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 (note) ¹²	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											
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											

¹² Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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											

ATTACHMENT H – PRETREATMENT REQUIREMENTS

**CALIFORNIA REGIONAL WATER QUALITY CONTROL
BOARD
SAN FRANCISCO BAY REGION**

**ATTACHMENT H
PRETREATMENT PROGRAM PROVISIONS
For
NPDES POTW WASTEWATER DISCHARGE PERMITS**

March 2011
(Corrected May 2011)

TABLE OF CONTENTS	Page
I. Pretreatment Program Provisions.....	H-1
II. APPENDIX H-1.....	H-3
REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS	
A. Cover Sheet.....	H-3
B. Introduction.....	H-3
C. Definitions.....	H-4
D. Discussion of Upset, Interference and Pass Through.....	H-4
E. Influent, Effluent and Biosolids Monitoring Results.....	H-4
F. Inspection, Sampling and Enforcement Programs.....	H-4
G. Updated List of Regulated SIUs.....	H-5
H. SIU (categorical and non-categorical) Compliance Activities.....	H-6
I. Baseline Monitoring Report Update.....	H-7
J. Pretreatment Program Changes.....	H-8
K. Pretreatment Program Budget.....	H-8
L. Public Participation Summary.....	H-8
M. Biosolids Storage and Disposal Practice.....	H-9
N. Other Pollutant Reduction Activities.....	H-9
O. Other Subjects.....	H-9
P. Permit Compliance System (PCS) Data Entry Form.....	H-9
III. APPENDIX H-2.....	H-10
REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT	
A. Influent, Effluent and Biosolids Monitoring.....	H-10
B. Industrial User Compliance Status.....	H-10
C. Discharger's Compliance with Pretreatment Program Requirements.....	H-11
IV. APPENDIX H-3.....	H-12
SIGNATURE REQUIREMENTS FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS	
V. APPENDIX H-4.....	H-13
REQUIREMENTS FOR INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING	
A. Reduction of Monitoring Frequency.....	H-13
B. Influent and Effluent Monitoring.....	H-13
C. Biosolids Monitoring.....	H-14

Attachment H: Pretreatment Program Provisions

- A.** The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any regulatory revisions to Part 403. Where a Part 403 revision is promulgated after the effective date of the Discharger's permit and places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the issuance date of this permit or six months from the effective date of the Part 403 revisions, whichever comes later.

(If the Discharger cannot complete the required actions within the above six-month period due to the need to process local adoption of sewer use ordinance modifications or other substantial pretreatment program modifications, the Discharger shall notify the Executive Officer in writing at least 60 days prior to the six-month deadline. The written notification shall include a summary of completed required actions, an explanation for why the six month deadline cannot be met, and a proposed timeframe to complete the rest of the required actions as soon as practical but not later than within twelve months of the issuance date of this permit or twelve months of the effective date of the Part 403 revisions, whichever comes later. The Executive Officer will notify the Discharger in writing within 30 days of receiving the request if the extension is not approved.)

The United States Environmental Protection Agency (U.S. EPA), the State and/or other appropriate parties may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the Clean Water Act (Act).

- B.** The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Discharger shall cause nondomestic users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
- C.** The Discharger shall perform the pretreatment functions as required in 40 CFR 403 and amendments or modifications thereto including, but not limited to:
- 1.** Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);
 - 2.** Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);
 - 3.** Publish an annual list of nondomestic users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(viii);
 - 4.** Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and
 - 5.** Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.

- D.** The Discharger shall submit annually a report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous calendar year. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix H-1 entitled, “Requirements for Pretreatment Annual Reports.” The annual report is due each year on February 28.
- E.** The Discharger shall submit a pretreatment semiannual report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, information specified in Appendix H-2 entitled, “Requirements for Pretreatment Semiannual Reports.” The semiannual report is due July 31 for the period January through June. The information for the period July through December of each year shall be included in the Annual Report identified in Appendix H-1. The Executive Officer may exempt the Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and U.S. EPA’s comment and approval.
- F.** The Discharger shall conduct the monitoring of its treatment plant’s influent, effluent, and sludge (biosolids) as described in Appendix H-4 entitled, “Requirements for Influent, Effluent and Sludge (Biosolids) Monitoring.” (The term “biosolids,” as used in this Attachment, shall have the same meaning as wastewater treatment plant “sludge” and will be used from this point forward.) The Discharger shall evaluate the results of the sampling and analysis during the preparation of the semiannual and annual reports to identify any trends. Signing the certification statement used to transmit the reports shall be deemed to certify the Discharger has completed this data evaluation. A tabulation of the data shall be included in the pretreatment annual report as specified in Appendix H-4. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX H-1

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

The Pretreatment Annual Report is due each year on February 28 and shall contain activities conducted during the previous calendar year. The purpose of the Annual Report is to:

- Describe the status of the Discharger's pretreatment program; and
- Report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation.

The report shall contain, at a minimum, the following information:

A. Cover Sheet

The cover sheet shall include:

1. The name(s) and National Pollutant Discharge Elimination System (NPDES) permit number(s) of the Discharger(s) that is part of the Pretreatment Program;
2. The name, address and telephone number of a pretreatment contact person;
3. The period covered in the report;
4. A statement of truthfulness; and
5. The dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(m)).

B. Introduction

This section shall include:

1. Any pertinent background information related to the Discharger and/or the nondomestic user base of the area;
2. List of applicable interagency agreements used to implement the Discharger's pretreatment program (e.g., Memoranda of Understanding (MOU) with satellite sanitary sewer collection systems); and
3. A status summary of the tasks required by a Pretreatment Compliance Inspection (PCI), Pretreatment Compliance Audit (PCA), Cleanup and Abatement Order (CAO), or other pretreatment-related enforcement actions required by the Regional Water Board or the U.S. EPA. A more detailed discussion can be referenced and included in the section entitled, "Program Changes," if needed.

C. Definitions

This section shall include a list of key terms and their definitions that the Discharger uses to describe or characterize elements of its pretreatment program, or the Discharger may provide a reference to its website if the applicable definitions are available on-line.

D. Discussion of Upset, Interference and Pass Through

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the Discharger's treatment plant(s) that the Discharger knows of or suspects were caused by nondomestic user discharges. Each incident shall be described, at a minimum, consisting of the following information:

1. A description of what occurred;
2. A description of what was done to identify the source;
3. The name and address of the nondomestic user responsible;
4. The reason(s) why the incident occurred;
5. A description of the corrective actions taken; and
6. An examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

E. Influent, Effluent and Biosolids Monitoring Results

The Discharger shall evaluate the influent, effluent and biosolids monitoring results as specified in Appendix H-4 in preparation of this report. The Discharger shall retain the analytical laboratory reports with the Quality Assurance and Quality Control (QA/QC) data validation and make these reports available upon request.

This section shall include:

1. Description of the sampling procedures and an analysis of the results (see Appendix H-4 for specific requirements);
2. Tabular summary of the compounds detected (compounds measured above the detection limit for the analytical method used) for the monitoring data generated during the reporting year as specified in Appendix H-4;
3. Discussion of the investigation findings into any contributing sources of the compounds that exceed NPDES limits; and
4. Graphical representation of the influent and effluent metal monitoring data for the past five years with a discussion of any trends.

F. Inspection, Sampling and Enforcement Programs

This section shall include at a minimum the following information:

1. Inspections: Summary of the inspection program (e.g., criteria for determining the frequency of inspections and inspection procedures);
2. Sampling Events: Summary of the sampling program (e.g., criteria for determining the frequency of sampling and chain of custody procedures); and
3. Enforcement: Summary of Enforcement Response Plan (ERP) implementation including dates for adoption, last revision and submission to the Regional Water Board.

G. Updated List of Regulated SIUs

This section shall contain a list of all of the federal categories that apply to SIUs regulated by the Discharger. The specific categories shall be listed including the applicable 40 CFR subpart and section, and pretreatment standards (both maximum and average limits). Local limits developed by the Discharger shall be presented in a table including the applicability of the local limits to SIUs. If local limits do not apply uniformly to SIUs, specify the applicability in the tables listing the categorical industrial users (CIUs) and non-categorical SIUs. Tables developed in Sections 7A and 7B can be used to present or reference this information.

1. CIUs - Include a table that alphabetically lists the CIUs regulated by the Discharger as of the end of the reporting period. This list shall include:
 - a. Name;
 - b. Address;
 - c. Applicable federal category(ies);
 - d. Reference to the location where the applicable Federal Categorical Standards are presented in the report;
 - e. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and
 - f. Information, calculations and data used to determine the limits for those CIUs for which a combined waste stream formula is applied.
2. Non-categorical SIUs - Include a table that alphabetically lists the SIUs not subject to any federal categorical standards that were regulated by the Discharger as of the end of the reporting period. This list shall include:
 - a. Name;

- b. Address;
- c. A brief description of the type of business;
- d. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and
- e. Indicate the applicable discharge limits (e.g., different from local limits) to which the SIUs are subject and reference to the location where the applicable limits (e.g., local discharge limits) are presented in the report.

H. SIU (categorical and non-categorical) Compliance Activities

The information required in this section may be combined in the table developed in Section 7 above.

- 1. Inspection and Sampling Summary:** This section shall contain a summary of all the SIU inspections and sampling activities conducted by the Discharger and sampling activities conducted by the SIU over the reporting year to gather information and data regarding SIU compliance. The summary shall include:
 - a. The number of inspections and sampling events conducted for each SIU by the Discharger;
 - b. The number of sampling events conducted by the SIU. Identify SIUs that are operating under an approved Total Toxic Organic Management Plan;
 - c. The quarters in which the above activities were conducted; and
 - d. The compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:
 - (1) Consistent compliance;
 - (2) Inconsistent compliance;
 - (3) Significant noncompliance;
 - (4) On a compliance schedule to achieve compliance (include the date final compliance is required);
 - (5) Not in compliance and not on a compliance schedule; and
 - (6) Compliance status unknown, and why not.
- 2. Enforcement Summary:** This section shall contain a summary of SIU compliance and enforcement activities during the reporting year. The summary may be included in the summary table developed in section 8A and shall include the names and addresses of all SIUs affected by the actions identified below. For each notice specified in enforcement action “i” through “iv,” indicate whether it was for an infraction of a federal or local standard/limit or requirement.

- a. Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- b. Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- c. Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- d. Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- e. Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty;
- f. Order to restrict/suspend discharge to the Discharger; and
- g. Order to disconnect the discharge from entering the Discharger.

3. July-December Semiannual Data: For SIU violations/noncompliance during the semiannual reporting period from July 1 through December 31, provide the following information:

- a. Name and facility address of the SIU;
- b. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;
- c. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;
- d. Indicate the compliance status of the SIU for the two quarters of the reporting period; and
- e. For violations/noncompliance identified in the reporting period, provide:
 - (1) The date(s) of violation(s);
 - (2) The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and
 - (3) A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

I. Baseline Monitoring Report Update

This section shall provide a list of CIUs added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain the information specified in 40 CFR 403.12(b). For each new CIU, the summary shall indicate when the BMR was due; when the CIU was notified by the Discharger of this requirement; when the CIU submitted the report; and/or when the report is due.

J. Pretreatment Program Changes

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to:

1. Legal authority;
2. Local limits;
3. Monitoring/ inspection program and frequency;
4. Enforcement protocol;
5. Program's administrative structure;
6. Staffing level;
7. Resource requirements;
8. Funding mechanism;
9. If the manager of the Discharger's pretreatment program changed, a revised organizational chart shall be included; and
10. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

K. Pretreatment Program Budget

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the total expenses required to implement the pretreatment program. A brief discussion of the source(s) of funding shall be provided. In addition, the Discharger shall make available upon request specific details on its pretreatment program expense amounts such as for personnel, equipment, and chemical analyses.

L. Public Participation Summary

This section shall include a copy of the public notice as required in 40 CFR 403.8(f)(2)(viii). If a notice was not published, the reason shall be stated.

M. Biosolids Storage and Disposal Practice

This section shall describe how treated biosolids are stored and ultimately disposed. If a biosolids storage area is used, it shall be described in detail including its location, containment features and biosolids handling procedures.

N. Other Pollutant Reduction Activities

This section shall include a brief description of any programs the Discharger implements to reduce pollutants from nondomestic users that are not classified as SIUs. If the Discharger submits any of this program information in an Annual Pollution Prevention Report, reference to this other report shall satisfy this reporting requirement.

O. Other Subjects

Other information related to the Pretreatment Program that does not fit into any of the above categories should be included in this section.

P. Permit Compliance System (PCS) Data Entry Form

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information:

1. Discharger's name,
2. NPDES Permit number,
3. Period covered by the report,
4. Number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule,
5. Number of notices of violation and administrative Orders issued against SIUs,
6. Number of civil and criminal judicial actions against SIUs,
7. Number of SIUs that have been published as a result of being in SNC, and
8. Number of SIUs from which penalties have been collected.

APPENDIX H-2

REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

The pretreatment semiannual report is due on July 31 for pretreatment program activities conducted from January through June unless an exception has been granted by the Regional Water Board's Executive Officer (e.g., pretreatment programs without any SIUs may qualify for an exception to the pretreatment semiannual report). Pretreatment activities conducted from July through December of each year shall be included in the Pretreatment Annual Report as specified in Appendix H-1. The pretreatment semiannual report shall contain, at a minimum the following information:

A. Influent, Effluent and Biosolids Monitoring

The influent, effluent and biosolids monitoring results shall be evaluated in preparation of this report. The Discharger shall retain analytical laboratory reports with the QA/QC data validation and make these reports available upon request. The Discharger shall also make available upon request a description of its influent, effluent and biosolids sampling procedures. Violations of any parameter that exceed NPDES limits shall be identified and reported. The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed.

B. Significant Industrial User Compliance Status

This section shall contain a list of all SIUs that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. For the reported SIUs, the compliance status for the previous semiannual reporting period shall be included. Once the SIU has determined to be out of compliance, the SIU shall be included in subsequent reports until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

1. Name and facility address of the SIU;
2. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;
3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;
4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and
5. For violations/noncompliance identified in the reporting period, provide:
 - a. The date(s) of violation(s);
 - b. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

- c. A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

C. Discharger's Compliance with Pretreatment Program Requirements

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report or Pretreatment Compliance Inspection (PCI) Report. It shall contain a summary of the following information:

1. Date of latest PCA or PCI report;
2. Date of the Discharger's response;
3. List of unresolved issues; and
4. Plan(s) and schedule for resolving the remaining issues.

APPENDIX H-3

SIGNATURE REQUIREMENTS FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger (POTW - 40 CFR 403.12 [m]). Signed copies of the reports shall be submitted to the State Water Board and the Regional Water Board through the electronic self-monitoring report (eSMR) module of the California Integrated Water Quality System (CIWQS). Signed copies of the reports shall also be submitted electronically to U.S. EPA at R9Pretreatment@epa.gov or as instructed otherwise.

Pretreatment Program Reports
Clean Water Act Compliance Office (WTR-7)
Water Division
Pacific Southwest Region
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105-3901

Submit electronic copies only to State and Regional Water Boards:

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality-15th Floor
1001 I Street
Sacramento, CA 95814
DMR@waterboards.ca.gov
NPDES_Wastewater@waterboards.ca.gov

Pretreatment Coordinator
NPDES Wastewater Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

(Submit the report as a single Portable Document Format (PDF) file to the Pretreatment Coordinator's folder in the Regional Water Board's File Transfer Protocol (FTP) site. The instructions for using the FTP site can be found at the following internet address:

http://www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/FTP_Discharger_Guide-12-2010.pdf.)

APPENDIX H-4

REQUIREMENTS FOR INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING

The Discharger shall conduct sampling of its treatment plant's influent, effluent and biosolids at the frequency shown in **the pretreatment requirements table** of the Monitoring and Reporting Program (MRP, Attachment E). When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both the influent and effluent monitoring requirements of the MRP and the Pretreatment Program. The Pretreatment Program monitoring reports as required in Appendices H-1 and H-2 shall be transmitted to the Pretreatment Program Coordinator.

A. Reduction of Monitoring Frequency

The minimum frequency of Pretreatment Program influent, effluent, and biosolids monitoring shall be dependent on the number of SIUs identified in the Discharger's Pretreatment Program as indicated in Table H-1.

Table H-1: Minimum Frequency of Pretreatment Program Monitoring	
Number of SIUs	Minimum Frequency
< 5	Once every five years
> 5 and < 50	Once every year
> 50	Twice per year

If the Discharger's required monitoring frequency is greater than the minimum specified in Table H-1, the Discharger may request a reduced monitoring frequency for that constituent(s) as part of its application for permit reissuance if it meets the following criteria:

The monitoring data for the constituent(s) consistently show non-detect (ND) levels for the effluent monitoring and very low (i.e., near ND) levels for influent and biosolids monitoring for a minimum of eight previous years' worth of data.

The Discharger's request shall include tabular summaries of the data and a description of the trends in the industrial, commercial, and residential customers in the Discharger's service area that demonstrate control over the sources of the constituent(s). The Regional Water Board may grant a reduced monitoring frequency in the reissued permit after considering the information provided by the Discharger and any other relevant information.

B. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required sampling and test methods listed in **the pretreatment table** of the MRP. Any test method substitutions must have received prior written Executive Officer approval. Influent and effluent sampling locations shall be the same as those sites specified in the MRP.

The influent and effluent samples should be taken at staggered times to account for treatment plant detention time. Appropriately staggered sampling is considered consistent with the requirement for collection of effluent samples coincident with influent samples in Section III.A.3.a(2) of

Attachment G. All samples must be representative of daily operations. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated ML, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

The following report elements should be used to submit the influent and effluent monitoring results. A similarly structured format may be used but will be subject to Regional Water Board approval. The monitoring reports shall be submitted with the Pretreatment Annual Report identified in Appendix H-1.

1. Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.
2. A tabulation of the test results for the detected parameters shall be provided.
3. Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

C. Biosolids Monitoring

Biosolids should be sampled in a manner that will be representative of the biosolids generated from the influent and effluent monitoring events except as noted in (3. below. The same parameters required for influent and effluent analysis shall be included in the biosolids analysis. The biosolids analyzed shall be a composite sample of the biosolids for final disposal consisting of:

1. Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or
2. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or
3. Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5- day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to biosolids is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge

Survey, September 1990, containing detailed analytical protocols specific to biosolids, is recommended as a guidance for analytical methods.

In determining if the biosolids are a hazardous waste, the Discharger shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3, "Characteristics of Hazardous Waste," of Title 22, California Code of Regulations, sections 66261.10 to 66261.24 and all amendments thereto.

The following report elements should be used to submit the biosolids monitoring results. A similarly structured form may be used but will be subject to Regional Water Board approval. The results shall be submitted with the Pretreatment Annual Report identified in Appendix H-1.

- Sampling Procedures and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its biosolids sampling procedures and data validation methods.
- Test Results – Tabulate the test results for the detected parameters and include the percent solids.
- Discussion of Results – Include a complete discussion of test results for the detected parameters. If the detected pollutant(s) is reasonably deemed to have an adverse effect on biosolids disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide a summary table presenting any influent, effluent or biosolids monitoring data for non-priority pollutants that the Discharger believes may be causing or contributing to interference, pass through or adversely impacting biosolids quality.