

STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (John Madigan)  
MEETING DATE: March 11, 2015

ITEM: 5A

SUBJECT: **Fairfield-Suisun Sewer District, Fairfield-Suisun Wastewater Treatment Plant and Wastewater Collection System, Fairfield, Solano County—Reissuance of NPDES Permit**

CHRONOLOGY: April 2009 – Permit reissued  
March 2013 – Permit amended

DISCUSSION: The Revised Tentative Order (Appendix A) would reissue the NPDES permit for the Fairfield-Suisun Wastewater Treatment Plant and collection system. The plant provides advanced secondary treatment of domestic, commercial, and industrial wastewater from the cities of Fairfield and Suisun City and some unincorporated areas of Solano County. The service area population is about 132,500. The plant has a dry-weather design capacity of 23.7 million gallons per day and discharges primarily to Boynton Slough, which flows to Suisun Slough and then to Suisun Bay. The plant also occasionally discharges to LedgeWood Creek. A relatively small amount of effluent flows to two privately-owned duck ponds in Suisun Marsh.

The Revised Tentative Order would update several discharge limits using recent information and streamline monitoring and reporting requirements for the District among other updates.

We received comments (Appendix B) from the District and the Bay Area Clean Water Agencies (BACWA) on a draft order distributed for public review. As explained in our Response to Comments (Appendix C), the District and BACWA object to the information in the draft order's fact sheet concerning sanitary sewer overflow rates. They do not believe it accurately reflects permit compliance or collection system performance. We believe the information provides a useful overview of existing conditions. We have included similar information in the fact sheets of permits recently adopted by the Board. We incorporated some of the suggested revisions to the fact sheet for clarity and resolved most other comments by revising the draft order where appropriate.

RECOMMEN-  
DATION: Adoption of the Revised Tentative Order

CIWQS PLACE ID: 225526

APPENDICES: A. Revised Tentative Order  
B. Comments  
C. Response to Comments

Appendix A  
Revised Tentative Order

**San Francisco Bay Regional Water Quality Control Board**

**REVISED TENTATIVE ORDER No. R2-2015-00XX  
NPDES No. CA0038024**

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

**Table 1. Discharger Information**

<b>Discharger</b>	Fairfield-Suisun Sewer District
<b>Name of Facility</b>	Fairfield-Suisun Wastewater Treatment Plant and its associated collection system
<b>Facility Address</b>	1010 Chadbourne Road, Fairfield
<b>CIWQS Place Number</b>	225526

**Table 2. Discharge Locations**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Advanced Secondary Treated Municipal Wastewater	38.209167	-122.056667	Boynton Slough
002	Advanced Secondary Treated Municipal Wastewater	38.214444	-122.065556	Duck Pond 1
003	Advanced Secondary Treated Municipal Wastewater	38.209722	-122.058056	Duck Pond 2
005	Advanced Secondary Treated Municipal Wastewater	38.233333	-122.058889	Ledgewood Creek

**Table 3. Administrative Information**

This Order was adopted on:	<b>DATE</b>
This Order shall become effective on:	May 1, 2015
This Order shall expire on:	April 30, 2020
CIWQS Regulatory Measure Number	<b>TBD</b>
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	August 5, 2019
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Region, have classified this discharge as follows:	Major

Fairfield-Suisun Sewer District  
Wastewater Treatment Plant

REVISED TENTATIVE ORDER No. R2-2015-00XX  
NPDES No. CA0038024

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.

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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 ..... 6  
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 Municipal Facilities ..... 12  
        5. Other Special Provisions..... 14

**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..... 14  
Table 6. Cyanide Action Plan ..... 15

**Attachments**

Attachment A – Definitions ..... A-1  
Attachment B – Facility Map and Receiving Water Monitoring Map ..... B-1  
Attachment C – Process Flow Diagram..... 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 Fairfield-Suisun Wastewater Treatment Plant and Fairfield-Suisun Sewer District collection system (collectively, the Facility) is summarized in Table 1 and in 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 an NPDES permit for point source discharges from the Facility to surface waters.
- 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 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.** No provisions or requirements in this Order are included to implement State law only.
- 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. R2-2009-0039 (previous order), as amended by Order Nos. R2-2010-0054, R2-2011-0009, and R2-2013-0007, is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Water Code division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

## III. DISCHARGE PROHIBITIONS

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

- B.** The bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in the conditions stated in Attachment D sections I.G.2 and I.G.4.
- C.** Average dry weather effluent flow in excess of 23.7 MGD is prohibited. Average dry weather effluent flow shall be determined from three consecutive dry weather months each year, with compliance measured at Monitoring Location Nos. E-001 and E-005 as described in the attached Monitoring and Reporting Plan (MRP) (Attachment E).
- D.** Any sanitary sewer overflow that results in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited.

**IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

- A.** The Discharger shall maintain compliance with the following effluent limitations for all discharge points (i.e., Discharge Point Nos. 001, 002, 003, and 005), with compliance measured at Monitoring Location E-001D (or at an alternate location closer to the discharge point), as described in the MRP:

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day Biochemical Oxygen Demand at 20 °C (BOD <sub>5</sub> )	mg/L	10	15	---	---	---
Total Suspended Solids (TSS)	mg/L	10	15	---	---	---
Oil and Grease	mg/L	---	---	10	---	---
pH <sup>[1]</sup>	standard units	---	---	---	6.5	8.5
Turbidity	NTU	---	---	10	---	---
Ammonia, Total as N	mg/L as N	2.0	---	4.0	---	---
Copper	µg/L	11	---	15	---	---
Cyanide	µg/L	7.4	---	12	---	---
Dioxin-TEQ	µg/L	1.4x10 <sup>-8</sup>	---	2.8x10 <sup>-8</sup>	---	---

Unit Abbreviations:

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

Footnote

<sup>[1]</sup> If the Discharger monitors pH continuously, pursuant to 40 C.F.R. § 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.

- B. Percent Removal.** Discharges at all discharge points shall meet the following limitations for biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) percent removal, with compliance measured at Monitoring Location E-001D as described in the MRP. The average monthly percent removal of BOD<sub>5</sub> and TSS shall not be less than 85 percent (i.e., in each

calendar month, the arithmetic mean of BOD<sub>5</sub> and TSS, by concentration, for effluent samples collected at Monitoring Location E-001D as described in the MRP shall not exceed 15 percent of the arithmetic mean of the BOD<sub>5</sub> and TSS, by concentration, for influent samples collected at Monitoring Location I-001 as described in the MRP at approximately the same times during the same periods).

- C. Enterococcus Bacteria.** For all discharge points, the geometric mean enterococcus bacteria of all samples in a calendar month shall not exceed 33 most probable number per 100 milliliters (MPN/100 mL), with compliance measured at Monitoring Location E-001D as described in the MRP.
- D. Whole Effluent Acute Toxicity.** Discharges at all discharge points shall comply with the following limitations, with compliance measured at Monitoring Location E-001D, as described in the MRP:
1. 11-sample median value of not less than 90 percent survival; and
  2. 11-sample 90<sup>th</sup> 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 90<sup>th</sup> 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.

Bioassays shall be performed using the most up-to-date U.S. EPA protocols and species as specified in MRP. If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

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

- E. Whole Effluent Chronic Toxicity.** Discharges at all discharge points shall not contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, or any other relevant measure of the health of an organism population or community. Compliance with this limit shall be determined by analysis of indicator organisms and toxicity tests conducted on samples from Monitoring Location E-001D, as described in the MRP.

## 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;
  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, from June 1 through November 15  
   7.0 mg/L, minimum, at all other times of the year  
  
   The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% 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. pH                                The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
  4. Nutrients                        Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
- C.** The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder. 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 included 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 discharges governed by this Order have, or will have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b. If present or future investigations demonstrate that discharges governed by this Order will cease to have adverse impacts on water quality or beneficial uses of the receiving waters.
- c. If total maximum daily loads (TMDLs) (whether statewide, regional, or site-specific) or new or revised water quality objectives come into effect for San Francisco Bay and/or its contiguous water bodies. In such cases, effluent limitations in this Order may be modified as necessary to reflect wasteload allocations in the TMDLs or updated water quality objectives. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally adopted TMDLs or water quality objectives, or as otherwise permitted under federal regulations governing NPDES permit modifications.
- d. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- e. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.

- f. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- g. If the Discharger requests adjustment 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 stormwater pollutant control strategy.
- 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 point 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:

<u>Discharge Point</u>	<u>Monitoring Location</u>	<u>Minimum Frequency</u>
001	E-001D	Twice per calendar year

The samples shall be analyzed for the pollutants listed in Attachment G, Table C, except for those 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-8). 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) Identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-8 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 Facility 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 Facility. 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.** The 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 Facility 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 wastewater treatment system. 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 Municipal Facilities

- a. **Pretreatment Program.** The Discharger shall implement and enforce its approved pretreatment program in accordance with federal pretreatment regulations (40 C.F.R. part 403); pretreatment standards promulgated under CWA sections 307(b), 307(c), and 307(d); pretreatment requirements specified under 40 C.F.R. section 122.44(j); and the requirements in Attachment H, "Pretreatment Requirements." 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. To ensure no significant increase in copper discharges, and thus compliance with antidegradation requirements, the Discharger shall not consider eliminating or relaxing local limits for copper.

**b. Sludge and Biosolids Management**

- i.** All sludge and biosolids shall be disposed of, managed, or reused in a municipal solid waste landfill; through land application; as a Class A compost; through a waste-to-energy facility or another recognized and approved technology; in a sludge-only landfill; or in a sewage sludge incinerator in accordance with 40 C.F.R. part 503.
  - ii.** Sludge and biosolids treatment, storage, and disposal, or reuse, shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
  - iii.** The sludge and biosolids treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect site boundaries from erosion, and to prevent any conditions that would cause drainage from the materials in the storage site. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal stage that may occur.
  - iv.** Sludge or biosolids disposed in a municipal solid waste landfill shall meet the requirements of 40 C.F.R. part 258. In the annual self-monitoring report, the Discharger shall provide the amount of sludge or biosolids disposed and indicate the landfill to which it was sent.
  - v.** 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 all applicable regulations prior to commencement of any such activity.
- c. Collection System Management.** The Discharger shall properly operate and maintain its collection system (see Attachment D section I.D), report any noncompliance (see Attachment D sections V.E.1 and V.E.2), and mitigate any discharge from its collection system that violates this Order (see Attachment D section I.C).

The *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), State Water Board Order No. 2006-0003 DWQ as amended by State Water Board Order No. WQ 2013-0058-EXEC, has requirements for operation and maintenance of sanitary sewer collection system and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Collection System WDRs and this Order, the General Collection System WDRs more clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDRs for proper operation and maintenance and mitigation of sanitary sewer overflows will satisfy the corresponding federal NPDES requirements specified in Attachment D (as supplemented by Attachment G). Following the notification and reporting requirements in the General Collection System WDRs will satisfy the corresponding reporting requirements specified in Attachment D (as supplemented by Attachment G) for sanitary sewer overflows.

**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><b>1. Review Potential Copper Sources</b>                      The Discharger shall inventory potential copper sources to the plant.</p>	<p><i>Completed September 1, 2009</i></p>
<p><b>2. Implement Copper Control Program</b>                      The Discharger shall submit a plan for and begin implementation of a program to reduce copper sources identified in Task 1. The plan shall consist, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> <li>a. Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion);</li> <li>b. If corrosion is determined to be a significant copper source, work cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensure that local plumbing contractors implement best management practices to reduce corrosion in pipes; and</li> <li>c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.</li> </ul>	<p><i>Plan completed February 28, 2010.</i>                      Implementation shall be ongoing</p>
<p><b>3. Implement Additional Measures</b>                      If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration in Suisun Bay exceeds 2.8 µg/L, then within 90 days of the notification, the Discharger shall evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. The Discharger shall report on the progress and effectiveness of actions taken, and provide a schedule for actions to be taken in the next 12 months.</p>	<p>With next annual pollution prevention report due February 28 (at least 90 days following notification)</p>
<p><b>4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties.</b>                      The Discharger shall submit an updated study plan and schedule to conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and to investigate sub-lethal effects on salmonids. Specifically, the Discharger shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, the Discharger may collaborate and conduct these studies as a group.</p>	<p><i>Bay Area Clean Water Agencies submitted study plan January 6, 2011</i></p>
<p><b>5. Report Status of Copper Control Program.</b>                      The Discharger shall submit an annual report documenting copper control program implementation and addressing the effectiveness of the actions taken, including any additional copper controls required by Task 3, above, and provide a schedule for actions to be taken in the next 12 months. Additionally, the Discharger shall report the findings and results of the studies completed, planned, or in progress under Task 4. Regarding Task 4 studies, dischargers may collaborate and provide this information in a single report to satisfy this requirement for an entire group.</p>	<p>Annually by February 28 with annual pollution prevention report</p>

- 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
<p><b>1. Review Potential Cyanide Sources</b>                      The Discharger shall inventory potential cyanide sources to the plant.</p>	<p><i>Completed September 1, 2009</i></p>
<p><b>2. Implement Cyanide Control Program</b>                      The Discharger shall continue to implement its program to minimize cyanide discharges to its treatment plant consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> <li>a. Inspect each potential contributor to assess the need to include that contributing source in the control program.</li> <li>b. Inspect contributing sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as the Industrial User Inspection and Sampling Manual for POTWs (EPA 831- B-94-01).</li> <li>c. Develop and distribute educational materials to contributing sources and potential contributing sources regarding the need to prevent cyanide discharges.</li> <li>d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs.</li> </ul> <p>If cyanide is found in the plant’s influent above 10 µg/L, the Discharger shall collect a followup sample within 5 days of becoming aware of the laboratory result. If the results of the followup sample are also above 10 µg/L, then a “significant cyanide discharge” is occurring.</p>	<p><i>Initial plan completed February 28, 2010.</i>                      Implementation shall be ongoing</p>
<p><b>3. Implement Additional Measures</b>                      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, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of actions taken, and provide a schedule for actions to be taken in the next 12 months.</p>	<p>Report if required with next annual pollution prevention report due February 28 (at least 90 days following notification)</p>
<p><b>4. Report Status of Cyanide Control Program</b>                      The Discharger shall 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 in the next 12 months.</p>	<p>Annually by February 28 with annual pollution prevention report</p>

**c. Standard Operating Procedures for Resource Recovery.** 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 prior to initiation of hauling. The Standard Operating Procedures shall address material handling, including unloading, screening or other processing prior to anaerobic digestion, and 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. Reliability Assurance Plan and Status Report**

- i.** The Discharger shall maintain a Facility Reliability Assurance Plan that describes measures in place (e.g., treatment/storage capacities, especially during high wet weather inflows, critical system redundancies and spare parts, warning alarms, etc.) to ensure the reliability of the Discharger's system in preventing inadequately treated wastewater from being discharged into the receiving waters. Inadequately treated wastewater includes wastewater that bypasses any portion of the plant. The Discharger shall maintain the Facility Reliability Assurance Plan in usable condition and have it available for reference and use by all relevant personnel.
- ii.** The Discharger shall regularly review, revise, or update, as necessary, the Facility Reliability Assurance Plan to ensure that the document remains useful and relevant to current equipment and operational practices. The Discharger shall conduct reviews annually and complete revisions or updates as necessary. For any significant changes in treatment facility equipment or operational practices, the Discharger shall complete relevant revisions as soon as practicable.
- iii.** The Discharger shall submit a report describing the current status of its Facility Reliability Assurance Plan, including any recommended or planned actions and an estimated time schedule for these actions, by February 1 each year.

## ATTACHMENT A – DEFINITIONS

### **Arithmetic Mean ( $\mu$ )**

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 a.m. through 11:59 p.m.) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit) for a constituent with limitations expressed in units of mass; or (2) the unweighted arithmetic mean measurement of 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 waste load 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 ( $\sigma$ )**

Measure of variability calculated as follows:

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

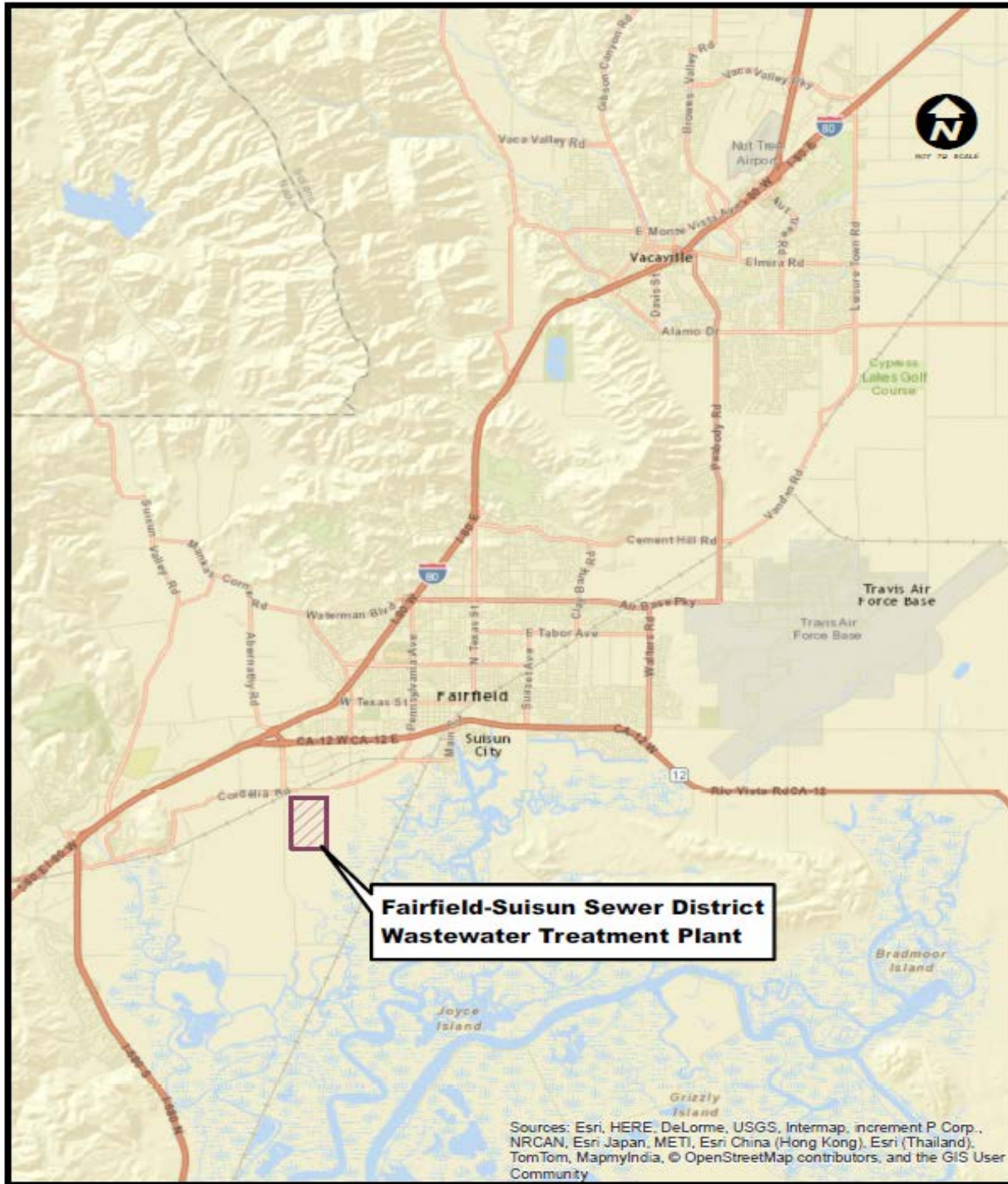
where:

- x is the observed value;
- $\mu$  is the arithmetic mean of the observed values; and
- n is the number of samples.

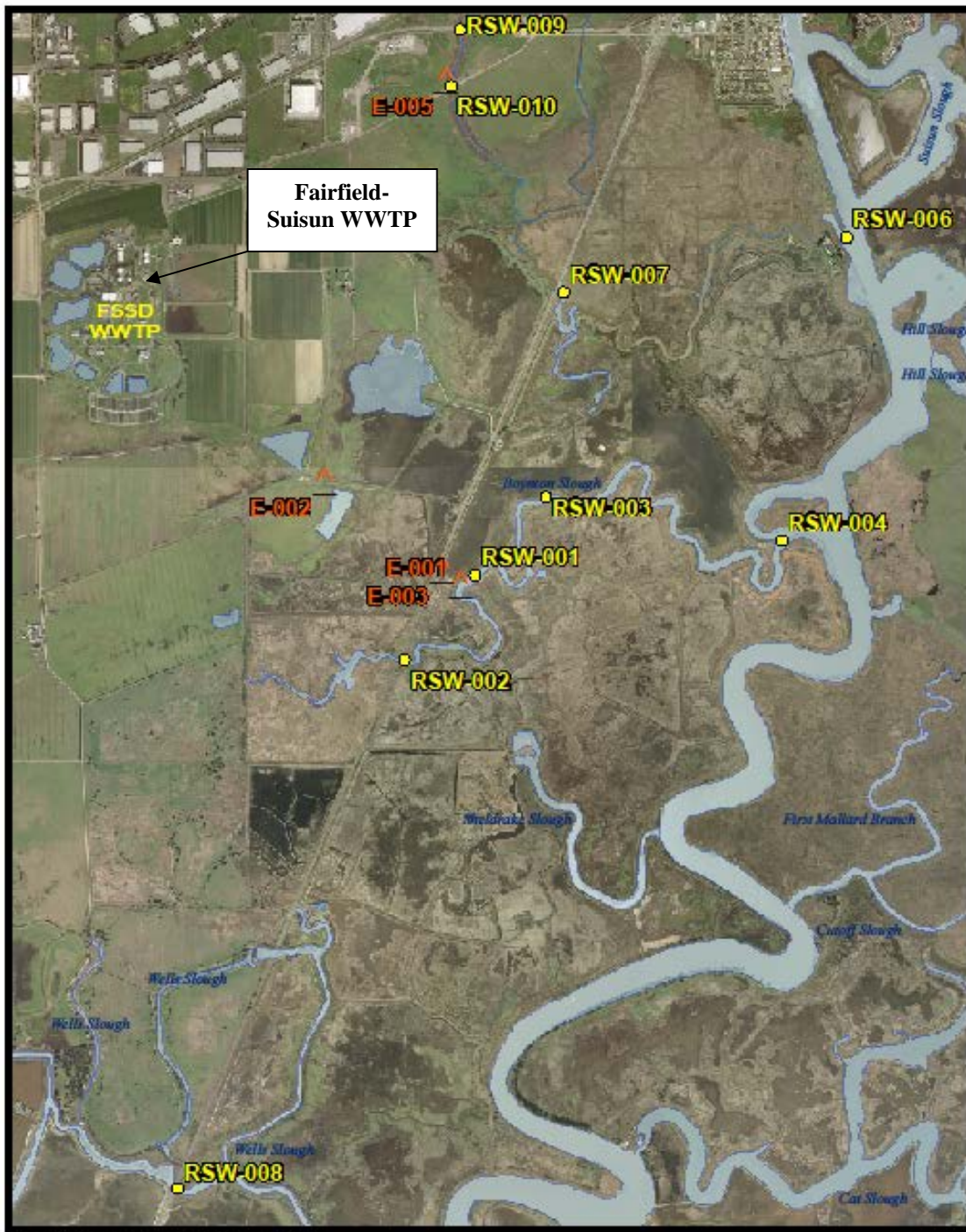
### **Toxicity Reduction Evaluation (TRE)**

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 MAP AND RECEIVING WATER MONITORING MAP**



H:\Maps\Public\FSSD Vicinity Map.mxd  
Last Updated: 1/23/15



\\N\lan\Plan-off\Programs\Monitoring Stations.mxd 3/24/2009

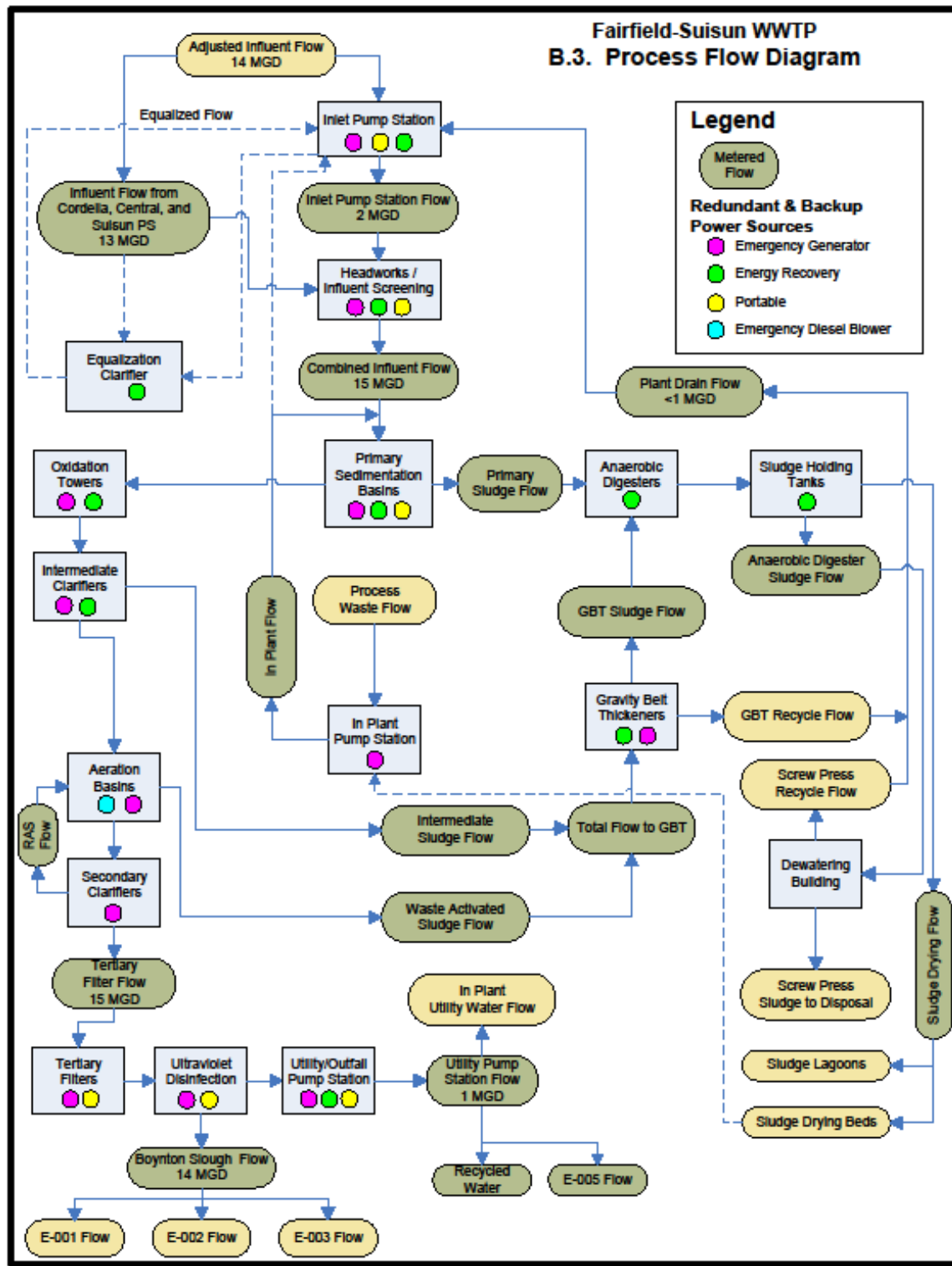
- Legend**
- Monitoring Station
  - Discharge Location

**FAIRFIELD-SUISUN SEWER DISTRICT**  
**Discharge Locations and**  
**Receiving Water Monitoring Stations**

J



**ATTACHMENT C – FLOW SCHEMATIC**



## **ATTACHMENT D – STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; 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 Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA 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 or sludge use or disposal 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, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. 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 ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383).

#### **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).)

**1. Notice**

- a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
- b. **Unanticipated bypass.** The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (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 the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 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 results 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. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants (40 C.F.R. §§ 122.41(j)(4); 122.44(i)(1)(iv).)

## IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five

years (or longer as required by 40 C.F.R. part 503), 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:**

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) 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, and V.B.5 below. (40 C.F.R. § 122.41(k).)
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:
6. “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).)

### **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. § 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (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. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (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 submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission 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. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
  - 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 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).))
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).))

## **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. (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).))

## **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 ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(1)(i));
  - b. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  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 ( $\mu\text{g/L}$ ) (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 sections 301 or 306 of the CWA 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 the 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  
V. Whole Effluent Toxicity Testing Requirements .....E-6  
    A. Whole Effluent Acute Toxicity .....E-6  
    B. Whole Effluent Chronic Toxicity.....E-6  
        1. Monitoring Requirements .....E-6  
        2. Reporting Requirements .....E-8  
        3. Toxicity Reduction Evaluation (TRE).....E-8  
VI. Receiving Water Monitoring Requirements .....E-10  
VII. Pretreatment and Biosolids Monitoring Requirements.....E-10  
VIII. Reporting Requirements .....E-11  
    A. General Monitoring and Reporting Requirements .....E-11  
    B. Self-Monitoring Reports (SMRs).....E-11  
    C. Discharge Monitoring Reports (DMRs).....E-14  
IX. Modifications to Attachment G .....E-15  
X. Modifications to Attachment H .....E-18

**Tables**

Table E-1. Monitoring Locations.....E-2  
Table E-2. Influent Monitoring.....E-3  
Table E-3. Effluent Monitoring – Monitoring Location E-001D .....E-4  
Table E-4. Effluent Monitoring – Monitoring Locations E-001 and E-005 .....E-5  
Table E-5. Effluent Monitoring – Monitoring Locations E-002 and E-003 .....E-5  
Table E-6. Receiving Water Monitoring .....E-10  
Table E-7. Pretreatment and Biosolids Monitoring .....E-10  
Table E-8. CIWQS Reporting.....E-12  
Table E-9. Monitoring Periods .....E-13

**ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

Clean Water Act section 308 and Code of Federal Regulations (40 C.F.R. §§ 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 Order.

**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
Influent	I-001	A point upstream of the primary clarifiers where all waste tributary to the treatment system is present.
Effluent	E-001D	A point following all treatment where all wastewater tributary to any discharge or to distribution to the storage reservoirs is present.
Effluent	E-001	A point following all treatment where all wastewater tributary to the Boynton Slough discharge (Discharge Point No. 001) is present.
Effluent	E-002	A point in the Boynton Slough outfall pipeline following all treatment where effluent may be discharged to Duck Pond 1 (Discharge Point No. 002).
Effluent	E-003	A point in the Boynton Slough outfall pipeline following all treatment where effluent may be discharged to Duck Pond 2 (Discharge Point No. 003).
Effluent	E-005	A point in the Ledgewood Creek outfall pipeline following all treatment where all treated wastewater tributary to the discharge is present (Discharge Point No. 005).
Receiving Water	RSW-001	A point in Boynton Slough approximately 100 feet downstream from Discharge Point No. 001.
Receiving Water	RSW-002	A point in Boynton Slough approximately 100 feet downstream from the point where the Southern Pacific Railroad tracks cross the slough.
Receiving Water	RSW-003	A point in Boynton Slough approximately 1,800 feet downstream from Discharge Point No. 001.
Receiving Water	RSW-004	A point in the mouth of Boynton Slough where it flows into Suisun Slough.
Receiving Water	RSW-006	A point in the mouth of Peytonia Slough where it flows into Suisun Slough.

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Receiving Water	RSW-007	A point in Peytonia Slough approximately 100 feet downstream from the point where the Southern Pacific Railroad tracks cross the slough to represent background conditions.
Receiving Water	RSW-008	A point in Chadbourne Slough approximately 100 feet downstream from the point where the Southern Pacific Railroad tracks cross the slough to represent background conditions.
Receiving Water	RSW-009	A point in LedgeWood Creek approximately 1,000 feet upstream from Discharge Point No. 005 on the southern side of the railroad bridge.
Receiving Water	RSW-010	A point in LedgeWood Creek approximately 100 feet downstream from Discharge Point No. 005.
Biosolids	BIO-001	A point representative of biosolids for final disposal, as required by Attachment H-4, section C.

### III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor Facility influent at Monitoring Location I-001 as follows:

**Table E-2. Influent Monitoring**

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

Unit Abbreviations:

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

Sample Types:

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

Sampling Frequencies:

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

Footnotes:

<sup>[1]</sup> Flow shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:

- Daily average flow (MGD)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD)

If Monitoring Location I-001 is downstream of re-introduced plant recycle flow, the recycle flow shall be metered separately. Influent flow shall then be mathematically adjusted to reflect flow exclusive of plant recycle.

<sup>[2]</sup> If Monitoring Location I-001 is downstream of re-introduced plant recycle flow, the recycle flow shall be sampled separately. Influent flow concentrations shall then be mathematically adjusted to reflect conditions exclusive of plant recycle.

<sup>[3]</sup> 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 equivalent alternatives in the latest edition. The Executive Officer must approve alternative methods of analysis.

**IV. EFFLUENT MONITORING REQUIREMENTS**

A. The Discharger shall monitor effluent at Monitoring Location E-001D as follows:

**Table E-3. Effluent Monitoring – Monitoring Location E-001D**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow <sup>[1]</sup>	MGD	Continuous	Continuous/D
BOD <sub>5</sub>	mg/L	C-24	3/Week
TSS	mg/L	C-24	3/Week
Oil and Grease <sup>[2]</sup>	mg/L	Grab	1/Quarter
Enterococcus Bacteria <sup>[3]</sup>	MPN/100mL	Grab	3/Week
Turbidity	NTU	Grab	1/Day
Ammonia, Total as N <sup>[4]</sup>	mg/L as N	C-24	1/Month
Dissolved Oxygen	mg/L	Grab	1/Day
	% saturation	Grab	1/Day
Total Sulfides <sup>[5]</sup>	mg/L	Grab	1/Day
Copper	µg/L	C-24	1/Month
pH <sup>[6]</sup>	standard units	Continuous	Continuous/D
Dioxin-TEQ	µg/L	Grab	2/Year
Acute Toxicity <sup>[7]</sup>	% Survival	C-24	1/Month
Chronic Toxicity <sup>[8]</sup>	TUc	C-24	1/Quarter
Cyanide <sup>[9]</sup>	µg/L	Grab	1/Month
Standard Observations	---	---	1/Week

Unit Abbreviations:

- °C = degrees centigrade
- mg/L = milligrams per liter
- mg/L as N = milligrams per liter as nitrogen
- MGD = million gallons per day
- MPN/100mL = most probable number per 100 milliliters
- NTU = nephelometric turbidity units
- TUc = Chronic Toxicity Units
- µg/L = micrograms per liter
- % Saturation = percent saturation
- % Survival = percent survival

Sample Types:

- Continuous = measured continuously
- C/24 = 24-hour composite

Sampling Frequencies:

- Continuous/D = measured continuously, and recorded and reported daily
- 1/Day = once per day
- 1/Week = once per week
- 3/Week = three times per week
- 1/Month = once per month
- 1/Quarter = once per quarter
- 2/Year = twice per year

Footnotes:

- <sup>[1]</sup> Flow shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
  - Monthly average flow (MGD)
  - Total monthly flow volume (MG)
  - Maximum and minimum daily average flow rates (MGD)

- [2] Each oil and grease sampling and analysis event shall be conducted in accordance with U.S. EPA Method 1664A.
- [3] Results may be reported as colony forming units/milliliter (CFU/100 mL) if the laboratory method used provides results in CFU/100 mL.
- [4] Effluent ammonia samples shall be collected on the same day as receiving water ammonia samples.
- [5] Total sulfides shall be analyzed when dissolved oxygen concentrations at Monitoring Location E-001D are less than 2.0 mg/L.
- [6] If pH is monitored continuously, the minimum and maximum pH for each day shall be reported in self-monitoring reports.
- [7] Acute toxicity tests shall be performed in accordance with MRP section V.A.
- [8] Chronic toxicity tests shall be performed in accordance with MRP section V.B.
- [9] The Discharger may, at its option, analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Method Part 4500-CN-I, USEPA Method OI 1677, or equivalent alternatives in the latest edition. Alternative methods of analysis must be approved by the Executive Officer.

**B. The Discharger shall monitor effluent at Monitoring Locations E-001 and E-005 as follows:**

**Table E-4. Effluent Monitoring – Monitoring Locations E-001 and E-005**

Parameter <sup>[1]</sup>	Units	Sample Type	Minimum Sampling Frequency
Flow <sup>[2]</sup>	MGD	Continuous	Continuous/D
Temperature <sup>[3]</sup>	°C	Grab	1/Day

Unit Abbreviations:

°C = degrees centigrade  
 MGD = million gallons per day

Sample Types:

Continuous = measured continuously

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily  
 1/Day = once per day

Footnotes:

- [1] Monitoring for additional parameters at either of these monitoring locations may be used to demonstrate compliance at the corresponding discharge point monitored. If so monitored, the Discharge shall report results separately for that location.
- [2] Flow shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
  - Daily average flow (MGD)
  - Monthly average flow (MGD)
  - Total monthly flow volume (MG)
  - Maximum and minimum daily average flow rates (MGD)
- [3] The Discharger may use temperature monitoring at E-001D to satisfy this requirement for E-001.

**C. The Discharger shall monitor effluent at Monitoring Locations E-002 and E-003 as follows.**

**Table E-5. Effluent Monitoring – Monitoring Locations E-002 and E-003**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow <sup>[1]</sup>	MG	Continuous	Continuous/M

Unit Abbreviation:

MG = million gallons

Sample Type:

Continuous = measured continuously

Sampling Frequency:

Continuous/M = measured continuously, recorded and reported monthly

Footnote:

- [1] Flows shall be reported as monthly totals (in MG) in the monthly self-monitoring reports for months when discharges from these locations occur.



## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays at Monitoring Location E-001D.
2. Test organisms shall be rainbow trout (*Onchorhynchus mykiss*). 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).
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. The sample may be taken from final effluent prior to disinfection. 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. Whole Effluent Chronic Toxicity

#### 1. Monitoring Requirements

- a. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location E-001D for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on alternating days.
- b. **Test Species.** The test species shall be *Americamysis bahia* (mysid shrimp) unless a more sensitive species is identified.

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.

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

- i. The Discharger shall monitor routinely once per quarter.
- ii. The Discharger shall accelerate monitoring to monthly when either of the following conditions is exceeded:
  - Three-sample median value of 1.0 TU<sub>c</sub>, or
  - Single-sample maximum value of 2.0 TU<sub>c</sub>.

Based on the TU<sub>c</sub> results, the Executive Officer may specify a different frequency for accelerated monitoring 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 V.B.1.c.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 V.B.1.c.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. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1. These are *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-R-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. 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.

- e. **Dilution Series.** The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged. If applicable 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 toxicity test results for the current reporting period in the self-monitoring report 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 Observed Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC<sub>25</sub> or EC<sub>25</sub> (see MRP Appendix E-1). If the IC<sub>25</sub> or EC<sub>25</sub> cannot be statistically determined, the NOEL shall equal to the No Observed Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable adverse effect on test organism reproduction based on a critical life stage toxicity test.
  - vi. IC<sub>15</sub>, IC<sub>25</sub>, IC<sub>40</sub>, and IC<sub>50</sub> values (or EC<sub>15</sub>, EC<sub>25</sub>, EC<sub>40</sub>, and EC<sub>50</sub>) as percent effluent.
  - vii. TUC values (100/NOEL, where NOEL = IC<sub>25</sub>, EC<sub>25</sub>, or NOEC).
  - viii. Mean percent mortality ( $\pm$ s.d.) after 96 hours in 100% effluent (if applicable).
  - ix. IC<sub>50</sub> or EC<sub>50</sub> 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 three most recent chronic toxicity tests and the three-sample median in the self-monitoring report 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 comments from the Executive Officer.
- 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 and review (routine and accelerated monitoring).
  - ii.** Tier 2 shall consist of a facility performance evaluation including treatment process optimization, including operational practices and in-plant process chemical uses.
  - iii.** Tier 3 shall consist of a toxicity identification evaluation (TIE).
  - iv.** Tier 4 shall consist of a toxicity source evaluation.
  - v.** Tier 5 shall consist of a toxicity control evaluation, including options for modifications of in-plant treatment processes or source control measures.
  - vi.** Tier 6 shall consist of implementation of selected toxicity control measures, and followup 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 Effluent Limitation IV.E of the Order).
- 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.
- i.** Chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful. Regional Water Board enforcement

considerations will be based in part on the Discharger’s actions and efforts to identify and control or reduce sources of consistent toxicity.

## VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program, which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger shall also monitor receiving waters at Monitoring Locations RSW-001 through RSW-004 and RSW-006 through RSW-010 as follows:

**Table E-6. Receiving Water Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>[1]</sup>
Salinity	ppt	Grab	2/Year
Hardness <sup>[2]</sup>	mg/L as CaCO <sub>3</sub>	Grab	2/Year
Temperature	°C	Grab	2/Year
pH	standard units	Grab	2/Year
Total Ammonia Nitrogen	mg/L	Grab	2/Year
Dissolved Oxygen	mg/L	Grab	2/Year
Standard Observations <sup>[3]</sup>	--	--	2/Year

Unit Abbreviations:

ppt = parts per thousand  
 mg/L = milligrams per liter  
 µg/L = micrograms per liter  
 °C = degrees Celsius

Sampling Frequencies:

2/Year = twice per year  
 1/Year = once per year

Footnotes:

- <sup>[1]</sup> Receiving water shall be monitored once in the wet season and once in the dry season; Monitoring Locations RSW-009 and RSW-010 shall be sampled on the same day during discharge from Discharge Point No. 005.  
<sup>[2]</sup> Hardness monitoring is not required at Monitoring Location RSW-001.  
<sup>[3]</sup> Standard observations are specified in Attachment G section III.C.

## VII. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall comply with the following pretreatment monitoring requirements for influent (at Monitoring Location I-001), effluent (at Monitoring Location E-001D), and biosolids (at Monitoring Location BIO-001). The Discharger shall report summaries of analytical results in pretreatment reports in accordance with Attachment H. At its option, the Discharger may also report biosolids analytical results with its electronic self-monitoring reports by manual entry, by EDF/CDF, or as an attached file.

**Table E-7. Pretreatment and Biosolids Monitoring**

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
VOCs <sup>[2]</sup>	2/Year	2/Year	2/Year	Grab <sup>[6a]</sup>	Grab
BNAs <sup>[3]</sup>	2/Year	2/Year	2/Year	Grab	Grab
Metals and Other Elements <sup>[4]</sup>	1/Month	1/Month	2/Year	C-24 <sup>[6b]</sup>	Grab

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
Hexavalent Chromium (VI) <sup>[5]</sup>	1/Month	1/Month	2/Year	Grab	Grab
Mercury <sup>[7]</sup>	1/Month	1/Month	2/Year	Grab	Grab
Cyanide	1/Month	1/Month	2/Year	Grab	Grab

Sampling Frequencies:

1/Month = once per month

2/Year = twice per year

Footnotes:

- <sup>[1]</sup> Influent and effluent monitoring conducted in accordance with Tables E-2 and E-3 may be used to satisfy these pretreatment monitoring requirements.
- <sup>[2]</sup> VOCs: volatile organic compounds.
- <sup>[3]</sup> BNAs: base/neutrals and acid extractable organic compounds.
- <sup>[4]</sup> Metals and other elements are arsenic, cadmium, copper, lead, nickel, selenium, silver, and zinc.
- <sup>[5]</sup> The Discharger may elect to analyze total chromium instead of hexavalent chromium. Sample collection for total chromium measurements may use 24-hour composite sampling.
- <sup>[6]</sup>
  - a. 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. The Discharger shall also comply with the biosolids monitoring requirements of 40 C.F.R. part 503.
  - b. 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.
- <sup>[7]</sup> The Discharger shall use ultra-clean sampling (U.S. EPA 1669) and ultra-clean analytical method (U.S. EPA 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.

## 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 section IX, 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) Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). 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 SMR** — 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) and VI.C.4.b (Sludge and Biosolids Management) of the 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-8. CIWQS Reporting**

Parameter	Reporting Method	
	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 <sup>[1]</sup>	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver Zinc Dioxins & Furans (by U.S. EPA Method 1613)	Required for all results <sup>[2]</sup>	
Antimony Beryllium Thallium Other Pollutants (by U.S. EPA methods 601, 602, 608, 610, 614, 624, and 625)	Not required (unless identified in influent, effluent, or receiving water monitoring tables), but encouraged <sup>[1]</sup>	Discharger may use this method to submit results with application for permit reissuance, unless data are uploaded by CDF/EDF
Volume and Duration of Blended Discharge <sup>[3]</sup>	Required for all blended effluent discharges	
Analytical Method	Not required (Discharger may select “data unavailable”) <sup>[1]</sup>	
Collection Time Analysis Time	Not required (Discharger may select “0:00”) <sup>[1]</sup>	

**Footnotes:**

<sup>[1]</sup> 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.

- <sup>[2]</sup> 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).
- <sup>[3]</sup> 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-9. Monitoring Periods**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous/D	Order effective date	All times
Continuous/M	Order effective date	All times
1/Day	Order effective date	Daily, 12:00 a.m. through 11:59 p.m.
1/Week or 3/Week	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 January 1, April 1, July 1, or October 1 before or after Order effective date <sup>[1]</sup>	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 <sup>[1]</sup>	January 1 through December 31
2/Year	Closest May 1 or November 1 before or after Order effective date <sup>[1]</sup>	Once during wet season (typically November 1 through April 30) and once during the dry season (typically May 1 through October 31)

Footnote:

<sup>[1]</sup> Monitoring conducted during the term of the previous order may be used to satisfy monitoring required by this Order.

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

- 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.**

- a. 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.
- b. For purposes of reporting and administrative enforcement, monitoring results at Monitoring Location E-001D shall be deemed representative of discharges at Discharge Point Nos. 001 through 003 and 005; monitoring results at Monitoring Location E-001 shall be deemed representative of discharges at Discharge Point Nos. 001 through 003; and monitoring results at Monitoring Location E-005 shall be deemed representative of discharge at Discharge Point No. 005. Monitoring results indicating a violation of this Order at a single monitoring location shall be considered a single violation.

**C. Discharge Monitoring Reports (DMRs)**

- 1. The State Water Board or Regional Water Board may notify the Discharger to electronically submit DMRs. Unless such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
- 2. The Discharger shall submit a paper DMR. The Discharger shall sign and certify each DMR as Attachment D requires. The Discharger shall submit the DMR to one of the addresses listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

3. All discharge monitoring results shall be reported on official U.S. EPA pre-printed DMR forms (EPA Form 3320-1) or self-generated forms that follow the exact same format as EPA Form 3320-1.

## **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 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.

### **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 Plants<sup>1</sup>

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. 24-hour Certification – *Deleted*

c. 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;

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<sup>1</sup> 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) 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 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<sub>25</sub> or EC<sub>25</sub>. If the IC<sub>25</sub> or EC<sub>25</sub> 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<sub>25</sub> 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<sub>25</sub> 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 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 <sup>[1]</sup>	
		Ocean	Marine/Estuarine
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 <sup>[2]</sup> Marine/Estuarine	0 4	1 or 2 3 or 4	3 0
Total number of tests	4	5	3

**Footnotes:**

- <sup>[1]</sup> (a) Marine refers to receiving water salinities greater than 1 part 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.
- <sup>[2]</sup> 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-3

II. Facility Description..... F-4

    A. Wastewater and Biosolids Treatment and Controls ..... F-4

    B. Discharge Points and Receiving Waters ..... F-5

    C. Summary of Existing Requirements and Self-Monitoring Report Data ..... F-6

    D. Compliance Summary ..... F-7

    E. Planned Changes ..... F-8

III. Applicable Plans, Policies, and Regulations..... F-8

    A. Legal Authorities ..... F-8

    B. California Environmental Quality Act (CEQA)..... F-8

    C. State and Federal Laws, Regulations, Policies, and Plans ..... F-8

    D. Impaired Water Bodies on CWA 303(d) List ..... F-10

IV. Rationale For Effluent Limitations and Discharge Specifications ..... F-11

    A. Discharge Prohibitions ..... F-11

        1. Prohibitions in this Order..... F-11

        2. Exceptions to Basin Plan Discharge Prohibitions..... F-12

    B. Conventional and Non-Conventional Pollutant Effluent Limitations ..... F-13

        1. Scope and Authority ..... F-13

        2. Effluent Limitations ..... F-14

    C. Toxic Pollutant Effluent Limitations..... F-15

        1. Scope and Authority ..... F-15

        2. Beneficial Uses and Water Quality Criteria and Objectives..... F-15

        3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis).... F-17

        4. Water Quality-Based Effluent Limitations (WQBELs)..... F-27

        5. Whole Effluent Acute Toxicity..... F-33

        6. Whole Effluent Chronic Toxicity ..... F-33

    D. Effluent Limitation Considerations ..... F-34

V. Rationale for Receiving Water Limitations ..... F-35

VI. Rationale for Provisions..... F-35

    A. Standard Provisions ..... F-35

    B. Monitoring and Reporting ..... F-36

    C. Special Provisions ..... F-36

        1. Reopener Provisions ..... F-36

        2. Effluent Characterization Study and Report ..... F-36

        3. Pollutant Minimization Program..... F-36

        4. Special Provisions for Municipal Facilities ..... F-37

        5. Other Special Provisions..... F-37

VII. Rationale for Monitoring and Reporting Requirements ..... F-38

    A. MRP Requirements Rationale ..... F-38

    B. Monitoring Requirements Summary ..... F-39

VIII. Public Participation.....	F-39
A. Notification of Interested Parties.....	F-40
B. Written Comments .....	F-40
C. Public Hearing.....	F-40
D. Reconsideration of Waste Discharge Requirements .....	F-40
E. Information and Copying .....	F-41
F. Register of Interested Persons .....	F-41
G. Additional Information.....	F-41

### Tables

Table F-1. Facility Information.....	F-3
Table F-2. Outfall Locations.....	F-5
Table F-3. Historic Effluent Limitations and Monitoring Data.....	F-6
Table F-4. SSO Rates (total SSOs/100 miles of sewer).....	F-7
Table F-5. Receiving Water Beneficial Uses.....	F-8
Table F-6. Secondary Treatment Requirements .....	F-13
Table F-7. Site-Specific Translators .....	F-17
Table F-8. Reasonable Potential Analysis .....	F-18
Table F-9. WQBEL Calculations.....	F-31
Table F-10. Monitoring Requirements Summary.....	F-39

**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 its 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**

<b>WDID</b>	2 482005001
<b>CIWQS Place ID</b>	225526
<b>Discharger</b>	Fairfield-Suisun Sewer District
<b>Name of Facility</b>	Fairfield-Suisun Wastewater Treatment Plant and its collection system
<b>Facility Address</b>	1010 Chadbourne Road
	Fairfield, CA 94534
	Solano County
<b>Facility Contact, Title, and Phone</b>	Gregory G. Baatrup, General Manager, (707) 428-9162
<b>Authorized Person to Sign and Submit Reports</b>	Richard A. Althouse, Director of Operations and Maintenance, (707) 428-9106
<b>Mailing Address</b>	Same as Facility Address
<b>Billing Address</b>	Same as Facility Address
<b>Type of Facility</b>	Publicly-Owned Treatment Works (POTW)
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	Yes
<b>Recycling Requirements</b>	Order No. 96-011
<b>Mercury and PCBs Requirements</b>	NPDES Permit No. CA0038849
<b>Nutrients Requirements</b>	NPDES Permit No. CA0038873
<b>Facility Permitted Flow</b>	23.7 million gallons per day (MGD) average dry weather effluent flow
<b>Facility Design Flow</b>	23.7 MGD – average daily dry weather effluent design flow
	52.9 MGD – peak daily wet weather effluent design flow
<b>Watershed</b>	Suisun Basin
<b>Receiving Water</b>	Boynton Slough, LedgeWood Creek, Duck Ponds 1 and 2
<b>Receiving Water Type</b>	Estuarine

A. The Fairfield-Suisun Sewer District owns and operates the Fairfield-Suisun Wastewater Treatment Plant and its collection system (collectively, the Facility). The plant provides advanced-secondary treatment of the wastewater collected from its service areas and discharges primarily to Boynton Slough, with intermittent discharges to two duck ponds and LedgeWood Creek, all of which are waters of the United States within the Suisun Basin watershed tributary to Suisun Marsh and Suisun Bay. Attachment B provides a map of the area around the Facility. Attachment C provides a plant flow schematic.

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. CA0038024. It was previously subject to Order No. R2-2009-0039 (previous order), which was adopted on April 8, 2009, and expired on May 31, 2014, but was administratively extended by operation of law. Order No. R2-2010-0054 amended the previous order to update the Regional Standard Provisions (Attachment G); Order No. R2-2011-0009 amended the previous order to update the pretreatment program requirements (Attachment H); and Order No. R2-2013-0007 amended the previous order’s cyanide limits.

When applicable, State law requires dischargers to file a petition with the State Water Board’s 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.

- C.** The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on November 26, 2013.
- 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 and Controls

- 1. Location and Service Area.** The Facility is located at 1010 Chadbourne Road in Fairfield, Solano County, and provides advanced-secondary treatment of wastewater from domestic, commercial, and industrial sources from the City of Fairfield, Suisun City, and Travis Air Force Base. The Facility serves a population of approximately 136,000.
- 2. Collection System.** The Fairfield-Suisun Sewer District sewer system consists of approximately 68 miles of gravity sewer mains (12 inches in diameter or greater), 15 miles of pressure sewer mains, and 12 pump stations. The plant also treats wastewater from three satellite collections systems, consisting of sewer lines less than 12 inches in diameter, owned and maintained by the City of Fairfield, Suisun City, and Travis Air Force Base.
- 3. Wastewater Treatment.** The plant provides treatment consisting of preliminary influent screening and grit removal, primary clarification, optional fixed film roughing filters and intermediate clarification, biological activated sludge, secondary clarification, temporary activated sludge effluent storage in flow balancing reservoirs (total volume 12.7 million gallons [MG]), advanced secondary dual-media filtration, and ultraviolet light (UV) disinfection. The plant also has wet weather facilities including a 111-million-gallon (MG)

equalization storage basin with optional comminution. The plant is designed to provide containment and advanced secondary treatment of wastewater flows up to the 20-year storm event.

4. Influent wastewater is pumped to the plant headworks from four pump stations, each with a magnetic flow meter. The combined inflow is measured by Parshall flumes downstream of influent screening. Plant inflow contains plant recycle (utility water). For biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS), the plant recycle is sampled and metered separately. Plant influent analyses for BOD<sub>5</sub> and TSS are then mathematically adjusted to arrive at influent loading exclusive of plant recycle.
5. Disinfected effluent is conveyed from the UV disinfection facility to Discharge Point No. 001 (and 005, when needed) or to one of three earthen final effluent storage reservoirs with a total volume of 20.4 MG. The plant may discharge a blend of stored water from the reservoirs and treated wastewater from the UV disinfection facility.
6. **Sludge and Biosolids Management.** Biosolids are concentrated using gravity belt thickeners, anaerobically digested, and either mechanically dewatered or dewatered by open-air solar drying beds or lagoons. Biosolids are placed in the Potrero Hills Landfill as alternative daily cover or beneficially reused through agricultural land application.
7. **Reclamation.** The Discharger recycles approximately 5 to 10 percent of the plant's treated effluent for agricultural and landscape irrigation. Water recycling is regulated under Regional Water Board Order No. 96-011.
8. **Stormwater Management.** Stormwater originating on the plant's grounds is directed offsite and regulated under the statewide Industrial Storm Water Permit (NPDES General Permit No. CAS000001).

**B. Discharge Points and Receiving Waters**

Treated effluent is discharged to receiving waters from the locations listed below. The primary discharge location is Discharge Point No. 001 to Boynton Slough; discharge to the other three discharge points is intermittent. The plant has an average dry weather effluent design capacity of 23.7 million gallons per day (MGD). Annual average effluent flows through Discharge Point No. 001 in 2012 and 2013 were approximately 14 MGD and 13 MGD, with daily maximum flows of approximately 26 MGD and 19 MGD. Annual volumes discharged to the duck ponds in 2012 and 2013 were approximately 3,000 MG and 2,800 MG. The volume discharged to LedgeWood Creek was 3.1 MG on October 16, 2012.

**Table F-2. Outfall Locations**

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Advanced Secondary Treated Municipal Wastewater	38.209167	-122.056667	Boynton Slough

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
002	Advanced Secondary Treated Municipal Wastewater	38.214444	-122.065556	Duck Pond 1
003	Advanced Secondary Treated Municipal Wastewater	38.209722	-122.058056	Duck Pond 2
005	Advanced Secondary Treated Municipal Wastewater	38.233333	-122.058889	Ledgewood Creek

**C. Summary of Existing Requirements and Self-Monitoring Report Data**

Effluent limitations contained in the previous order and representative monitoring data from the previous order term are presented below:

**Table F-3. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitations					Monitoring Data (6/09 – 7/13)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum	Instantaneous Minimum	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD)	mg/L	10	15	20	---	---	8.0
Total Suspended Solids (TSS)	mg/L	10	15	20	---	---	3.0
pH	standard units	---	---	---	8.5	6.5	5.2–9.4 <sup>[1]</sup>
Oil and Grease	mg/L	---	---	10	---	---	5.0
Total Residual Chlorine	mg/L	---	---	---	0.0	---	0.0
Turbidity	NTU	---	---	10	---	---	3.7
Enterococcus	MPN/100 mL	33 <sup>[2]</sup>	---	---	---	---	7.0
Ammonia, Total	mg/L as N	2.0	---	4.0	---	--	0.30
Copper	µg/L	7.9	---	15	---	---	8.4
Cyanide	µg/L	7.4	---	18	---	---	3.2 <sup>[3]</sup>
Dioxin-TEQ	µg/L	1.4x10 <sup>-8</sup>	---	2.8x10 <sup>-8</sup>	---	---	9.0x10 <sup>-10</sup>
Chlorodibromomethane	µg/L	34	---	68	---	---	<0.17 <sup>[3]</sup>
Dichlorobromomethane	µg/L	46	---	92	---	---	<0.16 <sup>[3]</sup>
Acute Toxicity	% Survival	<sup>[4]</sup>					100%

**Unit Abbreviations:**

- mg/L = milligrams per liter
- µg/L = micrograms per liter
- mg/L as N = milligrams per liter as nitrogen
- MPN/100 mL = Most Probable Number per 100 milliliters
- NTU = nephelometric turbidity units
- % = percent

Footnotes:

- <sup>[1]</sup> The Discharger monitors pH continuously. The total time the pH was outside the required range never exceeded 7 hours and 26 minutes in any calendar month, and no individual excursion from the required range exceeded 60 minutes. Thus, pursuant to 40 C.F.R. § 401.17, the Discharger complied with the pH limitation.
- <sup>[2]</sup> 30-day geometric mean.
- <sup>[3]</sup> Data are from August 16, 2011, through June 30, 2013, after chlorination system was replaced by UV disinfection. Previous results complied with interim maximum daily effluent limitations of 75 µg/L, 68 µg/L, and 14 µg/L for chlorodibromomethane, dichlorobromomethane, and cyanide, as established by Cease and Desist Order No. R2-2009-0040.
- <sup>[4]</sup> An 11-sample median value of not less than 90 percent survival and an 11-sample 90th percentile value of not less than 70 percent survival.

**D. Compliance Summary**

The Discharger violated its copper average monthly effluent limitation (AMEL) of 7.9 µg/L during September 2013, with a monthly average concentration of 8.4 µg/L. This violation was based on a single sample collected on September 4, 2013. The Regional Water Board required the Discharger to submit a report on the causes of this violation and to take corrective action. The Discharger reported on November 26, 2013, that its Laboratory Information Management System (LIMS) had not been correctly programmed to flag copper results in excess of the AMEL; thus, the Discharger did not collect additional copper samples as the previous order required. The Discharger then reprogrammed its LIMS to flag such copper results. Because the violation was relatively minor and adequately addressed through informal enforcement, formal enforcement was not pursued. There have been no subsequent violations.

The Discharger neglected to properly monitor pH on two occasions, from April 2 through April 3, 2011, and on April 8, 2011, due to operator error. The Discharger subsequently demoted the operator, reviewed its standard operating procedures, and conducted additional training. Because the violations were relatively minor and adequately addressed through informal enforcement, formal enforcement was not pursued.

The table below shows the Discharger’s sanitary sewer overflow (SSO) rates (total SSOs per 100 miles of collection system for each of the past four years) and other information along with those for the county and region. The Discharger had no SSOs in 2011, 2012, and 2014, and two SSOs in 2013, neither of which apparently reached surface waters. Future SSOs could potentially reach waters of the U.S. and thus could violate Prohibition III.D of this Order.

**Table F-4. SSO Rates (total SSOs/100 miles of sewer)**  
 (based on CIWQS data analysis completed in February 2015) <sup>[1]</sup>

	Length	Average Age	2011	2012	2013	2014
Fairfield Suisun Sewer District	83 miles	35 years	0	0	2.4	0
Solano County median of 2 medium systems (10 to 99 miles)	84 miles	33 years	0.7	1.3	2.5	0.6
San Francisco Bay median of 49 medium systems (10 to 99 miles)	38 miles	42 years	5.9	9.3	12	6.3
San Francisco Bay Region median of all 132 systems	41 miles	45 years	4.0	4.6	4.5	2.7

Footnote:

- <sup>[1]</sup> 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 no significant changes to its operations for at least the next five years.

**III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements in this Order are based on the requirements and authorities described below:

**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 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 serves as an NPDES permit for point source discharges from the Facility to surface waters.

**B. California Environmental Quality Act (CEQA)**

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

**C. State and Federal Laws, 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 Order 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. Because of the marine influence on the receiving waters for this discharge, total dissolved solids levels exceed 3,000 mg/L; therefore, these receiving waters meet an exception to State Water Board Resolution No. 88-63. Beneficial uses applicable to Boynton Slough, the managed duck ponds, and LedgeWood Creek are as follows:

**Table F-5. Receiving Water Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Uses
001	Boynton Slough (Tributary to Suisun Slough)	Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (RECI)

Discharge Point	Receiving Water Name	Beneficial Uses
		Non-Contact Water Recreation (REC2) Navigation (NAV)
002 and 003	Duck Ponds 1 and 2 (Both tributary to Suisun Marsh)	Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)
005	Ledgewood Creek	Freshwater Replenishment (FRSH) Cold Freshwater Habitat (COLD) Fish Migration (MIGR) Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-contact Water Recreation (REC2)

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.
3. **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.
4. **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 applied 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.
5. **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.

- 6. 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. Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all applicable Endangered Species Act requirements.

#### **D. Impaired Water Bodies on CWA 303(d) List**

In October 2011, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) List. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired waters. The SIP requires effluent limitations for 303(d)-listed pollutants to be consistent with TMDLs and associated wasteload allocations.

The 303(d) List does not identify Boynton Slough as an impaired water body but does identify Suisun Slough, to which Boynton Slough is tributary, as impaired by diazinon. The 303(d) List also identifies Ledgewood Creek as impaired by diazinon. Basin Plan section 7.1.1 contains a water quality attainment strategy and TMDL to address diazinon. The strategy does not impose any particular requirements on municipal wastewater discharges.

The managed duck ponds are tributary to Suisun Marsh, which the 303(d) List identifies as impaired by mercury and nutrients. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. NPDES Permit No. CA0038849 implements the mercury TMDL with respect to the discharges covered by this Order. NPDES Permit No. CA0038873 addresses nutrients with respect to these discharges.

The 303(d) List also identifies Suisun Marsh as impaired by low dissolved oxygen and salinity. As shown in Fact Sheet section IV.C.3.g for dissolved oxygen and discussed in Fact Sheet section IV.A.2 for salinity, this discharge does not contribute to low dissolved oxygen or salinity because it is high in dissolved oxygen, low in BOD, and low in salinity. Efforts to develop TMDLs or other regulatory responses for these pollutants are underway.

#### **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; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

##### **A. Discharge Prohibitions**

###### **1. Prohibitions in this Order**

- a. Discharge Prohibition III.A (No discharge other than as 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.
- b. Discharge Prohibition III.B (No bypass except as provided for in Attachment D section I.G):** This prohibition is based on 40 C.F.R. section 122.41(m). Bypass of untreated or partially-treated wastewater from any portion of the Facility is prohibited except in accordance with 40 C.F.R. section 122.41(m)(2) (see Attachment D sections I.G.2 and I.G.4).
- c. Discharge Prohibition III.C (Average dry weather discharge not to exceed 23.7 MGD):** This prohibition is based on the design treatment capacity. Exceedance of the average dry weather effluent flow design capacity of 23.7 MGD may result in lowering the reliability of achieving compliance with water quality requirements.
- d. Discharge Prohibition III.D (No sanitary sewer overflows):** 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 surface waters is therefore prohibited under the CWA and the Basin Plan.

## 2. Exceptions to Basin Plan Discharge Prohibitions

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges not receiving a minimum of 10:1 initial dilution and discharges into shallow waters or dead-end sloughs. Basin Plan Table 4-1, Discharge Prohibition 3, prohibits discharges of any wastewater with particular characteristics of concern to Suisun Marsh during the dry season. Discharge Point No. 001 discharges to a confined slough, Discharge Point Nos. 002 and 003 discharge to ponds within Suisun Marsh, and Discharge Point No. 005 discharges to an inland creek, where minimum dilution ratios of 10:1 are not achieved. Discharge from Discharge Point No. 001 occurs year-round, including the dry season, and discharges from Discharge Point Nos. 002, 003, and 005 may occur during the dry season. However, Basin Plan section 4.2 provides for exceptions to Basin Plan Discharge Prohibitions 1 and 3 under certain circumstances:

- 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;
- A discharge is approved as part of a reclamation project;
- Net environmental benefits will be derived as a result of the discharge; or
- A discharge is approved as part of a groundwater cleanup project.

The Basin Plan further states:

Significant factors to be considered by the Regional Water Board in reviewing requests for exceptions will be the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequence of such discharges.

This Order continues to grant exceptions to Prohibitions 1 and 3 for discharges to Boynton Slough, the managed Duck Ponds, and Ledgewood Creek for the following reasons:

1. An inordinate burden would be placed on the Discharger relative to the beneficial uses protected to require the discharge to achieve a 10:1 dilution. Constructing and operating a deep water outfall would require construction and operation of a discharge pipe several miles long.
2. The Discharger achieves a level of environmental protection equivalent to strict adherence to the discharge prohibitions by providing advanced secondary treatment, a level of BOD<sub>5</sub> and TSS removal and nitrification that exceeds secondary treatment standards, and meeting the advanced level of treatment required by this Order.

Moreover, the Discharger has added the LedgeWood Creek outfall (Discharge Point No. 005). This outfall’s capacity will allow the Discharger to reliably discharge maximum wet-weather flows and improves system redundancy and seismic reliability by providing an alternate discharge point in case one is out of service. In addition, Provision VI.C.5.d of this Order requires a Reliability Assurance Plan and Status Report that requires the Discharger to conduct routine analyses of its collection and treatment system with attention toward preventing discharges of inadequately-treated wastewater.

Finally, the Discharger appears to enhance beneficial uses of the receiving water. The Discharger’s *Technical Report on Water Quality, Fairfield-Suisun Sewer District Subregional Wastewater Treatment Plant* (September 1987) evaluated water quality data to determine the discharge’s impacts on Boynton Slough and the degree of environmental benefit provided, if any. This report has been updated periodically, most recently in November 2013. These studies demonstrate that the discharge is significantly less saline (less than 1 ppt) than the receiving water and thus is a source of freshwater to Suisun Marsh, which is currently listed as impaired by salinity. They also demonstrate that the discharge is more oxygenated than the receiving water. The Discharger will continue to provide treated effluent to the managed duck ponds and reclaim and reuse the maximum feasible amount of treated wastewater for irrigation to minimize discharges to Boynton Slough and LedgeWood Creek during dry weather.

**B. Conventional and Non-Conventional Pollutant 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 Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. In addition, the 30-day average percent removal for biochemical oxygen demand (BOD<sub>5</sub>) (or carbonaceous biochemical oxygen demand, CBOD<sub>5</sub>) and total suspended solids (TSS), by concentration, is not to be less than 85 percent. The Basin Plan contains additional requirements for certain pollutants.

**Table F-6. Secondary Treatment Requirements**

Parameter	Monthly Average	Weekly Average
BOD <sub>5</sub> <sup>[1,2]</sup>	30 mg/L	45 mg/L
TSS <sup>[1,2]</sup>	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnotes:

<sup>[1]</sup> CBOD<sub>5</sub> effluent limitations may be substituted for BOD<sub>5</sub> limitations.

<sup>[2]</sup> In addition, the monthly average percent removal, by concentration, is not to be less than 85 percent.

The plant provides advanced secondary treatment and has consistently met limitations on conventional pollutants that are more stringent than the federal secondary treatment standards described above. These more stringent limits are necessary to ensure that the plant continues

to provide a high-quality effluent suitable for unrestricted reuse and that the discharge continues to qualify for exceptions to Basin Plan Discharge Prohibitions 1 and 3 (see Fact Sheet section IV.A.2).

## 2. Effluent Limitations

- a. **BOD<sub>5</sub> and TSS.** The BOD<sub>5</sub> and TSS effluent limitations are a monthly average of 10 mg/L and a weekly average of 15 mg/L. These limitations, including the 85 percent removal requirements, are unchanged from the previous order, except that the daily maximum limits of 20 mg/L are not retained from the previous order. The Basin Plan does not require daily maximum limits for BOD<sub>5</sub> and TSS, and they are unnecessary to assure the higher level of treatment that the monthly and weekly limits already require. The limitations in this Order are technologically feasible for the advanced wastewater treatment technologies used at the plant. Monitoring data show the Discharger has been able to consistently comply with these limitations.
- b. **Oil and Grease.** The oil and grease effluent limitation is a daily maximum of 10 mg/L. It is unchanged from the previous order. Monitoring data show that the Discharger has been able to consistently comply with this limit.
- c. **pH.** The pH effluent limitations are a minimum of 6.5 and a maximum of 8.5. They are based on Basin Plan Table 4-2. Monitoring data show that the Discharger has been able to consistently comply with these limits.
- d. **Turbidity.** The turbidity effluent limitation is an instantaneous maximum of 10 nephelometric turbidity units (NTU). It ensures the performance of the plant's advanced secondary treatment and is unchanged from the previous order. Monitoring data show that the Discharger has been able to consistently comply with this limitation.
- e. **Total Ammonia.** The total ammonia effluent limitations are an average monthly effluent limit of 2.0 mg/L and a maximum daily effluent limit of 4.0 mg/L. These limits are the same as the water quality-based total ammonia effluent limitations in the previous order. Monitoring data do not indicate reasonable potential for ammonia to cause or contribute to violations of ammonia water quality objectives (see Fact Sheet section IV.C.3.d). These limits are retained to ensure that the Discharger maintains its nitrification performance to qualify for exceptions to Basin Plan Discharge Prohibitions 1 and 3 (see Fact Sheet section IV.A.2).
- f. **Enterococcus.** The enterococcus effluent limitation is a geometric mean concentration not exceed 33 most probable number per 100 mL (MPN/100 mL) based on at least five samples collected within a single month. This limit is based on Basin Plan Table 4-2A. Monitoring data show that the Discharger has been able to consistently comply with this limit.

## C. Toxic Pollutant Effluent Limitations

### 1. Scope and Authority

This Order contains water quality-based effluent limitations (WQBELs) that implement water quality objectives 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. This Order imposes numeric effluent limitations for toxic pollutants with reasonable potential to cause or contribute to exceedances of water quality standards.

### 2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point No. 001 discharges to Boynton Slough; Discharge Point Nos. 002 and 003 discharge to the managed duck ponds, which are tributary to Suisun Marsh; and Discharge Point No. 005 discharges to Ledgewood Creek. Fact Sheet section III.C.1, above, identifies the beneficial uses of these receiving waters. 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 for several toxic pollutants and narrative water quality objectives for toxicity and bioaccumulation. The narrative toxicity objective 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.” The narrative bioaccumulation objective states, “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.” Basin Plan section 3.3.5 sets minimum dissolved oxygen water quality objectives for San Francisco Bay and non-tidal waters. In San Francisco Bay upstream of Carquinez Bridge, the objective is 7.0 mg/L; in non-tidal waters supporting warm water and cold water habitat beneficial uses, the objectives are 5.0 mg/L and 7.0 mg/L.
- 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 receiving waters for this Order because they are not a source of drinking water with the municipal and domestic supply (MUN) beneficial use.
- c. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to the receiving waters for this discharge.
  - d. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains a 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.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.
- The receiving waters for this discharge ultimately flow into Suisun Marsh. Salinity data collected at Receiving Water Monitoring Locations RSW-001 through 004 and RSW-006 through 010 (as defined in the MRP) from 2009 through 2013 indicate an estuarine environment, with 79 percent of the data falling between 1 and 10 ppt. The Discharger’s plant community studies in the Boynton Slough and Ledgewood Creek areas also indicate the receiving waters are tidally-influenced. Furthermore, all receiving waters (Boynton Slough, Ledgewood Creek, and the duck ponds) are located within the Suisun Marsh, which the Basin Plan specifically identifies as supporting the estuarine habitat beneficial use. The reasonable potential analysis and WQBELs for this Order are therefore based on the more stringent of the freshwater and saltwater criteria.
- f. **Receiving Water Hardness.** Ambient hardness data were used to derive freshwater water quality objectives that are hardness dependent. The Discharger collected data during the previous order term at receiving water monitoring locations RSW-001 through RSW-004 and RSW-006 through RSW-010. The data were censored to eliminate hardness values greater than 400 mg/L and samples taken when salinity was greater than 1 ppt. The adjusted geometric mean of the resulting data, 257 mg/L as calcium carbonate (CaCO<sub>3</sub>), was used to determine the water quality objectives.
  - 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, suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

The requirements of this Order are based on site-specific translators for hexavalent chromium, copper, nickel, and zinc calculated from data for dissolved and total metals the Discharger collected in 2000 and 2001 during five sampling events. The following table shows the translators used for this Order. CTR default translators were used for all other metals.

**Table F-7. Site-Specific Translators**

Pollutant	AMEL Translator	MDEL Translator
Copper	0.46	0.64
Chromium (VI)	0.23	0.46
Nickel	0.51	0.91
Zinc	0.68	1.0

**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. Methodology.** For toxic pollutants other than ammonia, SIP section 1.3 sets forth the methodology used for this Order to assess whether a pollutant has reasonable potential to exceed a water quality objective. 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 ( $MEC \geq$  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 ( $B >$  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 WQBEL is needed to protect beneficial uses.

For ammonia, the procedures outlined in U.S. EPA’s *Technical Support Document for Water Quality-based Toxics Control* (Technical Support Document) (EPA/505/2-90-001, March 1991) were used to determine if ammonia in the discharge has a reasonable potential to cause a water quality objective to be exceeded. The Technical Support Document method is described in detail in Fact Sheet section IV.E.3.e below.

**b. Effluent Data.** The reasonable potential analysis is mainly based on effluent monitoring data the Discharger collected from June 2009 through May 2013. The copper analysis is based on data from June 2013 through June 2014 because previous data are unrepresentative due to influent quality and secondary treatment process changes; these changes are further described in Fact Sheet section IV.D below. The cyanide, chlorodibromomethane, and dichlorobromomethane analyses are based on data from August 2011 through May 2013, after the Discharger replaced its chlorine gas disinfection process with ultraviolet light disinfection.

**c. Ambient Background Data.** With the exception of ammonia, the ambient background data are based on RMP data collected at the Sacramento River RMP station (BG20) from 1993 through 2013, and additional Bay Area Clean Water Agencies’ data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004). These reports contain monitoring results from 2002 and 2003 for priority pollutants the RMP did not monitor at the time.

For ammonia, monitoring data for July 2009 through May 2013 from Receiving Water Monitoring Locations RSW-001 through 004 and RSW-006 through 010 were used.

**d. Reasonable Potential Analysis for Most Toxic Pollutants.** With the exception of ammonia, the maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and background concentrations used in the analysis are presented in the following table, 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 applicable water quality objectives for all pollutants and monitoring data are unavailable for others. Cyanide exhibits reasonable potential by Trigger 1; Basin Plan section 4.7.2.2 also requires cyanide WQBELs for all individual NPDES permits for municipal and industrial wastewater treatment facilities. Basin Plan section 7.2.1.2 requires copper WQBELs for all individual NPDES permits for municipal wastewater dischargers to San Francisco Bay. Dioxin-TEQ exhibits reasonable potential by Trigger 2 because the receiving water is impaired for dioxins, and dioxins were detected in the Discharger’s effluent (see Fact Sheet section IV.C.3.e below).

**Table F-8. Reasonable Potential Analysis**

CTR #	Priority Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	Result <sup>[3]</sup>
1	Antimony	4,300	1.0	0.34	No
2	Arsenic	36	1.6	3.7	No
3	Beryllium	No Criteria	1.0	0.13	U
4	Cadmium	2.4	0.040	0.055	No
5a	Chromium (III)	448	0.70	80	No
5b	Chromium (VI)	35	---	---	U

CTR #	Priority Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	Result <sup>[3]</sup>
<b>6</b>	<b>Copper</b>	<b>13</b>	<b>8.4</b>	<b>9.9</b>	<b>Yes <sup>[5]</sup></b>
7	Lead	8.5	0.20	2.3	No
8	Mercury (303(d) listed) <sup>[1]</sup>	0.025	---	---	---
9	Nickel	16	4.4	3.7	No
10	Selenium (303(d) listed)	5.0	0.75	0.45	No
11	Silver	2.2	0.10	0.057	No
12	Thallium	6.3	<0.050	0.14	No
13	Zinc	90	42	18	No
<b>14</b>	<b>Cyanide</b>	<b>2.9</b>	<b>3.2</b>	<b>0.90</b>	<b>Yes <sup>[6]</sup></b>
15	Asbestos	No Criteria	---	---	U
16	2,3,7,8-TCDD (303(d) listed)	0.000000014	<5.4E-08	6.5E-09	No
	<b>Dioxin-TEQ (303(d) listed)</b>	<b>0.000000014</b>	<b>9.0E-10</b>	<b>4.7E-08</b>	<b>Yes <sup>[7]</sup></b>
17	Acrolein	780	<1.7	<0.5	No
18	Acrylonitrile	0.66	<0.69	<0.020	No
19	Benzene	71	<0.18	<0.050	No
20	Bromoform	360	9.5	<0.50	No
21	Carbon Tetrachloride	4.4	1.2	0.060	No
22	Chlorobenzene	21,000	<0.18	<0.50	No
23	Chlorodibromomethane	34	<0.17	0.050	No
24	Chloroethane	No Criteria	<0.38	<0.50	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.50	U
26	Chloroform	No Criteria	0.48	<0.50	U
27	Dichlorobromomethane	46	<0.16	<0.050	No
28	1,1-Dichloroethane	No Criteria	<0.19	<0.050	U
29	1,2-Dichloroethane	99	<0.18	0.40	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.50	No
31	1,2-Dichloropropane	39	<0.18	<0.050	No
32	1,3-Dichloropropylene	1,700	<0.30	---	No
33	Ethylbenzene	29,000	<0.26	<0.50	No
34	Methyl Bromide	4,000	<0.17	<0.50	No
35	Methyl Chloride	No Criteria	0.30	<0.50	U
36	Methylene Chloride	1,600	0.70	<0.50	No
37	1,1,2,2-Tetrachloroethane	11	<0.10	<0.050	No
38	Tetrachloroethylene	8.9	<0.19	<0.050	No
39	Toluene	200,000	0.70	<0.30	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.50	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.50	U
42	1,1,2-Trichloroethane	42	<0.16	<0.50	No
43	Trichloroethylene	81	<0.20	<0.050	No
44	Vinyl Chloride	525	<0.25	<0.50	No
45	2-Chlorophenol	400	<0.98	---	No
46	2,4-Dichlorophenol	790	<0.99	<1.3	No
47	2,4-Dimethylphenol	2,300	<0.87	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.91	<1.2	No
49	2,4-Dinitrophenol	14,000	<0.83	<0.70	No
50	2-Nitrophenol	No Criteria	<0.89	<1.3	U
51	4-Nitrophenol	No Criteria	<0.83	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.91	<1.1	U
53	Pentachlorophenol	3.5	<0.81	<1.0	No
54	Phenol	4,600,000	<0.69	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<0.97	<1.3	No
56	Acenaphthene	2,700	<0.030	0.00039	No
57	Acenaphthylene	No Criteria	<0.030	0.00049	U

CTR #	Priority Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	Result <sup>[3]</sup>
58	Anthracene	110,000	<0.030	0.00039	No
59	Benzidine	0.00054	<0.50	<0.0030	No
60	Benzo(a)Anthracene	0.049	<0.030	0.0011	No
61	Benzo(a)Pyrene	0.049	<0.030	0.00082	No
62	Benzo(b)Fluoranthene	0.049	<0.030	0.0019	No
63	Benzo(ghi)Perylene	No Criteria	<0.030	0.0012	U
64	Benzo(k)Fluoranthene	0.049	<0.030	0.00093	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.93	<10	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.95	<0.30	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.81	---	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	1.1	0.00020	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.97	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.98	0.00030	No
71	2-Chloronaphthalene	4,300	<0.98	<0.30	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.99	<0.30	U
73	Chrysene	0.049	<0.030	0.0011	No
74	Dibenzo(a,h)Anthracene	0.049	<0.030	0.00067	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.30	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.30	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.30	No
78	3,3 Dichlorobenzidine	0.077	<5.0	<0.00020	No
79	Diethyl Phthalate	120,000	<0.86	---	No
80	Dimethyl Phthalate	2,900,000	<0.97	---	No
81	Di-n-Butyl Phthalate	12,000	<0.91	1.7	No
82	2,4-Dinitrotoluene	9.1	<0.96	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.98	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	1.0	---	U
85	1,2-Diphenylhydrazine	0.54	<0.90	0.0087	No
86	Fluoranthene	370	<0.030	0.0034	No
87	Fluorene	14,000	<0.030	0.00072	No
88	Hexachlorobenzene	0.00077	<0.91	0.00011	No
89	Hexachlorobutadiene	50	<0.92	<0.30	No
90	Hexachlorocyclopentadiene	17,000	<0.90	<0.30	No
91	Hexachloroethane	8.9	<0.94	<0.20	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.030	0.0013	No
93	Isophorone	600	<0.93	<0.30	No
94	Naphthalene	No Criteria	<0.030	0.0081	U
95	Nitrobenzene	1,900	<0.95	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.88	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.97	<0.00020	No
98	N-Nitrosodiphenylamine	16	<0.83	<0.0010	No
99	Phenanthrene	No Criteria	<0.030	0.0034	U
100	Pyrene	11,000	<0.030	0.0036	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.98	<0.30	U
102	Aldrin	0.00014	<0.0028	0.000095	No
103	Alpha-BHC	0.013	<0.0038	0.00035	No
104	Beta-BHC	0.046	<0.0019	0.00012	No
105	Gamma-BHC	0.063	<0.0028	0.0010	No
106	Delta-BHC	No Criteria	<0.0038	0.000038	U
107	Chlordane (303(d) listed)	0.00059	<0.0050	0.00030	No
108	4,4'-DDT (303(d) listed)	0.00059	<0.0038	0.00035	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.0038	0.00092	No
110	4,4'-DDD	0.00084	<0.0028	0.00035	No
111	Dieldrin (303d listed)	0.00014	<0.0028	0.00038	No

CTR #	Priority Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	Result <sup>[3]</sup>
112	Alpha-Endosulfan	0.0087	<0.0019	0.00014	No
113	beta-Endosulfan	0.0087	<0.0019	0.000042	No
114	Endosulfan Sulfate	240	<0.0019	0.00028	No
115	Endrin	0.0023	<0.0019	0.000019	No
116	Endrin Aldehyde	0.81	<0.0028	---	No
117	Heptachlor	0.00021	<0.0038	0.000011	No
118	Heptachlor Epoxide	0.00011	<0.0019	0.000097	No
119-125	PCBs sum (303(d) listed) <sup>[4]</sup>	---	---	---	---
126	Toxaphene	0.0002	<0.068	---	No
	Tributyltin	0.0074	---	0.0020	U

**Abbreviations:**

MEC = maximum effluent concentration  
 B = ambient background concentration  
 DL = detection limit

**Footnotes:**

- <sup>[1]</sup> 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 limit (DL).
- <sup>[2]</sup> The maximum effluent concentration or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- <sup>[3]</sup> 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  
 = U, unknown or cannot determine
- <sup>[4]</sup> Reasonable potential for copper is based on Basin Plan section 4.7.2.1.
- <sup>[5]</sup> 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.
- <sup>[6]</sup> In addition to the MEC exceeding the lowest water quality objective (Trigger 1), reasonable potential for cyanide is based on Basin Plan section 4.7.2.2.
- <sup>[7]</sup> Reasonable potential for dioxin TEQ is based on Trigger 2 because background concentrations exceed water quality objectives and dioxin congeners have been detected in the effluent.

**e. Reasonable Potential Analysis for Dioxin-TEQ**

**i. Water Quality Objective.** The Basin Plan narrative water quality objective for bioaccumulative substances 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 Lower 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  $1.4 \times 10^{-8}$   $\mu\text{g/L}$  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.

- ii. **Reasonable Potential Analysis.** TEFs and BEFs were used to express measured concentrations of 16 dioxin congeners in effluent and background samples as equivalent 2,3,7,8-TCDD concentrations. For each sample, the sum of these equivalent concentrations is the dioxin-TEQ concentration. This Order establishes dioxin-TEQ WQBELs because the ambient background receiving water dioxin TEQ concentration ( $2.7 \times 10^{-8}$   $\mu\text{g/L}$ ) exceeds the CTR numeric criterion for 2,3,7,8-TCDD ( $1.4 \times 10^{-8}$   $\mu\text{g/L}$ ) and dioxin-TEQ was detected in the Discharger’s effluent over the term of the previous order, demonstrating reasonable potential by Trigger 2.
- f. **Reasonable Potential Analysis for 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 was used to determine if ammonia has reasonable potential to cause a water quality objective to be exceeded.
  - i. **Technical Support Document Procedure.** The Technical Support Document allows reasonable potential analyses using either receiving water concentrations projected from effluent data or measured receiving water concentrations. The steps using receiving water concentrations projected from effluent data are summarized below:
    - Step 1. Determine the total number of observations (n) and the highest value (the maximum effluent concentration or MEC) in the effluent data set.
    - Step 2. Determine the coefficient of variation (CV) of the data set. If  $n < 10$ , use a CV of 0.6; if  $n \geq 10$ , use a CV equal to the standard deviation of the data set divided by its mean.

Step 3. Determine a ratio (R) for projecting an upper bound concentration based on a selected confidence interval (e.g., 95 or 99 percent) and assuming a lognormal distribution as follows:

Determine the percentile represented by the MEC in the data set ( $P_n$ ) based on the selected confidence interval.

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

Calculate  $C_{P_n}$  and  $C_{\text{upper bound}}$  corresponding to  $P_n$  and the selected upper bound percentile (typically the 99th) using the following equation:

$$C_P = \exp(Z_P\sigma - 0.5\sigma^2)$$

Where:  $\sigma^2 = \ln(CV^2 + 1)$

$P$  is the percentile (either  $P_n$  or the selected upper bound percentile)

$Z_p$  is the standard normal distribution value for the percentile  $P$  (available from statistical references)

Finally, calculate R as:

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

Step 4. Calculate the projected maximum receiving water concentration (RWC) as follows:

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

The dilution ratio can be defined as:

$$\text{dilution ratio} = \frac{(D + [1 \text{ part effluent}])}{[1 \text{ part effluent}]}$$

Where:  $D$  is the parts receiving water available to dilute 1 part effluent

and:  $\text{RWC} = (\text{MEC} \times R) / (D + 1)$

Step 5. Compare the RWC to the Basin Plan's ammonia water quality objectives. There is reasonable potential if the RWC is greater than or equal to a water quality objective.

## ii. Analysis

**(a) Ammonia Objective.** 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, including Suisun Marsh.

**(b) Ammonia Data Translation.** Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory



methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature.

Total ammonia concentrations (as nitrogen) were translated into un-ionized ammonia concentrations for comparison with the Basin Plan un-ionized objectives based on the following equations (U.S. EPA, 1989, *Ambient Water Quality Criteria for Ammonia (Saltwater)*–1989, EPA Publication 440/5-88-004):

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

Where:

$$pK = 9.245 + 0.116(I) + 0.0324(298 - T) + \frac{0.0415(P)}{(T)}$$

$$I = \text{Molal ionic strength of saltwater} = \frac{19.9273(S)}{(1,000 - 1.005109(S))}$$

$S$  = Salinity (parts per thousand)

$T$  = Temperature (Kelvin)

$P$  = Pressure (one atmosphere)

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

Where:

$$pK = 0.09018 + 2729.92/T$$

$T$  = Temperature (Kelvin)

Paired salinity and ammonia data are unavailable, but the effluent was assumed to be freshwater and the equation for waters of salinity < 1 ppt was used.

- (c) **Ammonia Dilution.** For purpose of this analysis, no dilution was assumed for ammonia (i.e.,  $D = 0$ ) and the receiving water concentration was assumed to be the same as the projected upper bound concentration, i.e.,  $RWC = MEC \times R$  (see Step 4 above).
- (d) **Two Approaches.** According to the Technical Support Document, the reasonable potential analysis can be performed based on the RWC projected using effluent data (the steps summarized above) or actual measured RWCs. Both values may be compared directly with Basin Plan un-ionized objectives.
  - (1) **Analysis Based on Effluent Data.** Effluent total ammonia as nitrogen, pH, and temperature data collected from June 2009 through May 2013 were used to evaluate reasonable potential for ammonia. Based on this data set of  $n = 216$  with a calculated un-ionized ammonia MEC of 0.0019 mg/L,  $P_n$  at a 99 percent confidence interval is 0.99, indicating the MEC represents the 99<sup>th</sup> percentile of the ammonia effluent data. With the upper bound set at the 99<sup>th</sup> percentile,  $R$  is 1.25 ( $Cp_n$  was 3.47 and  $C_{upper\ bound}$  was 4.33), and the projected

RWC is 0.0023 mg/L, less than the Basin Plan's acute un-ionized ammonia water quality objective of 0.16 mg/L. The maximum annual median un-ionized ammonia concentration is 0.00035 mg/L, less than the Basin Plan's chronic water quality objective of 0.025 mg/L. Therefore, there is no reasonable potential for ammonia based on the effluent data.

**(2) Analysis Based on Receiving Water Data.** Total ammonia, pH, salinity, and temperature data from Receiving Water Monitoring Locations RSW-001 through 004 and RSW-006 through 010 collected from July 2009 through May 2013 were used to evaluate reasonable potential for ammonia. The maximum calculated un-ionized ammonia concentration of 0.019 mg/L is less than the acute water quality objective of 0.16 mg/L; the maximum annual median concentration of 0.0016 mg/L is less than the chronic water quality objective of 0.025 mg/L. Therefore, there is no reasonable potential for ammonia based on the receiving water data.

**iii. Potential Changes to Ammonia Analysis as an Outgrowth of Nutrients**

**Regulation.** The Regional Water Board has issued a watershed permit (NPDES Permit No. CA0038873) for all municipal wastewater dischargers to San Francisco Bay, including the Discharger, as an element of its San Francisco Bay Nutrient Management Strategy. This strategy addresses growing concerns about nutrients in the San Francisco Bay estuary. The strategy's goal is nutrient numeric endpoints that will inform WQBELs that the Regional Water Board may impose through NPDES Permit No. CA0038873.

- g. Reasonable Potential Analysis for Dissolved Oxygen.** The Discharger has not caused or contributed to a violation of Basin Plan section 3.3.5's dissolved oxygen objectives over the previous order term. The Discharger's effluent data show that 1,461 measurements out of 1,463 (99.9 percent) were greater than or equal to the warm water habitat water quality objective of 5.0 mg/L, and 1,131 (77 percent) were greater than or equal to the cold water habitat water quality objective of 7.0 mg/L. The Discharger's effluent also exerts very low biochemical oxygen demand; 95 percent of the Discharger's measurements were less than or equal to the detection limit of 2.0 mg/L. Based on these data, the discharge does not appear to have the reasonable potential to cause or contribute to violations of the dissolved oxygen water quality objectives. The technology-based limit on BOD<sub>5</sub> and receiving water limits on dissolved oxygen are sufficient to protect water quality.
- h. Reasonable Potential Analysis for Temperature.** Ledgewood Creek supports warm and cold water habitat beneficial uses. Thermal Plan section 5.A, which establishes temperature objectives for existing discharges to estuaries, applies. The discharge to Ledgewood Creek is an elevated-temperature waste discharge but not a thermal waste discharge. The applicable Thermal Plan objectives are therefore:
- i. Maximum Effluent Temperature.** The maximum effluent temperature is not to exceed the natural receiving water temperature by more than 20 degrees Fahrenheit (°F).

- ii. Elevated Temperature Zone.** Elevated temperature waste discharges, either individually or combined with other discharges, are not to create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.
- iii. Surface Water Temperature Rise.** No discharge is to cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

The Discharger monitored temperature at Monitoring Location E-005 during August and September 2009 and October 2010 when using Discharge Point No. 005. The Discharger monitored receiving water temperature at Receiving Water Monitoring Locations RSW-009 (1,000 feet upstream of the discharge) and RSW-010 (100 feet downstream of the discharge) at least quarterly from July 2009 through August 2013. The Monitoring Location E-005 temperature data were compared to the receiving water temperature data collected during the autumn months of 2010 through 2013 to eliminate seasonal variations.

Based on the data described above, there is no reasonable potential for the discharge to Ledgewood Creek to exceed the natural receiving water temperature by more than 20°F. The effluent temperature range (69.3 to 84.6°F) was within 20°F of the receiving water temperature range (60.3 to 76.5°F); the mean effluent temperature (75.6°F) was also within 20°F of the mean receiving water temperature (69.0°F); and differences between independent effluent temperatures and concurrently-measured receiving water temperatures ranged from -0.2 to 6.8°F, less than 20°F. A statistical comparison of the difference between the medians of the two data sets estimated a difference of 6.2°F at 95 percent confidence.

There is no reasonable potential for the discharge to create an elevated temperature zone that exceeds 25 percent of the cross-sectional area of a main river channel because Ledgewood Creek is a small stream, not a main river channel.

Reasonable potential for the discharge to cause a surface water temperature rise greater than 4°F above the natural temperatures cannot be determined based on existing data. Only three measurements at E-005 were concurrent with measurements at RSW-009 and 010, too few to support a meaningful statistical analysis. On those dates, the temperatures at E-005 were recorded as 75.0, 75.4, and 76.5°F; the upstream temperature at RSW-009 was 68.2, 75.6, 72.5°F; and the downstream temperature was 74.7, 70.0, and 72.7°F. The difference between the upstream and downstream temperatures ranged from -5.6 to 6.5°F, showing no clear pattern. Moreover, the Discharger reported in its Ledgewood Creek Temperature Study Report (November 2013) that the effluent temperatures measured during the temperature study may have been elevated due to the temperature probe not being completely submerged (i.e., the measured temperatures may have been influenced by the ambient air temperature). Also, receiving water data collected when no discharge from E-005 was occurring show that the temperature at RSW-009 and 010 occasionally varied by more than 4°F due to natural factors.

- i. 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. Efforts are underway to identify stressors causing such conditions. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the 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.
- j. Constituents with Limited Data.** 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 these constituents in its effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.
- k. Pollutants with No Reasonable Potential.** 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 those 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. Assessing whether a pollutant has reasonable potential to exceed a water quality objective is the fundamental step in determining whether a WQBEL is required.

#### 4. Water Quality-Based Effluent Limitations

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. The WQBELs are based on the procedures specified in SIP section 1.4.

- a. Dilution Credits.** SIP section 1.4.2 allows dilution credits under certain circumstances. Because the receiving water is shallow and supports biologically-sensitive habitats, no dilution credit ( $D=0$ ) was used to calculate most WQBELs. This Order grants a cyanide dilution credit of 4:1 ( $D = 3$ ) at Discharge Point Nos. 001, 002, 003, and 005. This dilution credit is based on Basin Plan Table 4-6 at Discharge Point No. 001, and on the September 12, 2012, *Cyanide Dilution Credit for Duck Ponds and Ledgewood Creek* (hereinafter “Mixing Zone Study”) at Discharge Point Nos. 002, 003, and 005. The Mixing Zone Study supports establishing cyanide mixing zones for Discharge Points 002, 003, and 005 in accordance with the State Implementation Policy. The rationale for the mixing zones and conclusions of the Mixing Zone Study are described below.

The Discharger completed the Mixing Zone Study to provide a basis for establishing cyanide mixing zones for Discharge Points 002, 003, and 005. Its analysis is based on methods similar to those used to develop the Basin Plan Table 4-6 dilution credit for Boynton Slough. The duck ponds and Ledgewood Creek are close to Boynton Slough and have similar characteristics. The duck ponds drain to Boynton Slough. Ledgewood Creek is a nearby freshwater stream that is tidally-influenced at the discharge location. The duck pond and Ledgewood Creek discharges are “incompletely mixed” discharges based on State Implementation Policy section 1.4.2.1 because of their shallow nature and because Ledgewood Creek is tidally-influenced at the discharge location.

The Mixing Zone Study found that mixing zones extending about 2,700 feet downstream of the duck pond discharge points and about 1,100 feet downstream of the Ledgewood Creek discharge point comply with State Implementation Policy requirements. These mixing zones correspond to a dilution ratio of 4:1 ( $D=3$ ). The Mixing Zone Study determined cyanide degradation curves using field data to show how cyanide concentrations degrade with distance from the outfalls. The mixing zones reflect cyanide sampling at the outfalls and locations away from the outfalls during conservative conditions (e.g., minimum pond levels and maximum effluent flows and older effluent cyanide concentrations higher than those observed now). More typical conditions would result in greater dilution.

As required by State Implementation Policy section 1.4.2.2, the mixing zones are as small as practicable. Their sizes correspond to the same dilution credit as Basin Plan Table 4-6 lists for Boynton Slough and result in the same cyanide effluent limits as those for the Boynton Slough discharge. Since the same effluent is discharged at Discharge Points 001, 002, 003, and 005, it would be more efficient to subject the Discharger to one set of limits for the same effluent, particularly when relatively little effluent is discharged to Discharge Points 002, 003, and 005 compared to Discharge Point 001. Denying dilution credits at Discharge Points 002, 003, and 005 would effectively impose duplicative and more stringent limitations on Discharge Point 001 than anticipated by the Basin Plan. More stringent limits at Discharge Points 002, 003, and 005 are unnecessary to protect water quality. The mixing zones for Discharge Points 002, 003, and 005 meet the requirements of State Implementation Policy section 1.4.2.2.

In accordance with State Implementation Policy section 1.4.2.2.A, the mixing zones do not do any of the following:

- 1. Compromise the integrity of the water body.** The mixing zones will not compromise the integrity of the receiving waters because cyanide is expected to attenuate rapidly to safe levels, and the mixing zones are small relative to the size of the receiving waters, which are part of the Suisun Marsh system. Together, the mixing zones comprise only about 0.07 percent of Suisun Marsh, including only about 11 percent of the length of Ledgewood Creek.
- 2. Cause acute toxicity to aquatic life passing through the mixing zone.** Acutely toxic conditions will not exist inside the mixing zones because Order No. R2-2009-0039 requires whole effluent toxicity testing to demonstrate compliance with acute toxicity effluent limitations. These limits do not account for any dilution; therefore,

compliance with these limits protects areas within the mixing zones. Bioassay monitoring conducted on rainbow trout from January 2004 through September 2014 demonstrates compliance with the acute toxicity effluent limits. The high survival rate indicates that organisms passing through the mixing zone are unlikely to experience acute toxicity.

- 3. Restrict the passage of aquatic life.** The mixing zones will not interfere with the movement of aquatic species or restrict the passage of aquatic life because receiving water cyanide concentrations will not exceed the acute cyanide water quality objective (9.4 µg/L). The highest effluent concentration observed since the Discharger converted to ultra-violet disinfection in 2011 is 3.2 µg/L. Cyanide concentrations within the mixing zone and throughout the receiving waters will be even lower because cyanide readily degrades to a non-toxic state and does not persist in the environment. Cyanide concentrations are not expected to increase as a result of this Order because, pursuant to Basin Plan section 4.7.2.2, Provision VI.C.5.b of this Order requires a Cyanide Action Plan to maintain or improve current performance. Therefore, cyanide in the mixing zone will not restrict the movement or passage of aquatic life.
- 4. Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws.** The receiving waters are outside (Duck Pond 001 and Ledgewood Creek) or just within (Boynton Slough and Duck Pond 002) critical habitat for the Delta smelt (50 CFR 17.95[e]); however, the mixing zones will not adversely affect Delta smelt because they are not expected to spawn or reside for extended periods in the mixing zones. Furthermore, the mixing zones will not adversely affect the habitat of any species under federal or State endangered species laws because receiving water cyanide concentrations will comply with the acute and chronic cyanide water quality objectives (9.4 µg/L and 2.9 µg/L). The highest effluent concentration observed since the Discharger converted to UV disinfection was 3.2 µg/L, which is only slightly above the chronic water quality objective; the remaining data are 2.7 µg/L or less (i.e., do not exceed the chronic objective). Cyanide concentrations within the mixing zones will, for the most part, be even lower because cyanide readily degrades to a non-toxic state and does not persist in the environment. Because cyanide concentrations will be below water quality objectives, cyanide will not adversely affect sensitive or critical habitats.
- 5. Produce undesirable or nuisance aquatic life.** The mixing zones will not produce undesirable or nuisance aquatic life. Cyanide is not a biostimulant or plant nutrient so it will not cause growth of aquatic nuisance species. Moreover, this Order specifically imposes receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.
- 6. Result in floating debris, oil, or scum.** The mixing zones will not result in floating debris, oil, or scum because cyanide is not an oil, does not float, and does not cause scum. The treatment plant is equipped with scum baffles to collect and dispose of

oils, grease, debris, and scum. In addition, this Order specifically imposes receiving water limitations that prohibit floating debris, oil, or scum at any place and at any time.

- 7. Produce objectionable color, odor, taste, or turbidity.** The mixing zones will not produce objectionable color, odor, taste, or turbidity because the effluent receives advanced secondary treatment and is disinfected prior to discharge. Advanced secondary treatment generally addresses objectionable odor, taste, and turbidity through the biological degradation of organic compounds and clarification. In addition, this Order specifically prohibits alteration of color or turbidity beyond natural background levels. The Discharger conducts regular effluent monitoring that includes standard observations to ensure that objectionable color, odor, and turbidity are not present.
- 8. Cause objectionable bottom deposits.** The mixing zones will not cause objectionable bottom deposits because cyanide does not readily bind to sediment or persist in the environment. The State Implementation Policy defines objectionable bottom deposits as an accumulation of materials or substances on or near the bottom of a water body that creates conditions adversely affecting aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The effluent receives advanced secondary treatment, which biologically degrades and removes suspended particles that could contribute to receiving water bottom deposits. In addition, this Order specifically prohibits bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.
- 9. Cause nuisance.** The mixing zones will not cause a nuisance because the effluent receives advanced secondary treatment and is disinfected prior to discharge. Water Code section 13050(m) defines “nuisance” to mean anything that meets all three of the following criteria:

  - is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property;
  - affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and
  - occurs during, or as a result of, the treatment or disposal of wastes.

This Order specifically prohibits discharges from causing a nuisance. The Discharger conducts regular effluent monitoring that includes standard observations to confirm that nuisance conditions are not present.

**10. Dominate the receiving water body or overlap a mixing zone from a different outfall.** The cyanide mixing zones for Discharge Points 002, 003, and 005 will not dominate the receiving waters or overlap any other mixing zones. As discussed above, these mixing zones represent relatively small portions of the receiving waters, Suisun Marsh and Suisun Bay. Because the mixing zones occupy relatively small portions of the receiving waters, they will not dominate them. Moreover, the Regional Water Board has not established any other mixing zones nearby.

**11. Be located at or near any drinking water intake.** There are no drinking water intakes near the proposed mixing zones. The discharge is to a brackish marsh not generally suitable for drinking water supplies.

State Implementation Policy section 1.4.2.2.B requires that mixing zones protect beneficial uses. The duck pond and Ledgewood Creek beneficial uses are shown in Table F-5. Of these beneficial uses, cyanide would potentially affect only those related to aquatic life. However, the Discharger’s cyanide is unlikely to threaten aquatic life uses because the highest effluent concentration observed since the Discharger converted to UV disinfection was 3.2 µg/L, which is only slightly above the chronic water quality objective; the remaining data are 2.7 µg/L or less (i.e., do not exceed the chronic or acute objective). Cyanide concentrations within the mixing zone and throughout the receiving waters will, for the most part, be even lower because cyanide readily degrades to a non-toxic state and does not persist in the environment. Cyanide concentrations are not expected to increase as a result of this Order because, pursuant to Basin Plan section 4.7.2.2, Provision VI.C.5.b of this Order requires a cyanide action plan to maintain current performance.

**b. WQBEL Calculations.** For those pollutants with reasonable potential, average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were calculated as shown in the table below:

**Table F-9. WQBEL Calculations**

POLLUTANTS	Copper	Cyanide	Dioxin TEQ
Units	µg/L	µg/L	µg/L
Basis and Criteria type	BP Site-specific Objectives	BP Site-specific Objectives	Basin Plan Narrative
CTR Criteria -Acute	-----	-----	-----
CTR Criteria -Chronic	-----	-----	-----
Site-specific Objective Criteria -Acute (December 2004) (Diss.)	3.9	9.4	-----
Site-specific Objective Criteria -Chronic (December 2004) (Diss.)	2.5	2.9	-----
Water Effects ratio (WER)	2.4	1	1
Lowest WQO	13	2.9	1.4E-08
Site Specific Translator - MDEL	0.64	1	-----
Site Specific Translator - AMEL	0.46	1	-----
Dilution Factor (D) (if applicable)	0	3	0
No. of samples per month	4	4	4



<b>POLLUTANTS</b>	<b>Copper</b>	<b>Cyanide</b>	<b>Dioxin TEQ</b>
Units	µg/L	µg/L	µg/L
Aquatic life criteria analysis required? (Y/N)	Y	Y	N
HH criteria analysis required? (Y/N)	N	Y	Y
Applicable Acute WQO	15	9.4	-----
Applicable Chronic WQO	13	2.9	-----
HH criteria	-----	220,000	1.40E-08
Background (Maximum Conc for Aquatic Life calc)	9.9	0.90	-----
Background (Average Conc for Human Health calc)	-----	0.44	2.2E-08
Is the pollutant on the 303d list (Y/N)?	N	N	Y
ECA acute	15	35	-----
ECA chronic	13	8.9	-----
ECA HH		879,999	1.4E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	Y
Avg of effluent data points	5.6	2.0	2.0E-10
Std Dev of effluent data points	1.1	0.57	3.7E-10
CV calculated	0.19	0.29	1.9
CV (Selected) - Final	0.19	0.29	0.60
ECA acute mult99	0.65	0.54	-----
ECA chronic mult99	0.80	0.72	-----
LTA acute	9.6	19	-----
LTA chronic	10	6.4	-----
minimum of LTAs	9.6	6.4	-----
AMEL mult95	1.2	1.3	1.6
MDEL mult99	1.5	1.9	3.1
AMEL (aq life)	11	8.1	-----
MDEL(aq life)	15	12	-----
MDEL/AMEL Multiplier	1.3	1.5	2.0
AMEL (human hlth)	-----	879,999	1.4E-08
MDEL (human hlth)	-----	1,301,851	2.8E-08
minimum of AMEL for Aq. life vs HH	11	8.1	1.4E-08
minimum of MDEL for Aq. Life vs HH	15	12	2.8E-08
Previous order limit (30-day average)	7.9	7.4	-----
Previous order limit (daily)	15	18	-----
<b>Final limit - AMEL</b>	<b>11</b>	<b>7.4</b>	<b>1.4E-08</b>
<b>Final limit – MDEL</b>	<b>15</b>	<b>12</b>	<b>2.8E-08</b>

## 5. Whole Effluent Acute Toxicity

This Order includes effluent limitations for whole effluent acute toxicity based on Basin Plan Table 4-3. All bioassays are to be performed according to the U.S. EPA approved method in 40 C.F.R. section 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5<sup>th</sup> Edition (EPA-821-R-02-012).

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

## 6. Whole Effluent Chronic Toxicity

- a. **Water Quality Objective.** Basin Plan section 3.3.18 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.”
- b. **Reasonable Potential Analysis.** The Discharger conducted monthly chronic toxicity tests during the previous order term using *Americamysis bahia* (Mysid shrimp). The previous order contained chronic toxicity triggers for accelerated monitoring of 1 TUc as a three-sample median and 2 TUc as a single-sample maximum. The maximum single-sample chronic toxicity result during the previous order term was 1 TUc. The lack of detected chronic toxicity indicates low reasonable potential for chronic toxicity in the receiving water. Therefore, a numeric limit is unwarranted, and this Order contains a narrative chronic toxicity limit.
- c. **Requirements.** This Order contains a narrative chronic toxicity effluent limitation based on the Basin Plan’s narrative toxicity water quality objective. The MRP includes a requirement for chronic toxicity monitoring to ensure attainment of the narrative toxicity objective and, based on Basin Plan Table 4-5, a monitoring “trigger” for initiation of accelerated monitoring requirements when exceeded. The Discharger is required to implement a chronic toxicity reduction evaluation in some circumstances. These requirements are consistent with CTR and SIP requirements.
- d. **Screening Phase Study.** The MRP requires the Discharger to conduct a chronic toxicity screening phase study, as described in Appendix E-1, prior to permit reissuance. The Discharger’s November 2013 chronic toxicity screening study consisted of 11 chronic tests and concluded that none of the species tested, including the Discharger’s current test species, *Americamysis bahia*, displayed any sensitivity to the plant’s effluent. This Order retains *A. bahia* as the test species.

## D. Effluent Limitation 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 permit unless certain exceptions are met. The requirements of this Order are at least as stringent as those in the previous order, with the following exceptions:
  - This Order does not retain the chlorodibromomethane or dichlorobromomethane limits from the previous order because data no longer indicate reasonable potential to exceed water quality objectives for these pollutants. This Order also does not retain monitoring requirements and limits for total chlorine residual because the Discharger no longer uses chlorine for disinfection. Based on State Water Board Order WQ 2001-16, removing these unnecessary limits is not considered backsliding.
  - This Order's copper AMEL is less stringent than that in the previous order; nevertheless, it complies with anti-backsliding requirements because it qualifies for an exception under CWA section 402(o)(2)(A), which allows backsliding when material and substantial alterations or additions to the permitted facility occur after a permit is issued that justify a less stringent effluent limitation. The Discharger made such alterations, described below, after the previous order took effect.

The Discharger significantly improved the plant, adding two new aeration basins, two new secondary clarifiers, and a new UV disinfection system to replace the previous chlorine gas system. The Discharger had previously operated its flow balancing reservoirs as part of its secondary treatment train. However, operating the flow balancing reservoirs became infeasible once UV disinfection replaced chlorine disinfection. Operating the flow balancing reservoirs without chlorine dosing to control algae allows algae to clog the advanced-secondary filters and interfere with UV disinfection. The Discharger therefore took the flow balancing reservoirs out of service in January 2012, and copper removal efficiency subsequently declined. Copper removal now occurs primarily in the secondary aeration and clarification basins and not in the flow balancing reservoirs. The Discharger's operational data show that copper removal is a function of solids inventory (i.e., the mass of organic waste-consuming bacteria) in the aeration basins. Attempts to operate at a higher solids inventory have not restored the plant's copper removal efficiency to its pre-2013 levels; thus, a less stringent AMEL for copper is warranted.

- 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 an increased discharge flow or a reduced level of treatment. Moreover, it does not increase any effluent limitations relative to those in the previous order except the copper AMEL.

Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. Administrative Procedures Update (APU) No. 90-004, which provides guidance for implementing the antidegradation policies, states that a simple

antidegradation analysis is adequate when a proposed action would produce minor effects that would not result in a significant reduction of water quality. Therefore, only a simple antidegradation analysis is necessary here since the less stringent copper AMEL in this Order would not significantly reduce water quality.

The Regional Water Board adopted the previous order in accordance with antidegradation policies; therefore, the baseline is the receiving water condition that the previous order allowed. No significant degradation compared to that baseline is expected because this Order retains the copper MDEL and provisions specifically intended to avoid degradation from the previous order. Provision VI.C.4.a.iv requires the Discharger not to eliminate or relax local limits on commercial and industrial copper discharges to the plant. Provision VI.C.7 requires continued implementation of a Copper Action Plan in accordance with Basin Plan section 4.7.2.2. Compliance with these provisions and the copper MDEL will prevent appreciable degradation.

- 3. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations 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 have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). U.S. EPA approved the remaining beneficial uses and water quality objectives so they are 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 sections V.A and V.B of this Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section 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 the 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 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.

## **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 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 Water Code 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 Municipal Facilities

- 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 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.** “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. This provision is based on Basin Plan section 4.17 and 40 C.F.R. parts 257 and 503.
- c. **Collection System Management.** The Discharger’s collection system is part of the Facility regulated through this Order. This provision explains this Order’s requirements as they relate to the Discharger’s collection system and promotes consistency with the State Water Board’s *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), Order 2006-0003-DWQ as amended by WQ 2013-0058-EXEC. The General Collection System WDRs require public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Collection System WDRs. The General Collection System WDRs contain requirements for collection system operation and maintenance and for reporting and mitigating sanitary sewer overflows. They also require agencies to develop sanitary sewer management plans and report all sanitary sewer overflows. The Discharger must comply with both the General Collection System WDRs and this Order.

#### 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 the copper WQBELs in this Order, which are based on the Basin Plan’s copper site-specific objectives, are consistent with antidegradation policies. Data compiled by the San Francisco Estuary Institute for 2009-2011 indicate no degradation of San Francisco Bay water quality with respect to copper (<http://www.sfei.org/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 the cyanide WQBELs based on the Basin Plan’s cyanide site-specific objectives are consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible “significant cyanide discharge” in the Discharger’s service area is set at 10 µg/L. The Discharger has observed influent cyanide concentrations greater than 5.2 µg/L only once during the previous permit term. Influent concentrations approximately twice this level could indicate a significant new cyanide source.
- c. **Standard Operating Procedures for Resource Recovery.** Standard Operating Procedures are required for dischargers that accept hauled waste fats, oil, and grease for

injection into anaerobic digesters. The development and implementations 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.

- d. Reliability Assurance Plan and Status Report.** This provision is required to justify exceptions to Basin Plan Discharge Prohibitions 1 and 3 (see Fact Sheet section IV.A.2). Basin Plan Discharge Prohibition 1 is intended to protect shallow waters from the effects of abnormal discharges caused by temporary upsets and malfunctions. Basin Plan Discharge Prohibition 3 is intended to protect Suisun March from high concentrations of toxicants, biostimulants, and oxygen-demanding substances during the critical portion of the year when freshwater flows are nonexistent. This provision will ensure the reliability of the Discharger's system in preventing discharge of inadequately treated wastewater.

## VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

### A. MRP Requirements Rationale

- 1. Influent Monitoring.** Influent flow monitoring is necessary to understand Facility operations. BOD<sub>5</sub> and TSS monitoring is necessary to evaluate compliance with this Order's 85 percent removal requirement. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order is based on site-specific cyanide water quality objectives.
- 2. Effluent Monitoring.** Effluent flow monitoring is necessary to evaluate compliance with Prohibition III.C (average dry weather effluent flow) and to understand Facility operations. Monitoring for the other parameters in Table E-3 is necessary to evaluate compliance with this Order's effluent limitations.
- 3. Whole Effluent Toxicity Testing.** Acute and chronic whole effluent toxicity tests are necessary to evaluate compliance with the acute and chronic toxicity effluent limitations. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity triggers the need for a Toxicity Reduction Evaluation.
- 4. Receiving Water Monitoring.** The Discharger is required to continue participating in the RMP, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger is also required to continue monitoring the receiving water at the specified monitoring locations (RSW-001 through 004 and RSW-006-010). This monitoring is necessary to characterize the receiving water and the effects of the discharges authorized in this Order.

**5. Pretreatment and Biosolids Monitoring.** The pretreatment and biosolids monitoring requirements for influent, effluent, and biosolids are necessary to evaluate compliance with the Discharger’s U.S. EPA-approved pretreatment program. Biosolids monitoring is also required pursuant to 40 C.F.R. part 503.

**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-10. Monitoring Requirements Summary**

Parameter	Influent I-001	Effluent E-001D	Effluent E-001 and E-005	Biosolids BIO-001	Receiving Water
Flow	Continuous/D	Continuous/D	Continuous/D	---	---
BOD <sub>5</sub>	3/Week	3/Week	---	---	---
Total Suspended Solids (TSS)	3/Week	3/Week	---	---	---
Oil and Grease	---	1/Quarter	---	---	---
pH	---	Continuous/D	---	---	2/Year
Turbidity	---	1/Day	---	---	---
Acute Toxicity	---	1/Month	---	---	Support RMP
Chronic Toxicity	---	1/Quarter	---	---	Support RMP
Enterococcus	--	3/Week	---	---	Support RMP
Temperature	---		1/Day	---	2/Year
Dissolved Oxygen	---	1/Day	---	---	2/Year
Total Sulfides (if DO<2.0 mg/L)	---	1/Day	---	---	---
Ammonia, Total	---	1/Month	---	---	2/Year
Copper, Total Recoverable	---	1/Month	---	---	Support RMP
Cyanide, Total	1/Month	1/Month	---	2/Year	Support RMP
Dioxin TEQ	---	2/Year	---	---	Support RMP
Salinity	---	---	---	---	2/Year
Hardness	---	---	---	---	2/Year
Standard Observations	---	1/Week	---	---	2/Year
VOC	2/Year	2/Year	---	2/Year	Support RMP
BNA	2/Year	2/Year	---	2/Year	Support RMP
Metals <sup>[1]</sup>	1/Month	1/Month	---	2/Year	Support RMP
Hexavalent Chromium	1/Month	1/Month	---	2/Year	---
Mercury	1/Month	1/Month	---	2/Year	Support RMP

Footnote:

<sup>[1]</sup> The metals are arsenic, cadmium, chromium, 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 *Vallejo Times Herald*. 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 due either in person or by mail at the Regional Water Board office at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of John H. 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 January 20, 2015**.

### **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: Wednesday, March 11, 2015  
Time: 9:00 a.m.  
Location: Elihu Harris State Office Building  
1515 Clay Street, 1<sup>st</sup> Floor Auditorium  
Oakland, CA 94612  
Contact: John H. Madigan, (510) 622-2405, [JMadigan@waterboards.ca.gov](mailto:JMadigan@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.

### **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](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 9:00 a.m. and 5:00 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 WDR's and NPDES permit should contact the Regional Water Board, reference this 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 H. Madigan at (510) 622-2405 or [JMadigan@waterboards.ca.gov](mailto:JMadigan@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

<b>I. STANDARD PROVISIONS - PERMIT COMPLIANCE.....</b>	<b>G-1</b>
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. Stormwater .....	G-3
1. Stormwater Pollution Prevention Plan (SWPP Plan).....	G-3
2. Source Identification.....	G-4
3. Stormwater Management Controls .....	G-5
4. Annual Verification of SWPP Plan.....	G-6
K. Biosolids Management.....	G-6
<b>II. STANDARD PROVISIONS – PERMIT ACTION.....</b>	<b>G-7</b>
<b>III. STANDARD PROVISIONS – MONITORING .....</b>	<b>G-7</b>
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
<b>IV. STANDARD PROVISIONS – RECORDS.....</b>	<b>G-12</b>
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. Stormwater – This section is an addition to Standard Provisions (Attachment D)**

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

**1. Stormwater 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 stormwater discharges; and
- b. To identify, assign, and implement control measures and management practices to reduce pollutants in stormwater 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 stormwater discharges, or may result in non-stormwater 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 stormwater 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) Stormwater conveyance, drainage, and discharge structures;
  - 2) An outline of the stormwater drainage areas for each stormwater discharge point;
  - 3) Paved areas and buildings;
  - 4) Areas of actual or potential pollutant contact with stormwater or release to stormwater, 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 stormwater 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 stormwater discharges;
  - 3) Material storage, loading, unloading, and access areas;
  - 4) Existing structural and non-structural control measures (if any) to reduce pollutants in stormwater 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 stormwater discharges in significant quantities.

### 3. Stormwater Management Controls

The SWPP Plan shall describe the stormwater 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 stormwater management controls to be implemented shall include, as appropriate:

a. Stormwater 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 stormwater. 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 stormwater 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. Stormwater management practices

Stormwater 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 stormwater discharges in significant quantities, additional stormwater management practices to remove pollutants from stormwater discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the stormwater 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 stormwater 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, Sections I.G.2 or I.G.4, occurs, 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.

c. Stormwater Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for stormwater 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 stormwater) is directed to the headworks. For stormwater not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

- 1) Conduct visual observations of the stormwater discharge locations during daylight hours at least once per month during a storm event that produces significant stormwater 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 stormwater discharge, collect grab samples of stormwater discharge from at least two storm events that produce significant stormwater 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-stormwater discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all stormwater 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 stormwater is discharged. Samples shall represent the quality and quantity of stormwater discharged from the facility. If a facility discharges stormwater at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that stormwater discharges from different locations are substantially identical.
- 5) Records of all stormwater 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). This 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:

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

where:  $C_x$  = measured or estimated concentration of congener  $x$   
 $\text{TEF}_x$  = toxicity equivalency factor for congener  $x$   
 $\text{BEF}_x$  = 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;
- 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;
- 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 to:

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

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

- 1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).
- 2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until U.S. EPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).
- 3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

**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 Plants<sup>1</sup>

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

### a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to 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 State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at [www.wbers.net](http://www.wbers.net), and 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;

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



- 5) 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

Within 24 hours, the Discharger shall certify to the Regional Water Board, at [www.wbers.net](http://www.wbers.net), that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at [www.wbers.net](http://www.wbers.net), 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

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

**Table B**  
 Summary of Communication Requirements for Unauthorized Discharges<sup>1</sup> from  
 Municipal Wastewater Treatment Plants

<b>Discharger is required to:</b>	<b>Agency Receiving Information</b>	<b>Time frame</b>	<b>Method for Contact</b>
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than <b>2 hours</b> 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 <b>2 hours</b> after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than <b>2 hours</b> after becoming aware of the unauthorized discharge.	Electronic <sup>2</sup> <a href="http://www.wbers.net">www.wbers.net</a>
2. Certify	Regional Water Board	As soon as possible, but not later than <b>24 hours</b> after becoming aware of the unauthorized discharge.	Electronic <sup>3</sup> <a href="http://www.wbers.net">www.wbers.net</a>
3. Report	Regional Water Board	Within <b>5 business days</b> of becoming aware of the unauthorized discharge.	Electronic <sup>4</sup> <a href="http://www.wbers.net">www.wbers.net</a>

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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<sub>i</sub>” and “C<sub>i</sub>” 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<sub>i</sub>” is the concentration measured in the composite sample and “Q<sub>i</sub>” 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<sub>t</sub>” 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. Stormwater means stormwater 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 <sup>1</sup>	Minimum Levels <sup>2</sup> (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) <sup>3</sup>	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) <sup>4</sup>												
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 <sup>-</sup> C or I				5								
15.	Asbestos (only required for dischargers to MUN waters) <sup>5</sup>	0100.2 <sup>6</sup>												
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										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										

1 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.

2 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.

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

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

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

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

CTR No.	Pollutant/Parameter	Analytical Method <sup>1</sup>	Minimum Levels <sup>2</sup> (µg/l)												
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP	
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 Dichlorormethane	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 Benzofluoranthene	610 HPLC		10	10										
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1										
64.	Benzo(k)Fluoranthene	610 HPLC		10	2										
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1										
86.	Fluoranthene	610 HPLC	10	1	0.05										
87.	Fluorene	610 HPLC		10	0.1										
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05										
100.	Pyrene	610 HPLC		10	0.05										
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5											
70.	Butylbenzyl Phthalate	606 or 625	10	10											

CTR No.	Pollutant/Parameter	Analytical Method <sup>1</sup>	Minimum Levels <sup>2</sup> (µg/l)													
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP		
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) <sup>7</sup>	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													
118.	Heptachlor Epoxide	608	0.01													
119.	PCBs: Aroclors 1016, 1221,	608	0.5													

<sup>7</sup> 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 <sup>1</sup>	Minimum Levels <sup>2</sup> (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
125	1232, 1242, 1248, 1254, 1260													
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 Discharge 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 system); 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 G1 and G2 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 G 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 H1 and shall include the names and addresses of all SIUs affected by the actions identified below. For each notice specified in enforcement action “a” through “g,” 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 U.S. EPA, the State Water Board, and the Regional Water Board at the following addresses unless the Discharger is instructed by any of these agencies to submit electronic copies of the required reports:

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](mailto: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](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 **Table E-7, Pretreatment and Biosolids Monitoring**, 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.

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.

# Appendix B

## Comments



## FAIRFIELD-SUISUN SEWER DISTRICT

1010 CHADBOURNE ROAD • FAIRFIELD, CALIFORNIA 94534 • (707) 429-8930 • WWW.FSSD.COM  
GREGORY G. BAATRUP, GENERAL MANAGER

January 26, 2015

RW-100.10.10/15

John Madigan  
Water Resources Control Engineer  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

VIA EMAIL to [JMadigan@waterboards.ca.gov](mailto:JMadigan@waterboards.ca.gov)

**Subject: Comments on Tentative Order Reissuing Fairfield-Suisun Sewer District  
NPDES Permit (CA0038024)**

Dear Mr. Madigan:

The Fairfield-Suisun Sewer District (District) appreciates the opportunity to submit the following comments to the San Francisco Bay Regional Quality Control Board (Regional Water Board) on the Tentative Order (TO) reissuing its NPDES Permit. Comments are shown roughly in the order that the topics appear in the Permit. Page numbers are provided prior to any markup of permit language consistent with the comment being presented, and due to formatting may be approximate. Yellow highlighting is used to indicate minor revisions that might otherwise be difficult to detect.

**1. Maximum daily effluent limits for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) should be removed. Current regulations do not support three sets of limits for these constituents.**

The District is the only POTW in the San Francisco Bay Region with effluent limitations at three different frequencies for BOD and TSS: average monthly, average weekly, and maximum daily. The use of three types of limits dates back to the District's 1979 permit or earlier, and no longer reflects standard practice in the region. All other POTWs in the region have average weekly or maximum daily limits, but not both. Current law supports average monthly and average weekly limits, and not maximum daily limits. 40 CFR 122.45(d) states as follows:

*(d) Continuous discharges. For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:*

- (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and*
- (2) Average weekly and average monthly discharge limitations for POTWs.*

Additional clarification on this matter is found in 40 CFR 133.102, which establishes minimum requirements for secondary treatment using 30-day and seven-day averaging periods for BOD and TSS. The secondary treatment standards and their associated averaging periods are also referenced in Table F-6 of the Fact Sheet (page F-13).

In accordance with federal regulations and with standard practice in the region, the District requests that maximum daily effluent limitations for BOD and TSS not be included in the reissued Permit. This request is being made to eliminate redundant requirements and does not impact compliance -- the District has maintained consistent compliance with the maximum daily effluent limitations for decades.

Regional Water Board staff discussed this issue in the comment period of the District's 2009 permit reissuance, stating in the *Response to Written Comments*<sup>1</sup> that the District must achieve a higher level of treatment than a deep water discharger to qualify for an exception to the Basin Plan's shallow water discharge prohibition, thus requiring lower effluent limits than the federal secondary treatment standards in 40 CFR 133.102. However, other dischargers with an exception to the shallow water discharge prohibition meet this higher treatment standard with average weekly limits rather than maximum daily limits. For example, both the American Canyon Wastewater Treatment Facility (R2-2011-0046) and the Mountain View Sanitary District Wastewater Treatment Plant (R2-2010-0114) have average monthly and average weekly effluent limits for BOD and TSS, with no maximum daily limit. The American Canyon maximum daily limit was removed during the 2006 permit reissuance, with the Fact Sheet stating that daily maximum limitations are no longer required (Page F-17, R2-2006-0036). Based on the precedent of these two permits and others, the maximum daily limit is not needed to qualify for an exception to Basin Plan shallow water discharge prohibition. Furthermore, removing the limit is compliant with anti-backsliding requirements found at 40 CFR 122.44(l), because the remaining average weekly and average monthly discharge limitations would continue to be no less stringent than those in the current permit.

The requested revisions are shown below:

(Page 5)

*Excerpt from Table 4. Effluent Limitations*

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day Biochemical Oxygen Demand at 20 °C (BOD <sub>5</sub> )	mg/L	10	15	<del>20</del>	---	---
Total Suspended Solids (TSS)	mg/L	10	15	<del>20</del>	---	---
Oil and Grease	mg/L	---	---	10	---	---
⋮						

<sup>1</sup> *Response to Written Comments on the Reissuance of Waste Discharge Requirements, Attachment D, Item 8a and 8b, Fairfield-Suisun Sewer District.* California Regional Water Quality Control Board San Francisco Bay Region. 2009.

(Page F-14)

- a. **BOD<sub>5</sub> and TSS.** The BOD<sub>5</sub> and TSS effluent limitations are a monthly average of 10 mg/L, and a weekly average of 15 mg/L, ~~and a daily maximum of 20 mg/L.~~ These limitations, including the 85 percent removal requirements, are unchanged from the previous order, except daily maximum limitations are no longer required based on the current Basin Plan. ~~and These limitations~~ are technologically feasible for the advanced wastewater treatment technologies used at the plant. Monitoring data show the Discharger has been able to consistently comply with these limitations.

**2. The first map in Attachment B should be modified or removed.**

Attachment B, “Facility Map and Receiving Water Map,” contains two maps. However, the first map on page B-1 is an aerial map that contains no information about the Plant or the District layered on to the base map. The first map should be replaced with an alternate Facility Map, which is included as Attachment A to this comment letter.

**3. The minimum sampling frequency listed in Table E-5 should be corrected for internal consistency.**

As correctly stated in the footnote to Table E-5, the District reports the flows to E-002 and E-003 on a monthly basis, not on a seasonal basis. Therefore, the body of Table E-5 should be corrected for clarity and consistency with the footnote. The requested revisions to Table E-5 and to Table E-9, which defines the monitoring frequencies used in the Tentative Order, are shown below.

(Page E-5)

**Table E-5. Effluent Monitoring – Monitoring Locations E-002 and E-003**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow <sup>[1]</sup>	MG	Continuous	Continuous- <del>(Seasonal)</del> <u>(Monthly)</u>

Unit:

MG = million gallons

Footnote:

<sup>[1]</sup> Flows shall be reported as monthly totals (in MG) in the monthly self-monitoring reports.

(Page E-13)

*Excerpt from Table E-9. Monitoring Periods*

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous <del>D</del>	Order effective date	All times
⋮		

**4. The effluent sampling location for pretreatment monitoring listed in Table E-7 should be E-001D, not E-001.**

Table E-7 incorrectly identifies the location for effluent pretreatment monitoring as E-001 rather than E-001D. Elsewhere in the Tentative Order, such as in Provision VI.C.2.a (“Effluent Characterization Study and Report”) and in the language immediately preceding Table E-7, the effluent sampling location for priority pollutants is correctly listed as E-001D. To correct the typographical error, Table E-7 should be revised as follows:

(Page E-10)

*Excerpt from Table E-7. Pretreatment and Biosolids Monitoring*

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
VOCs <sup>[2]</sup>	2/Year	2/Year	2/Year	Grab <sup>[6a]</sup>	Grab
:					

**5. The requirement to conduct influent, effluent, and biosolids monitoring for specific pesticides should be removed.**

Table E-7 of the Monitoring and Reporting Program requires the District to conduct influent and effluent monitoring for constituents detected using USEPA Method 614 (organophosphorus pesticides) and USEPA Method 632 (carbamate and urea pesticides). This monitoring requirement should be removed, as it not a necessary component of the District’s pretreatment program and is not needed to fulfill any federal, state, or regional pretreatment program requirement. The District has not detected the pesticides analyzed via Method 614 and Method 632 over the last nine years in influent, effluent, or biosolids, as documented in the District’s pretreatment program annual reports for the years 2005-2013. None of the District’s five industrial dischargers are known or suspected sources of these constituents.

Also, recently adopted NPDES permits in the region, such as those for San José-Santa Clara (Order No. R2-2014-0034), Sunnyvale (R2-2014-0035), Palo Alto (Order No. R2-2014-0024), San Francisco’s Southeast Plant (Order No. R2-2013-0029), Vallejo Sanitation and Flood Control District (Order No. R2-2012-0017), and the East Bay Dischargers Authority (Order No. R2-2012-0004), do not include pretreatment monitoring requirements for these constituents, even though they correspond to the largest pretreatment programs in the region. To more closely align the District’s pretreatment program monitoring with those of other POTWs in the region, Table E-7 should be revised as follows:

(Page E-11)

*Excerpt from Table E-7. Pretreatment and Biosolids Monitoring*

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
:					
Organophosphorus Pesticides <sup>[8]</sup>	1/5 Years	1/5 Years	1/5 Years	—	—
Carbamate and Urea Pesticides <sup>[9]</sup>	1/5 Years	1/5 Years	1/5 Years	—	—

Footnotes:

<sup>[1]</sup> Influent and effluent monitoring conducted in accordance with Tables E-2 and E-3 may be used to satisfy these pretreatment monitoring requirements.

...

<sup>[8]</sup> [U.S. EPA Method 614.](#)

<sup>[9]</sup> [U.S. EPA Method 632.](#)

**6. The requirement to file a Petition for Change with the Division of Water Right should be removed, as this requirement is not applicable and conflicts with the District’s exception to Basin Plan discharge prohibitions.**

New fact sheet language in Section I.B on page F-4 states that “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 District understands that this new standard language for NPDES permits was developed by Regional Water Board staff in 2014, and recognizes that it was included in recently adopted permits such as those for Delta Diablo (R2-2014-0030) and Sonoma Valley County Sanitation District (R2-2014-0020). However, this new requirement is clearly not applicable to the District.

The State Water Board explains on its website<sup>2</sup> that this requirement does not apply to changes in the discharge or use of treated wastewater that do not result in decreasing the flow in any portion of a watercourse. The receiving water for the District’s main Discharge Point 001, Boynton Slough, is a tidal water body whose flow rate would not be substantially changed by an alteration in the District’s discharge. The District’s discharges to the duck ponds and Ledgewood Creek (Discharge Points 002, 003, and 005) are intermittent in nature. Furthermore, the District does not operate the duck ponds; if the duck pond operators were to discontinue their use or elect not to use treated wastewater to fill the ponds, it would be outside of the District’s control.

Most significantly, the Petition for Change requirement conflicts with the District’s exceptions to Basin Plan Discharge Prohibitions 1 and 3, which prohibit discharge to shallow waters at all

<sup>2</sup> *Water Rights Requirements for Projects Receiving State Water Board Grants and Loans.* State Water Resources Control Board, 2007. Accessed January 2015. Available at [http://www.swrcb.ca.gov/water\\_issues/programs/grants\\_loans/water\\_recycling/waterrightsrequirements.shtml](http://www.swrcb.ca.gov/water_issues/programs/grants_loans/water_recycling/waterrightsrequirements.shtml)



times and to Suisun Marsh under dry weather conditions. Exceptions are only allowed under certain circumstances, and an exception has been granted to the District in previous permits and in the Tentative Order. In granting the exception, the Tentative Order states that that the District will “reuse the maximum feasible amount of treated wastewater for irrigation to minimize discharges to Boynton Slough and Ledgewood Creek during dry weather” (page F-12), which contradicts the need to file a Petition for Charge.

For the reasons outlined above, the following language should be changed:

(Page F-4)

- B.** The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038024. It was previously subject to Order No. R2 2009 0039 (previous order), which was adopted on April 8, 2009, and expired on May 31, 2014, but was administratively extended by operation of law. Order No. R2-2010-0054 amended the previous order to update the Regional Standard Provisions (Attachment G); Order No. R2-2011-0009 amended the previous order to update the pretreatment program requirements (Attachment H); and Order No. R2-2013-0007 amended the previous order’s cyanide limits.

~~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.~~

**7. Minor clarifications to the Facility Description in Section II of the Fact Sheet are required to more accurately describe the District’s current wastewater treatment processes and reclamation practices.**

The reference to prechlorination in Section II.A.3 of the Fact sheet should be removed; these facilities are no longer in use. Chlorine is not readily available at the Plant, as it is no longer used for effluent disinfection. In addition, comminution facilities use is dependent on wet weather operation of the equalization storage basins, which are only used under certain circumstances.

References to Solano Irrigation District should also be removed, as the irrigation district is no longer involved in distribution of the District’s recycled water.

(Pages F-4 and F-5)

- 3. Wastewater Treatment.** The plant provides treatment consisting of preliminary influent screening and grit removal, primary clarification, optional fixed film roughing filters and intermediate clarification, biological activated sludge, secondary clarification, temporary activated sludge effluent storage in flow balancing reservoirs (total volume 12.7 million

gallons [MG]), advanced secondary dual-media filtration, and ultraviolet light (UV) disinfection. The plant also has wet weather facilities including a 111-million-gallon (MG) equalization storage basin with optional comminution ~~and prechlorination~~. The plant is designed to provide containment and advanced secondary treatment of wastewater flows up to the 20 year storm event.

...

7. **Reclamation.** The Discharger recycles approximately 5 to 10 percent of the plant's treated effluent for agricultural and landscape irrigation ~~through conveyance and distribution facilities owned and operated by the Solano Irrigation District~~. Water recycling is regulated under Regional Water Board Order No. 96-011

**8. Information and data about sanitary sewer overflows (SSOs) should be removed from the Fact Sheet.**

Table F-4 and SSO-related language in Section II.D of the Fact Sheet are misleading and inappropriate, and should be removed for the reasons described below.

**Regulatory Authority.** The State Water Board's General Waste Discharge Requirements (WDR) for sanitary sewer systems (Order No. 2006-0003-DWQ) is the main regulatory mechanism for sanitary sewer systems. The General WDR establishes specific requirements for collections systems statewide, including the District's collection system. The General WDR is appropriately referenced in the Provisions section of the tentative order (Page 13), and additional information is not needed – especially since the State Water Board already makes SSO information publicly available through its *Interactive SSO Report* website<sup>3</sup>. Including Table F-4 and the discussion of SSOs in this permit's Fact Sheet is confusing and potentially contradictory with the General WDR.

**Statements in the Fact Sheet are misleading.** SSO Rates in the Fact Sheet need to be put into context. If SSO rates are included in the fact sheet, they should be accompanied by language from the State Water Board or the Regional Water Board. This explanatory language should either be inserted into the Fact Sheet, or included by reference. Examples are included below.

- a) The Regional Water Board's 2014 SSO Status Report<sup>4</sup> states, "The number of SSOs per 100 miles of pipe per year metric is used to compare the relative performance of sanitary sewer systems. This metric is a common indicator of overall sanitary sewer system performance and can provide insight on each agency's management, operations, and maintenance practices. A well-managed and maintained system with adequate capacity tends to have a lower spill rate than a poorly managed system or a system with inadequate capacity."

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<sup>3</sup> [http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs/chc\\_sso.shtml](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_sso.shtml)

<sup>4</sup> *Sanitary Sewer Improvement Program – Status Report*. San Francisco Bay Regional Water Quality Control Board. July 2014. Accessed January 2015. Available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/SSO\\_Reduction.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/SSO_Reduction.shtml)

- b) The State Water Board's *Enrollee's Guide to the SSO Database*<sup>5</sup> defines the metric "Total # of SSOs per 100 miles of Sewer" as "Broad metric used to compare the relative performance of Enrollees and their sanitary sewer systems. This metric expresses 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."

Despite these definitions, including the SSO rates in this Permit implies a standard exists where one does not. The State Water Board acknowledges this metric is to be used only for rough comparison.

**SSOs and SSO Rates are not representative of Permit violations.** The SSO rates in Table F-4 are calculated from the total number of SSOs, regardless of whether the SSOs reached surface waters. SSOs that do not reach surface waters are explicitly outside the scope of this NPDES permit. The District had zero SSOs in 2011 and 2012, and two SSOs in 2013, neither of which reached surface waters.

More importantly, the suggestion that the District "would have" violated its NPDES permit is misleading and inappropriate in this document. There are a multitude of circumstances under which the District "would have" violated its NPDES Permit if it had not properly managed the situation.

**Comparisons are not appropriate.** The comparison between the District's SSO rates and the median data for other systems in Solano County and the San Francisco Bay Region is inappropriate. Collection system operation and maintenance are influenced by topography, climate, system age, and population density. The State Water Board does not suggest system size or geographical boundary for a "rough comparison of operation and maintenance performance."

The District's collection system is 84 miles of large (12-inch to 48-inch) diameter interceptors with no laterals. This system functions differently from a system with small diameter sewers and lower laterals; therefore, statistics from the District's system would not be expected to be even roughly comparable to systems with those features. Even if they were, comparing the SSO rates for just two systems in in Solano County – one of which is the District itself -- is not meaningful.

Given the lack of any framework for fairly categorizing collection systems, comparisons between collection systems are not an appropriate performance metric, and should not be included in the Fact Sheet. The General WDR is intended to provide a framework for enrollees to prevent, reduce, and mitigate the impact of SSOs within their own service area -- not to out-

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<sup>5</sup> *Enrollee's Guide to the SSO Database*. State Water Resources Control Board, Sanitary Sewer Overflow Reduction Program. August 2013. Accessed January 2015. Available at [http://www.waterboards.ca.gov/water\\_issues/programs/sso/docs/discharger\\_workbook.pdf](http://www.waterboards.ca.gov/water_issues/programs/sso/docs/discharger_workbook.pdf)

compete their neighbors. After all, even if SSO rates were to drop dramatically throughout the region, half of the collection systems would continue to perform below the median.

The requested changes are shown below.

(Page F-7)

**D. Compliance Summary**

...  
 To the extent that some sanitary sewer overflows (SSOs) reached waters of the U.S., the Discharger would have violated Prohibition III.D. The table below shows the Discharger's SSO rates (total SSOs per 100 miles of collection system for each of the past three years) and other information along with those for the county and region:

**Table F-4. SSO Rates (SSOs/100 miles of sewer)**

(based on CIWQS data analysis completed in January 2014)

	Length	Average Age	2011	2012	2013
Fairfield Suisun Sewer District	84 miles	34 years	0	0	2.4
Solano County median of 2 medium systems (10 to 99 miles)	80 miles	32 years	0.7	1.3	3.2
San Francisco Bay median of 49 medium systems (10 to 99 miles)	38 miles	45 years	5.9	9.3	9.1
San Francisco Bay Region median of all 132 systems	41 miles	45 years	4.0	4.6	4.5

**9. The exception to Basin Plan Discharge Prohibition 3 should be retained from the current permit.**

The Tentative Order does not discuss the applicability of Basin Plan Discharge Prohibition 3, which prohibits discharge to Suisun Marsh during the dry weather period of the year. The District's current permit grants exceptions to both Basin Plan Discharge Prohibition 1 and Prohibition 3. The omission of Discharge Prohibition 3 may have been inadvertent. The District requests the changes shown below.

(Page F-12)

**2. Exception to ~~Shallow Water and Dead-End Slough~~ Basin Plan Discharge Prohibitions**

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges not receiving a minimum of 10:1 initial dilution and discharges into shallow waters or dead-end sloughs. Basin Plan Table 4-1, Discharge Prohibition 3, prohibits discharges to Suisun Marsh during the dry weather period of the year. Discharge Point Nos. 001, 002, 003, and 005 discharge year-round to confined sloughs, inland creeks, and ponds within Suisun Marsh, where a minimum dilution of 10:1 is not achieved. However, Basin Plan section 4.2 provides for exceptions to Basin Plan Discharge Prohibitions 1 and 3 under certain circumstances:

- 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;
- A discharge is approved as part of a reclamation project;
- Net environmental benefits will be derived as a result of the discharge; or
- A discharge is approved as part of a groundwater cleanup project.

The Basin Plan further states:

Significant factors to be considered by the Regional Water Board in reviewing requests for exceptions will be the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequence of such discharges.

This Order continues to grant an exception to Prohibitions [1](#) [and 3](#) for discharges to Boynton Slough, the managed Duck Ponds, and Ledgewood Creek for the following reasons:

...

(Page F-13, last sentence)

These more stringent limits are necessary to ensure that the plant continues to provide a high-quality effluent suitable for unrestricted reuse, and that the discharge continues to qualify for an exception to Basin Plan Discharge Prohibitions [1](#) [and 3](#) (see Fact Sheet section IV.A.2).

(Page F-14)

**e. Total Ammonia.** ... These limits are retained to ensure that the Discharger maintains its nitrification performance to qualify for the exception to Basin Plan Prohibitions [1](#) [and 3](#) (see Fact Sheet section IV.A.2).

**10. The ambient hardness value used to calculate water quality objectives should be modified for internal consistency within the Permit.**

Several of the metals listed in Table F-8 of the Fact Sheet – cadmium, chromium (III), and lead – are hardness-dependent. The water quality objectives have been calculated correctly using a representative hardness value of 257 mg/L as CaCO<sub>3</sub> from the District's receiving water data. However, the text in Section IV.C.2.f of the Fact Sheet (page F-16) erroneously indicates that a lower hardness value of 87 mg/L as CaCO<sub>3</sub> was used. This text should be updated as shown below to match the calculations in Table F-8.

(Page F-16)

- f. Receiving Water Hardness.** Ambient hardness data were used to derive freshwater water quality objectives that are hardness dependent. The data were collected [by the District during the previous permit term at receiving water monitoring stations RSW-001, RSW-002, RSW-003, RSW-004, RSW-006, RSW-007, RSW-008,](#)

RSW-009, and RSW-010. The data were censored to eliminate sample results with hardness values greater than 400 mg/L or salinity values greater than 1 ppt. The resulting data set of 26 values was used to calculate an adjusted geometric mean, which is the value that 30 percent of the data set falls below. The calculated hardness value of 257 mg/L from 1994 through 2013 at Regional Monitoring Program (RMP) monitoring station BG20. Hardness ranged from 43 to 420 mg/L as calcium carbonate (CaCO<sub>3</sub>). A hardness of 87 mg/L as CaCO<sub>3</sub>, the mean determined from a normalized distribution of the hardness data set, was used to determine the water quality objectives.

**11. The water quality criterion for chromium (VI) listed in Table F-8 of the Fact Sheet should be corrected for accuracy and consistency with the current Permit.**

The criterion of 2.1 µg/L listed in the tentative order appears to be erroneous. The water quality criterion for chromium (VI) is not hardness-dependent and uses the same translators as those in the current Permit; therefore, it should be the same as the criterion in the current permit, which is 35 µg/L (Table F-10, Order No. R2-2009-0039). The value of 35 µg/L was calculated by dividing the CTR criterion maximum concentration by the acute translator (16 µg/L ÷ 0.46).

The District complies with sampling requirements for chromium (VI) by measuring total chromium, as allowed by the current Permit. Based on these sample results, which are summarized below in Table F-8 under chromium (III), the District believes that there is evidence to support a finding of “No Reasonable Potential” for chromium (VI). Specifically, the maximum effluent concentration for total chromium, 0.70 µg/L, was lower than the water quality objective for chromium (VI). The requested changes to Table F-8 are shown below.

(Page F-18)

*Excerpt from Table F-8. Reasonable Potential Analysis*

CTR #	Priority Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	Result <sup>[3]</sup>
⋮					
5a	Chromium (III)	448	0.70	80	No
5b	Chromium (VI)	<del>35</del> <u>2.1</u>	<u>0.70</u>	<u>Not Available</u>	<u>No</u>
⋮					

**12. A typographical error in the Fact Sheet should be corrected.**


(Page F-29)

**4. Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species under federal or State endangered species laws.** The receiving waters are outside (Duck Pond 001 and Ledgewood Creek) or just within (Boynton Slough and Duck Pond 002) critical habitat for the Delta smelt (50 CFR 17.95[e]); however, the mixing zones will not adversely affect Delta smelt because they are not expected to spawn or reside for extended periods in the mixing zones.

Mr. John Madigan  
Comments on Tentative Order Reissuing FSSD NPDES Permit  
January 26, 2015  
Page 12 of 12

The District would like to thank you for your diligence and consideration in preparing the Tentative Order. We are committed to outstanding regulatory compliance and we appreciate your attention to these comments. Should you have any questions or need additional information, please contact Meg Herston by phone at (707) 428-9109 or by email at [mherston@fssd.com](mailto:mherston@fssd.com).

Sincerely,



Gregory G. Baatrup  
General Manager

Cc: Lila Tang, Regional Water Board  
Bill Johnson, Regional Water Board  
Mary Cousins, RMC Water & Environment

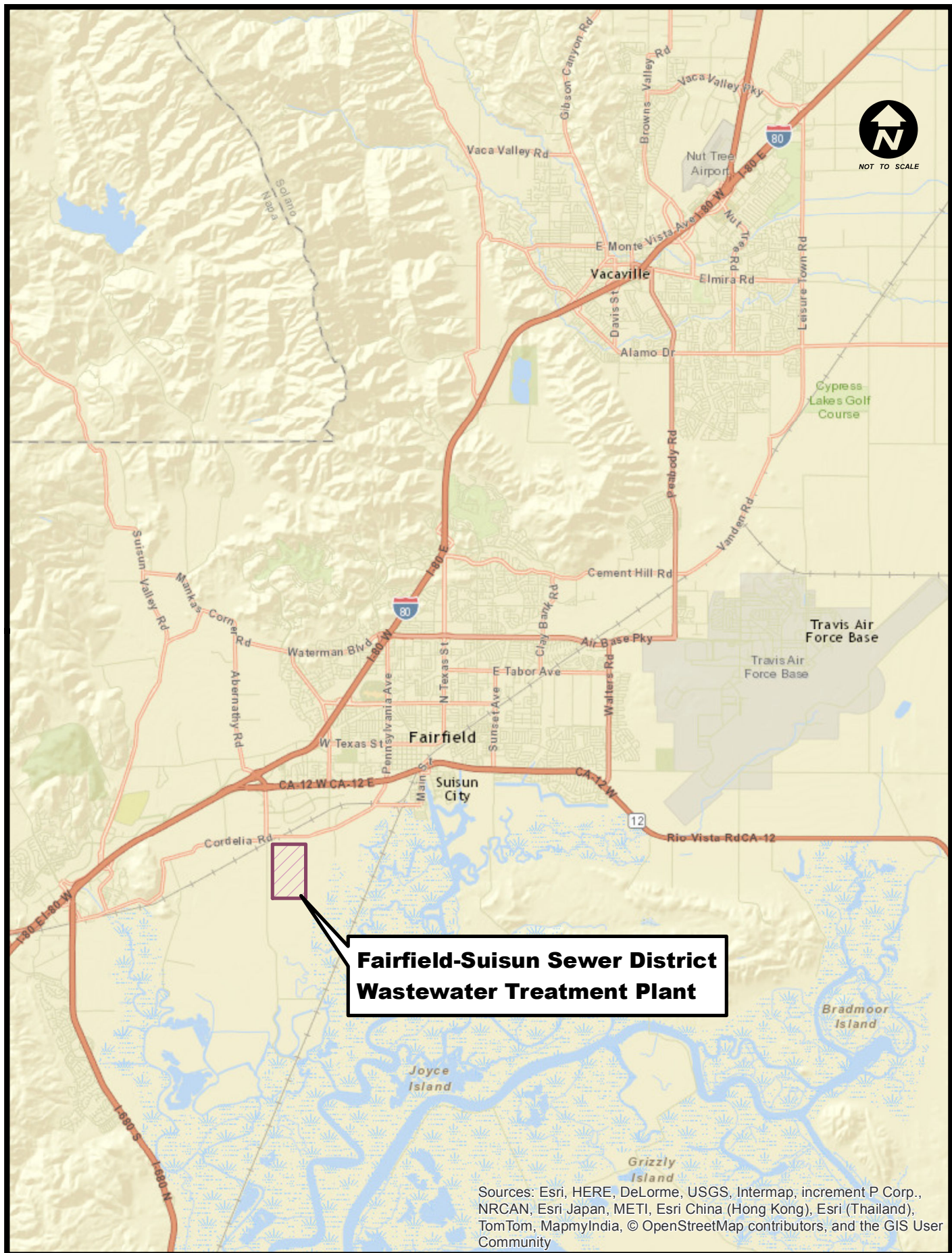
**Attachment A**

**Revised Facility Map for Page B-1 of Attachment B**

*Request for Revised Facility Map is found in Comment No. 2*

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**Fairfield-Suisun Sewer District  
Wastewater Treatment Plant**

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



January 26, 2015

John Madigan  
Water Resources Control Engineer  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Via email: [JMadigan@waterboards.ca.gov](mailto:JMadigan@waterboards.ca.gov)

**Subject: Comment Letter - Fairfield-Suisun Sewer District Tentative Order for NPDES Permit**

Dear Mr. Madigan:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the San Francisco Bay Regional Water Quality Control Board's (Regional Water Board's) Tentative Order for reissuance of the NPDES Permit for Fairfield-Suisun Sewer District (FSSD). BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide wastewater services to over 6.5 million people in the nine-county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals to protect the environment and public health.

BACWA acknowledges the extensive effort that Regional Water Board staff has undertaken to prepare this tentative permit. However, BACWA has a concern with one element of the tentative order. Table F-4, "SSO Rates," and associated language in the Tentative Order's Fact Sheet (Section II.D., Page F-7) contain information that is inappropriate for an NPDES Permit. For the reasons outlined below, this language should be removed from this Tentative Order, as well as the Regional Water Board's template for NPDES permits for POTWs.

**Regulatory Authority.** The State Water Resources Control Board's General Waste Discharge Requirements (WDR) for sanitary sewer systems (Order No. 2006-0003-DWQ) is the main regulatory mechanism for sanitary sewer systems. The General WDR establishes specific requirements for collections systems statewide, including FSSD's collection system and those of many other BACWA members. The General WDR is appropriately referenced in the Provisions section of the tentative order (Page 13), and additional information is not needed – especially since the State Water Board already makes SSO information publicly available through its *Interactive SSO Report* website<sup>1</sup>. Including Table F-

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<sup>1</sup> [http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs/chc\\_sso.shtml](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_sso.shtml)

4 and the discussion of SSOs in this permit's Fact Sheet is confusing and potentially contradictory with the General WDR.

**Statements in the Fact Sheet are misleading without context.** If SSO rates are included in the fact sheet, they should be accompanied by language from the State Water Board or the Regional Water Board. This explanatory language should either be inserted into the Fact Sheet, or included by reference. Examples are included below.

- a) The Regional Water Board's *2014 SSO Status Report*<sup>2</sup> states, "The number of SSOs per 100 miles of pipe per year metric is used to compare the relative performance of sanitary sewer systems. This metric is a common indicator of overall sanitary sewer system performance and can provide insight on each agency's management, operations, and maintenance practices. A well-managed and maintained system with adequate capacity tends to have a lower spill rate than a poorly managed system or a system with inadequate capacity."
- b) The State Water Board's *Enrollee's Guide to the SSO Database*<sup>3</sup> defines the metric "Total # of SSOs per 100 miles of Sewer" as "Broad metric used to compare the relative performance of Enrollees and their sanitary sewer systems. This metric expresses 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."

Despite these definitions, including the SSO rates in this Permit implies a standard exists where one does not. The State Water Board acknowledges this metric is to be used only for rough comparison.

**SSOs and SSO Rates are not representative of Permit violations.** The SSO rates in Table F-4 are calculated from the total number of SSOs, regardless of whether the SSOs reached surface waters. SSOs that do not reach surface waters are explicitly outside the scope of NPDES permits. Although the text on page F-7 states that FSSD "would have violated Prohibition III.D" of its NPDES permit if SSOs had reached waters of the U.S., the information provided in Table F-4 provides absolutely no information about whether SSOs did, or did not, reach surface waters. Neither the total number of SSOs, nor the SSO rate per 100 miles of sewer, correlates with the number of SSOs that reach surface waters, the volume reaching surface waters, the impacts to surface water quality, or the existence of a Permit violation.

**Comparisons are not appropriate.** The comparison between a single discharger's SSO rates and the median data for other systems in Solano County and the San Francisco Bay Region is inappropriate.

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<sup>2</sup> *Sanitary Sewer Improvement Program – Status Report*. San Francisco Bay Regional Water Quality Control Board. July 2014. Accessed January 2015. Available at

[http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/SSO\\_Reduction.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/SSO_Reduction.shtml)

<sup>3</sup> *Enrollee's Guide to the SSO Database*. State Water Resources Control Board, Sanitary Sewer Overflow Reduction Program. August 2013. Accessed January 2015. Available at

[http://www.waterboards.ca.gov/water\\_issues/programs/sso/docs/discharger\\_workbook.pdf](http://www.waterboards.ca.gov/water_issues/programs/sso/docs/discharger_workbook.pdf)

Collection system operation and maintenance are influenced by the topography, climate, system age, and population density, and the State Water Board does not suggest any categories such as system size or geographical boundary for a “rough comparison of operation and maintenance performance.”

Given the lack of any framework for fairly categorizing collection systems, comparisons between collection systems are not an appropriate performance metric, and should not be included in the Fact Sheet. The General WDR is intended to provide a framework for enrollees to prevent, reduce, and mitigate the impact of SSOs within their own service area -- not to out-compete their neighbors. After all, even if SSO rates were to drop dramatically throughout the region, half of the collection systems would continue to perform below the median.

BACWA recognizes that the language in Table F-4 of the Fact Sheet has already been included in other NPDES permits, such as those for the San José-Santa Clara Regional Wastewater Facility (Order No. R2-2014-0034) and the Sunnyvale Water Pollution Control Plant (Order No. R2-2014-0035). BACWA urges the Regional Water Board to reconsider including this information in future NPDES Permits. This information is rightly in the public domain, but should be presented in context, where it can be explained in greater detail. Furthermore, many enrollees in the General WDR do not hold NPDES permits (for example, cities that own and operate their own collection systems, but not treatment facilities), and the current approach unfairly singles out NPDES permit-holders.

The requested changes are shown below.

(Page F-7)

#### D. Compliance Summary

...

~~To the extent that some sanitary sewer overflows (SSOs) reached waters of the U.S., the Discharger would have violated Prohibition III.D. The table below shows the Discharger’s SSO rates (total SSOs per 100 miles of collection system for each of the past three years) and other information along with those for the county and region:~~

**Table F-4. SSO Rates (SSOs/100 miles of sewer)**  
(based on CIWQS data analysis completed in January 2014)

	Length	Average Age	2011	2012	2013
Fairfield Suisun Sewer District	84 miles	34 years	0	0	2.4
Solano County median of 2 medium systems (10 to 99 miles)	80 miles	32 years	0.7	1.3	3.2
San Francisco Bay median of 49 medium systems (10 to 99 miles)	38 miles	45 years	5.9	9.3	9.1
San Francisco Bay Region median of all 132 systems	41 miles	45 years	4.0	4.6	4.5

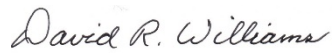
BACWA Comments on FSSD Tentative Order NPDES Permit

January 26, 2014

Page 4 of 4

BACWA appreciates the opportunity to comment on this Tentative Order and thanks you for considering our concerns.

Respectfully Submitted,

A handwritten signature in cursive script that reads "David R. Williams".

David R. Williams  
Executive Director  
Bay Area Clean Water Agencies

Cc: BACWA Executive Board

Appendix C  
Response to Comments

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

**RESPONSE TO WRITTEN COMMENTS**

on a Tentative Order for  
Fairfield-Suisun Sewer District, Fairfield-Suisun Wastewater Treatment Plant  
1010 Chadbourne Road, Fairfield, Solano County

The Regional Water Board received written comments on a tentative order distributed for public comment on December 19, 2014, from the following parties:

1. Fairfield-Suisun Sewer District (January 26, 2015)
2. Bay Area Clean Water Agencies (January 26, 2015)

Regional Water Board staff has summarized the comments as shown below in *italics* (quoted where possible, or paraphrased for brevity), and followed each comment with staff's response. For the full content and context of the comments, please refer to the comment letters.

This document also contains staff-initiated revisions.

All revisions to the tentative order are shown with underline text for additions and strikethrough ~~text~~ for deletions.

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**FAIRFIELD-SUISUN SEWER DISTRICT**

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**District Comment 1:** *The District requests that the maximum daily effluent limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS) be deleted from the tentative order. The District cites 40 C.F.R. section 122.45(d), which requires effluent limitations for continuous discharges from publicly-owned treatment works to be stated as average weekly and average monthly limits unless impracticable. The District also cites 40 C.F.R. section 133.102, which sets minimum average weekly and average monthly BOD and TSS limits for secondary treatment, but no maximum daily limit. Finally, the District points out that it is the only discharger in the Region to have maximum daily, average weekly, and average monthly BOD and TSS limits.*

*The District notes that the Regional Water Board declined to remove the maximum daily BOD and TSS limits when it adopted the previous order (Order No. R2-2009-0039). The Board found that the District must achieve a higher level of treatment than the minimum secondary treatment requirements at 40 C.F.R. section 133.102 to qualify for an exception to Basin Plan Prohibition 1 (which prohibits shallow water discharges). The District points out that permits for other shallow-water dischargers granted such an exception contain only average weekly and average monthly limits, and not maximum daily limits.*

**Response to Comment 1:** We agree. We revised Table 4 of the tentative order as follows:

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day Biochemical Oxygen Demand at 20 °C (BOD <sub>5</sub> )	mg/L	10	15	<del>20</del> ---	---	---
Total Suspended Solids (TSS)	mg/L	10	15	<del>20</del> ---	---	---
⋮	⋮	⋮	⋮	⋮	⋮	⋮

We revised Fact Sheet section IV.B.2.a as follows:

- a. BOD<sub>5</sub> and TSS.** The BOD<sub>5</sub> and TSS effluent limitations are a monthly average of 10 mg/L, and a weekly average of 15 mg/L, ~~and a daily maximum of 20 mg/L.~~ These limitations, including the 85 percent removal requirements, are unchanged from the previous order, except that the daily maximum limits of 20 mg/L are not retained from the previous order. The Basin Plan does not require daily maximum limits for BOD<sub>5</sub> and TSS, and they are unnecessary to assure the higher level of treatment that the monthly and weekly limits already require. The limitations in this Order ~~and~~ are technologically feasible for the advanced wastewater treatment technologies used at the plant. Monitoring data show the Discharger has been able to consistently comply with these limitations.

**District Comment 2:** *The District requests that the facility map (Attachment B, page B-1) be replaced.*

**Response to Comment 2:** We agree. We updated the facility map.

**District Comment 3:** *The District comments that Monitoring and Reporting Plan (MRP) Table E-5 requires a flow monitoring frequency of “Continuous (Seasonal)” at Monitoring Locations E-002 and E-003. However, footnote 1 states, “Flows shall be reported as monthly totals (in MG) in the monthly self-monitoring reports.” The District reports flows at these locations monthly, not seasonally.*

**Response to Comment 3:** We agree. Our intent is that the District monitor flow continuously at Monitoring Locations E-002 and E-003 when it discharges at those locations (i.e., to the Duck Ponds), and record and report the total flow for the month. We revised MRP Table E-5 as follows:

**Table E-5. Effluent Monitoring – Monitoring Locations E-002 and E-003**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow <sup>[1]</sup>	MG	Continuous	Continuous/ <u>M</u> ( <del>Seasonal</del> )

Unit Abbreviation:

MG = million gallons



Sample Type:

Continuous = measured continuously

Sampling Frequency:

Continuous/M = measured continuously, and recorded and reported monthly

Footnote:

<sup>[1]</sup> Flows shall be reported as monthly totals (in MG) in the monthly self-monitoring reports for months when discharges from these locations occur.

We also revised MRP Table E-9 as follows:

**Table E-9. Monitoring Periods**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous/D	Order effective date	All times
<u>Continuous/M</u>	<u>Order effective date</u>	<u>All times</u>
1/Day	Order effective date	Daily, 12:00 a.m. through 11:59 p.m.
⋮	⋮	⋮

**District Comment 4:** *The District requests that MRP Table E-7 identify the effluent pretreatment monitoring location as E-001D instead of E-001, consistent with the text preceding the table and the effluent priority pollutant monitoring requirements.*

**Response to Comment 4:** We agree. We revised MRP Table E-7 as follows:

**Table E-7. Pretreatment and Biosolids Monitoring**

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
VOCs <sup>[2]</sup>	2/Year	2/Year	2/Year	Grab <sup>[6a]</sup>	Grab
⋮	⋮	⋮	⋮	⋮	⋮

**District Comment 5:** *The District requests that the requirement to monitor for organophosphorus, carbamate, and urea pesticides be removed from MRP Table E-7. The District states that monitoring for these pesticides is not needed to fulfill any federal, State, local, or regional pretreatment program requirement. The District points out that it has not detected these pesticides in influent, effluent, or biosolids over the last nine years, and no industrial discharger is known or suspected to discharge these pesticides.*

**Response to Comment 5:** We agree. We revised MRP Table E-7 as follows:

**Table E-7. Pretreatment and Biosolids Monitoring**

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
⋮	⋮	⋮	⋮	⋮	⋮
Cyanide	1/Month	1/Month	2/Year	Grab	Grab
Organophosphorus Pesticides <sup>[8]</sup>	1/5 Years	1/5 Years	1/5 Years	—	—

Constituents	Sampling Frequency			Sample Type	
	Influent I-001 <sup>[1]</sup>	Effluent E-001D <sup>[1]</sup>	Biosolids BIO-001	Influent and Effluent	Biosolids
Carbamate and Urea Pesticides <sup>[9]</sup>	1/5 Years	1/5 Years	1/5 Years	—	—

Sampling Frequencies:

1/Month = once per month

2/Year = twice per year

1/5 Years = once during permit term within 12 months of applying for permit reissuance.

Footnotes:

<sup>[1]</sup> Influent and effluent monitoring conducted in accordance with Tables E-2 and E-3 may be used to satisfy these pretreatment monitoring requirements.

⋮

<sup>[7]</sup> The Discharger shall use ultra-clean sampling (U.S. EPA 1669) and ultra-clean analytical method (U.S. EPA 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.

~~<sup>[8]</sup> U.S. EPA Method 614.~~

~~<sup>[9]</sup> U.S. EPA Method 632.~~

We also revised MRP Table E-9 as follows:

**Table E-9. Monitoring Periods**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
⋮	⋮	⋮
2/Year	Closest May 1 or November 1 before or after Order effective date <sup>[1]</sup>	Once during wet season (typically November 1 through April 30) and once during the dry season (typically May 1 through October 31)
1/5 Year	Order effective date	<del>Once during the permit term within 12 months prior to applying for permit reissuance.</del>

**District Comment 6:** *The District requests the requirement to file a Petition for Change with the Division of Water Rights 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” be removed, suggesting that it conflicts with the District’s exception to Basin Plan Prohibitions 1 and 3, which is conditioned in part on the District reusing the maximum feasible amount of treated wastewater for irrigation to minimize discharges to Boynton Slough and Ledgewood Creek during dry weather.*

**Response to Comment 6:** We disagree. The District’s comment does not concern an NPDES requirement; it concerns a finding (Fact Sheet section I.B, second paragraph) that explains a separate requirement of State law that all dischargers should be aware of. The Fact Sheet explicitly states, “This is not an NPDES permit requirement.”

**District Comment 7:** *The District states that it no longer uses chlorine for effluent disinfection and only uses comminution during wet weather. Also, the Solano Irrigation District is no longer involved in distributing the District's recycled water.*

**Response to Comment 7:** We agree. We revised Fact Sheet section II.A.3 as follows:

- 3. Wastewater Treatment.** ...The plant also has wet weather facilities including a 111-million-gallon (MG) equalization storage basin with optional comminution ~~and prechlorination~~. The plant is designed to provide containment and advanced secondary treatment of wastewater flows up to the 20-year storm event.

We also revised Fact Sheet section II.A.7 as follows:

- 7. Reclamation.** The Discharger recycles approximately 5 to 10 percent of the plant's treated effluent for agricultural and landscape irrigation ~~through conveyance and distribution facilities owned and operated by the Solano Irrigation District~~. Water recycling is regulated under Regional Water Board Order No. 96-011.

**District Comment 8:** *The District contends that the sanitary sewer overflow (SSO) information in the Fact Sheet is misleading and inappropriate and should be removed for the following reasons:*

- 1. The District asserts that the State Water Board waste discharge requirements (WDRs) for sanitary sewer systems (Order No. 2006-0003-DWQ) are the main regulatory mechanism for sanitary sewer systems, not the NPDES permit. The District claims the Fact Sheet SSO discussion and Table F-4 are confusing and potentially contradict the WDRs. The District further contends that information on SSOs already publically available through the State Water Board's Interactive SSO Report website makes SSO information in the Tentative Order unnecessary.*
- 2. The District asserts that the SSO rates in the Fact Sheet are misleading, and, if included, should be accompanied by an explanation that SSO rates are a relative measure of sewer system performance and provide only a rough comparison between systems. Such explanations are included in the State Water Board's Enrollee's Guide to the SSO Database and the Regional Water Board's 2014 SSO Status Report. The District further states that, even if such an explanation is included, presenting the SSO rates in the Fact Sheet implies that a standard exists where one does not.*
- 3. The District contends that the SSO rates presented in Fact Sheet Table F-4 are neither representative of collection system conditions nor of permit violations since only the total number of SSOs is reported, regardless of the volume spilled or whether the spill reached surface waters. The District had no SSOs in 2011 and 2012, and two SSOs in 2013, neither of which reached surface waters; thus the suggestion that the District "would have" violated its permit is misleading and inappropriate.*

4. *The District asserts that the comparison between its SSO rates and the median data for other systems in Solano County and the San Francisco Bay Region is inappropriate because it compares the District's rates to all collection systems in the region despite differences in topography, climate, system age, and population density. Furthermore, comparing the District's SSO rates to the only other system in Solano County is not meaningful. Finally, without a system of fairly categorizing collection systems, comparisons are an inappropriate performance metric.*

**Response to Comment 8:** We disagree. The SSO information in the Fact Sheet provides a useful overview of existing conditions. We respond to the District's specific concerns below:

1. The District's collection system is rightfully subject to this permit because publicly-owned treatment works are defined to include their collections systems, and NPDES permits must regulate a discharger's entire facility. We disagree that SSO information available from the State Water Board makes the SSO information in the Fact Sheet unnecessary.
2. We partly agree. We revised Fact Sheet Table F-4 as follows (including the addition of updated data for 2014):

**Table F-4. SSO Rates (total SSOs/100 miles of sewer)**

(based on CIWQS data analysis completed in ~~January 2014~~ February 2015)<sup>[1]</sup>

	Length	Average Age	2011	2012	2013	2014
Fairfield Suisun Sewer District	<del>84</del> <u>83</u> miles	<del>34</del> <u>35</u> years	0	0	2.4	<u>0</u>
Solano County median of 2 medium systems (10 to 99 miles)	<del>80</del> <u>84</u> miles	<del>32</del> <u>33</u> years	0.7	1.3	<del>3.2</del> <u>2.5</u>	<u>0.6</u>
San Francisco Bay median of 49 medium systems (10 to 99 miles)	38 miles	<del>45</del> <u>42</u> years	5.9	9.3	<del>9.1</del> <u>12</u>	<u>6.3</u>
San Francisco Bay Region median of all 132 systems	41 miles	45 years	4.0	4.6	4.5	<u>2.7</u>

Footnote:

<sup>[1]</sup> 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."

3. The information in the tentative order is not intended to provide an exhaustive analysis. It is intended to facilitate simple comparisons with other collection systems. Information about total SSOs, including those that did not reach waters of the U.S., is valuable since it is a commonly-used indicator of collection system operation. This is important because future SSOs have some potential to reach waters of the United States. We revised Fact Sheet section II.D (third paragraph) in response to the District's comment as follows:

~~To the extent that some sanitary sewer overflows (SSOs) reached waters of the U.S., the Discharger would have violated Prohibition III.D.~~ The table below shows the Discharger's sanitary sewer overflow (SSO) rates (total SSOs per 100 miles of collection system for each of the past four years) and other information along with

those for the county and region. The Discharger had no SSOs in 2011, 2012, and 2014, and two SSOs in 2013, neither of which apparently reached surface waters. Future SSOs could potentially reach waters of the U.S. and thus could violate Prohibition III.D of this Order.

4. The tentative order presents the District's collection system within the context of other similarly-sized systems within Solano County and throughout the Region. The tentative order states how many exist. As for the Region-wide comparison, we normalize available data per 100 miles of collection system to ensure that comparisons are fair.

**District Comment 9:** *The District notes that the tentative order does not retain the exception to Basin Plan Discharge Prohibition 3 from the previous order. Prohibition 3 prohibits discharge to Suisun Marsh during the dry season. The District requests explicit language providing an exception.*

**Response:** We agree. We revised Fact Sheet section IV.A.2 as follows:

**2. ~~Exceptions to Shallow Water and Dead-End Slough~~ Basin Plan Discharge Prohibitions**

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges not receiving a minimum of 10:1 initial dilution and discharges into shallow waters or dead-end sloughs. Basin Plan Table 4-1, Discharge Prohibition 3, prohibits discharges of any wastewater with particular characteristics of concern to Suisun Marsh during the dry season. Discharge Point Nos. 001 discharges to a confined slough, Discharge Point Nos. 002, and 003 discharge to ponds within Suisun Marsh, and Discharge Point No. 005 discharges to an inland creek ~~confined sloughs, inland creeks, and ponds within Suisun Marsh,~~ where minimum dilution ratios of 10:1 are not achieved. Discharge from Discharge Point No. 001 occurs year-round, including the dry season, and discharges from Discharge Point Nos. 002, 003, and 005 may occur during the dry season. However, Basin Plan section 4.2 provides for exceptions to Basin Plan Discharge Prohibitions 1 and 3 under certain circumstances:

⋮

This Order continues to grant ~~an~~ exceptions to Prohibitions 1 and 3 for discharges to Boynton Slough, the managed Duck Ponds, and Ledgewood Creek for the following reasons:

⋮

We revised Fact Sheet section IV.B.1 (second paragraph) as follows:

The plant provides advanced secondary treatment and has consistently met limitations on conventional pollutants that are more stringent than the federal secondary treatment standards described above. These more stringent limits are necessary to ensure that the plant continues to provide a high-quality effluent suitable for unrestricted reuse and that the discharge continues to qualify for ~~an~~

exceptions to Basin Plan Discharge Prohibitions 1 and 3 (see Fact Sheet section IV.A.2).

We revised Fact Sheet section IV.B.2.e as follows:

- e. **Total Ammonia.** ...These limits are retained to ensure that the Discharger maintains its nitrification performance to qualify for the exceptions to Basin Plan Discharge Prohibitions 1 and 3 (see Fact Sheet section IV.A.2).

We revised Fact Sheet section VI.C.5.d as follows:

- d. **Reliability Assurance Plan and Status Report.** This provision is required to justify ~~an~~ exceptions to Basin Plan Discharge Prohibitions 1 and 3 (see Fact Sheet section IV.A.2). Basin Plan Discharge Prohibition 1 is intended to protect shallow waters from the effects of abnormal discharges caused by temporary upsets and malfunctions. Basin Plan Discharge Prohibition 3 is intended to protect Suisun March from high concentrations of toxicants, biostimulants, and oxygen-demanding substances during the critical portion of the year when freshwater flows are nonexistent. This provision will ensure the reliability of the Discharger's system in preventing discharge of inadequately treated wastewater.

**District Comment 10:** *The Discharger notes that the ambient hardness value used to calculate water quality objectives for hardness-dependent metals is 257 mg/L as CaCO<sub>3</sub> and is based on the District's receiving water data. However, Fact Sheet section IV.C.2.f erroneously indicates that a hardness value of 87 mg/L was used.*

**Response:** We agree. We revised Fact Sheet section IV.C.2.f as follows:

- f. **Receiving Water Hardness.** Ambient hardness data were used to derive freshwater water quality objectives that are hardness dependent. ~~The data were collected~~ Discharger collected data during the previous order term at receiving water monitoring locations RSW-001 through RSW-004 and RSW-006 through RSW-010. The data were censored to eliminate hardness values greater than 400 mg/L and samples taken when salinity was greater than 1 ppt. The adjusted geometric mean of the resulting data, 257 mg/L from 1994 through 2013 at Regional Monitoring Program (RMP) monitoring station BG20. Hardness ranged from 43 to 420 mg/L as calcium carbonate (CaCO<sub>3</sub>). A hardness of 87 mg/L as CaCO<sub>3</sub>, the mean determined from a normalized distribution of the hardness data set, was used to determine the water quality objectives.

**District Comment 11:** *The District notes that the chromium (VI) water quality objective of 2.1 µg/L listed in Fact Sheet Table F-8 differs from the objective in the previous order of 35 µg/L even though the tentative order uses the same translators. The District requests that the chromium (VI) water quality objective be corrected.*

Also, the District requests that the finding of “Unknown” in Fact Sheet Table F-8 be changed to “No Reasonable Potential” for chromium (VI). The maximum total chromium effluent concentration detected over the previous order term, 0.70 µg/L, is lower than the chromium (VI) water quality objective.

**Response:** We partly agree. We revised Fact Sheet Table F-8 as follows:

**Table F-8. Reasonable Potential Analysis**

CTR #	Priority Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <small>[1][2]</small>	B or Minimum DL (µg/L) <small>[1][2]</small>	Result <sup>[3]</sup>
∴	∴	∴	∴	∴	∴
5a	Chromium (III)	448	0.70	80	No
5b	Chromium (VI)	<del>35</del> 2.4	---	---	U
6	Copper	13	8.4	9.9	Yes <sup>[5]</sup>
∴	∴	∴	∴	∴	∴

We did not revise the reasonable potential finding. Although the maximum total chromium concentration does not exceed the water quality objective for chromium (VI), the maximum total chromium background concentration of 80 µg/L does. Without a background concentration for chromium (VI), we cannot determine whether reasonable potential exists.

**District Comment 12:** *The District points out a typographical error in Fact Sheet section IV.C.4.a, Item 4.*

**Response:** We agree. We revised Fact Sheet section IV.C.4.a, Item 4 to correctly spell ‘Ledgewood Creek’.

**BAY AREA CLEAN WATER AGENCIES (BACWA)**

**BACWA Comment 1:** *BACWA reiterates the District Comment 8.*

**Response:** See our response to District Comment 8.

**REGIONAL WATER BOARD STAFF-INITIATED CHANGES**

In addition to making minor editorial and formatting changes, Board staff added Boynton Slough and Suisun Slough beneficial uses to Fact Sheet Table F-5 based on Basin Plan Table 2-1:

**Table F-5: Receiving Water Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Uses
001	Boynton Slough (Tributary to Suisun Slough)	<u>Commercial and Sport Fishing (COMM)</u> <u>Estuarine Habitat (EST)</u> <u>Fish Migration (MIGR)</u> <u>Preservation of Rare and Endangered Species (RARE)</u> Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)
⋮	⋮	⋮