CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

ORDER No. R2-2013-0006
NPDES No. CA0037541

The following discharger and discharge point are subject to the waste discharge requirements set forth in this Order.

Table 1. Discharger Information

Discharger	City of San Mateo and City of Foster City Estero Municipal Improvement District, a joint powers authority
Name of Facility	City of San Mateo Wastewater Treatment Plant and its wastewater collection system
CIWQS Place Number	255420
Facility Address	2050 Detroit Drive, San Mateo, CA 94404
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary and Advanced Secondary Treated Municipal Wastewater	37º 34′ 50″ N	122º 14′ 45″ W	Lower San Francisco Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	March 13, 2013
This Order shall become effective on:	May 1, 2013
This Order shall expire on:	April 30, 2018
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for re-issuance of waste discharge requirements no later than:	November 2, 2017

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

Digitally signed
by Bruce H. Wolfe
Date: 2013.03.13
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Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

The following facility is subject to the waste discharge requirements set forth in this Order:

Table 4. Facility Information

Discharger	City of San Mateo and City of Foster City Estero Municipal Improvement District, a joint powers authority
Name of Facility	City of San Mateo Wastewater Treatment Plant and its wastewater collection system.
Facility Address	2050 Detroit Drive, San Mateo, CA 94404, San Mateo County
CIWQS Place Number	255420
CIWQS Party Number	39800
Facility Contact, Title, Phone	Chad Davisson, City of San Mateo, Environmental Services Division Manager, (650) 522-7385 Brad Underwood, City of Foster City, Public Works Director, (650) 286-3200 610 Foster City Blvd, Foster City, CA 94404, bunderwood@fostercity.org
Mailing Address	330 West 20th Avenue, San Mateo, CA 94403
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	15.7 million gallons per day (MGD) (average dry weather design flow) 40 MGD (peak wet weather design flow for secondary treatment)
Service Area	The City of San Mateo, the City of Foster City, the Town of Hillsborough, and portions of the City of Belmont and unincorporated San Mateo County
Service Population	139,000

II. FINDINGS

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

A. Background. The City of San Mateo and the City of Foster City Estero Municipal Improvement District (hereinafter collectively the Discharger) own the San Mateo Wastewater Treatment Plant (Plant) through a Joint Powers Agreement (JPA), and the City of San Mateo operates the Plant as the administering agency of the JPA. The City of San Mateo and the City of Foster City Estero Municipal Improvement District individually own and operate their respective collection systems. The City of San Mateo was the sole discharger who discharged under Order No. R2-2007-0075 (CIWQS Regulatory Measure No. 336217), National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037541, as amended by Order No. R2-2010-0054. The Discharger submitted a Report of Waste Discharge, dated August 3, 2012, and applied for an NPDES permit reissuance to discharge treated wastewater from its wastewater treatment plant to waters of the State and the United States. Also, the Plant discharge is subject to Cease and Desist Order No. R2-2007-0076, which addresses the inability to comply with certain effluent limits established in Order No. R2-2007-0075. This Order rescinds Cease and Desist Order No. R2 2007-0076 except for enforcement purposes.

Further, the City of San Mateo and satellite collection systems owned by the Town of Hillsborough and Crystal Springs County Sanitation District are subject to Cease and Desist Order No. R2-2009-0020 that requires elimination of sanitary sewer overflows and upgrade of sewer capacity. Additionally, the Plant discharge is regulated under Regional Water Board Order No. R2-2012-0096 (NPDES Permit No. CA0038849), which establishes requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges in the region. This Order does not affect Order No. R2-2009-0020 nor the mercury and PCBs permit.

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. Facility Description, Treatment Process, and Discharge Location

The Plant and the collection systems belonging respectively to the City of San Mateo and the City of Foster City Estero Municipal Improvement District are collectively the Facility. The Plant, located within the southeast portion of the City of San Mateo and northwest of Foster City (see Facility Map in Attachment B), provides secondary and advanced secondary treatment of domestic, commercial, and industrial wastewater for the City of San Mateo, the City of Foster City, the Town of Hillsborough, and portions of the City of Belmont and unincorporated San Mateo County. The collection systems covered by this Order include approximately 257 miles of sanitary sewer and 25 pump stations in the City of San Mateo, and approximately 66 miles of sanitary sewer and 49 pump stations in the City of Foster City Estero District. Three satellite wastewater collection systems (Town of Hillsborough, Crystal Springs County Sanitation District, and County of San Mateo Tower Road Complex) account for approximately 120 additional miles of sanitary sewer that discharge to the Facility. The service area population is approximately 139,000.

Treatment processes at the Plant consist of primary sedimentation, secondary biological treatment through aeration basins, secondary clarification, chlorine disinfection, and dechlorination using sodium bisulfite. Additionally, the Plant has pressure filters that the Discharger uses when necessary to comply with effluent limitations. These processes are shown in the process flow diagram (Attachment C).

From March 2009 through May 2012, the average monthly flow was 12.5 MGD and the maximum daily flow was 44.8 MGD. The average daily flow is within the average dry-weather design capacity of 15.7 MGD. When the Plant's wet weather secondary treatment capacity of 40 MGD is exceeded for an extended period, diversion of primary-treated effluent around secondary treatment units may occur to prevent a washout of microbial populations critical to the secondary treatment process. This occurs by routing effluent from the primary clarifier around the aeration basins, secondary clarifier, and pressure filters directly to the chlorine contact tank, where it is "blended" with secondary-treated wastewater.

Treated wastewater is discharged at Discharge Point 001 to Lower San Francisco Bay via a submerged outfall equipped with a multiport diffuser. The outfall is approximately 3,700 feet offshore and 500 feet north of the San Mateo-Hayward Bridge at a depth of approximately 41 feet below the mean surface water level.

Secondary sludge is thickened using dissolved air flotation prior to being blended with primary sludge from a gravity thickener. Thickened sludge is anaerobically digested in two digesters and then dewatered in a centrifuge. Dewatered biosolids are trucked to either land application sites for beneficial use or landfills for disposal. Centrate from the centrifuge and overflow from the thickening units are piped to the head of the liquid treatment process. The Discharger manages trucking and disposal of biosolids through outside contractors.

Most stormwater flows that come into contact with equipment or wastewater at the Plant are collected and directed to the headworks for treatment. A portion of the stormwater from the Plant flows offsite to Seal Slough. This stormwater is covered under the State Water Board's statewide industrial stormwater NPDES permit (NPDES General Permit No. CAS000001).

C. Legal Authorities. This Order is issued pursuant to Clean Water Act (CWA) section 402, and implementing regulations adopted by the USEPA, and California Water Code (CWC) chapter 5.5, division 7, commencing with section 13370. It serves as an NPDES permit for point source discharges from the Plant to surface waters. This Order also serves as waste discharge requirements pursuant to CWC article 4, chapter 4, division 7, commencing with section 13260.

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for requirements of the Order, is hereby incorporated into this Order and constitutes part of the findings for this Order. Attachments A through E, G, and H, are also incorporated into this Order.

E. California Environmental Quality Act. Under CWC section 13389, this action to adopt an NPDES permit is exempt from Chapter 3 of the California Environmental Quality Act.

F. Technology-Based Effluent Limitations. CWA section 301(b) and NPDES regulations at Title 40 of the Code of Federal Regulations, section 122.44 (40 CFR 122.44) require that permits include conditions meeting applicable technology-based requirements at minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR 133. Further discussion of the technology-based effluent limitations is included in the Fact Sheet.

G. Water Quality-Based Effluent Limitations (WQBELs). CWA section 301(b) and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plan. *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface and groundwater. It also includes implementation programs to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan. The Basin Plan's beneficial uses for Lower San Francisco Bay are listed in the table below.

Table 5. Basin Plan Beneficial Uses

Receiving Water Name	Beneficial Uses
Lower San Francisco Bay	Industrial Service Supply (IND) Commercial, and Sport Fishing (COMM) Shellfish Harvesting (SHELL) 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) Navigation (NAV)

The State Water Board's *Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1, Sediment Quality* 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.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. 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* (hereinafter the State Implementation Policy [SIP]). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated through the NTR and to the priority pollutant objectives established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA 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.

K. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes (65 Fed. Reg. 24641 [April 27, 2000], codified at 40 CFR 131.21). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

L. Stringency of Requirements for Individual Pollutants. This Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA. This Order contains both technology-based and WQBELs for individual pollutants. The technology-based limitations are discussed in the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition,

this Order contains effluent limitations more stringent than the minimum federal technology-based requirements as necessary to meet water quality standards.

WQBELs implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs are derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which USEPA approved on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1).

M. Antidegradation Policy. NPDES regulations at 40 CFR 131.12 establish the federal antidegradation policy and require that state water quality standards include antidegradation policies consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that existing quality of waters 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.

N. Anti-Backsliding Requirements. CWA sections 402(o)(2) and 303(d)(4) and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous order, with some exceptions where limitations may be relaxed.

O. Monitoring and Reporting. NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP, Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

P. Standard and Special Provisions. Attachment D contains Federal Standard Provisions that apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42. The Discharger must comply with all standard provisions and with those additional conditions that apply under 40 CFR 122.42. The Discharger must also comply with the Regional Standard Provisions provided in Attachment G. This Order also contains special provisions applicable to the Discharger. The Fact Sheet provides the rationales for the special provisions.

Q. Provisions and Requirements Implementing State Law. None of the requirements in this Order are included to implement State law only.

R. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details of the notification.

S. 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 of the public hearing.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R2-2007-0075, as amended by Order No. R2-2010-0054, except for enforcement purposes, and, in order to meet the provisions contained in CWC division 7 (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This Order also rescinds Cease and Desist Order No. R2-2007-0076 except for enforcement purposes.

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. Discharge of treated wastewater at any point where it does not receive an initial dilution of at least 33:1 (nominal) is prohibited. Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or in part) is in good working order and is consistent with, or can achieve better mixing than that described in the Fact Sheet. The Discharger shall address measures taken to ensure this in its application for permit reissuance.

C. 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 section I.G of this Order. Consistent with State Water Board Order 2002-015, routing flows around dual- or mono-media filters for peak flow management where effluent meets or exceeds the effluent limits in this permit, is not considered a bypass and is not a violation of this Order.

Blended wastewater is biologically-treated wastewater blended with wastewater diverted around biological treatment units or advanced treatment units. Such discharges are approved under the bypass conditions stated in 40 CFR 122.41(m)(4) when (1) the Discharger's peak wet weather influent flow volumes exceed the capacity of the secondary-treatment units of 40 MGD, (2) the discharge complies with the effluent and receiving water limitations contained in this Order, and (3) the Discharger is in compliance with Provision VI.C.5.a. Furthermore, the Discharger shall operate the Plant as designed and in accordance with the Operation and Maintenance Manual for the Plant. This means it shall optimize storage and use of equalization units and shall fully use the biological treatment units and advanced treatment units, if applicable. This also means that the Discharger shall fully use the capacity of its facilities to maximize treatment and to minimize sanitary sewer overflows from its collection system or the collection systems of its satellite agencies. The Discharger shall report incidents of blended effluent discharges in routine monitoring reports and shall monitor this discharge as specified in the MRP.

D. The average dry weather flow as measured at Discharge Point 001, monitoring station EFF-001, described in the MRP, shall not exceed 15.7 MGD. Actual average dry weather flow shall be determined for compliance with this prohibition over three consecutive dry weather months each year.

E. 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. Conventional and Non-Conventional Pollutants

1. **Summer.** From May 1 through September 30, discharges at Discharge Point 001 shall comply with the effluent limitations in the table below, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

Table 6. Conventional and Non-Conventional Pollutant Effluent Limitations–May 1 through September 30

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand 5-day @ 20°C ($CBOD_5$)	mg/L	15	25	---	---	---
Total Suspended Solids (TSS)	mg/L	20	30	---	---	---
CBOD and TSS percent removal[1]	%	85 minimum	---	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH[2]	s.u.	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0[3]

Unit Abbreviations:

mg/L = milligrams per liter
s.u. = standard units
mL = milliliters

Footnotes:

[1] The arithmetic mean of $CBOD_5$ at 20°C and TSS, by concentration, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by concentration, for influent samples collected at INF-001 as described in the MRP at approximately the same times during the same period.

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

[3] Effluent chlorine residual concentrations shall be monitored continuously or, at a minimum, every hour. The Discharger shall report for each day the maximum residual chlorine concentration observed following dechlorination using all measured values during that day. However, if monitoring continuously, for the purpose of mandatory minimum penalties required by CWC 13385(i), compliance shall be based only on discrete readings from the continuous monitoring every hour on the hour. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all other continuous monitoring data for discretionary enforcement.

The Discharger may elect in addition to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove to the Executive Officer that anomalous chlorine residual exceedances measured by on-line chlorine analyzers are false positives and are not violations of these total residual chlorine limit because it is chemically improbable to have chlorine present in the presence of sodium bisulfite.

2. **Winter.** From October 1 through April 30, discharges at Discharge Point 001 shall comply with the effluent limitations in the table below, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

Table 7. Conventional and Non-Conventional Pollutant Effluent Limitations– October 1 through April 30

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$CBOD_5$	mg/L	25	40	---	---	---
TSS	mg/L	30	45	---	---	---
CBOD and TSS percent removal[1]	%	85 minimum	---	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH[2]	s.u	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0[3]

Unit Abbreviations:

mg/L = milligrams per liter
s.u. = standard units
mL = milliliters

Footnotes:

[1] The arithmetic mean of CBOD5 at 20°C and TSS, by concentration, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by concentration, for influent samples collected at INF-001 as described in the MRP at approximately the same times during the same period.

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

[3] Effluent chlorine residual concentrations shall be monitored continuously or, at a minimum, every hour. The Discharger shall report for each day the maximum residual chlorine concentration observed following dechlorination using all measured values during that day. However, if monitoring continuously, for the purpose of mandatory minimum penalties required by CWC 13385(i), compliance shall be based only on discrete readings from the continuous monitoring every hour on the hour. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all other continuous monitoring data for discretionary enforcement.

The Discharger may elect in addition to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove to the Executive Officer that anomalous chlorine residual exceedances measured by on-line chlorine analyzers are false positives and are not violations of these total residual chlorine limit because it is chemically improbable to have chlorine present in the presence of sodium bisulfite.

3. **Bacteria:** Discharges at Discharge Point 001, with compliance measured at Monitoring Locations EFF-001a and EFF-001b as described in the MRP, shall meet the following limitations of bacteriological quality:

   a. **Enterococcus Bacteria.** The geometric mean enterococci bacteria concentration of all samples in a calendar month shall not exceed 35 most probable number per 100 mL (MPN/100 mL).

   b. **Fecal Coliform Bacteria.** The geometric mean fecal coliform density in a calendar month shall not exceed 200 MPN/100 mL; the 90th percentile value of the last 11 values shall not exceed 400 MPN/100 mL.

B. Toxic Substances

Discharges at Discharge Point 001 shall comply with the effluent limitations in the table below, with compliance determined at Monitoring Location EFF-001 as described in the MRP:

Table 8. Toxic Pollutant Effluent Limitations

Constituent	Units	Effluent Limitations[1]	
		Average Monthly	Maximum Daily
Copper	µg/L	54	72
Cyanide	µg/L	20	38
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}
Nickel	µg/L	30	71
Total Ammonia, as N	mg/L	66	120

Unit Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter

Footnotes:

[1] All limitations for metals are expressed as total recoverable metals.

C. Whole Effluent Toxicity

1. Whole Effluent Acute Toxicity

a. Discharges at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, shall comply with the following limits for acute toxicity:

(1) An eleven (11) sample median value of not less than 90 percent survival; and

(2) An eleven (11) sample 90th percentile value of not less than 70 percent survival.

b. These acute toxicity limitations are further defined as follows:

(1) **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 show less than 90 percent survival.

(2) **11-sample 90th percentile**. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or fewer bioassay tests show less than 70 percent survival.

c. Bioassays shall be performed using the most up-to-date USEPA protocols and species as specified in MRP section V.A. Bioassays shall be conducted in compliance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, currently 5th Edition (EPA-821-R-02-012), with exceptions granted in writing by the Executive Officer and the Environmental Laboratory Accreditation Program upon the Discharger's request with justification.

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

2. Whole Effluent Chronic Toxicity

The discharge 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 measured at Monitoring Location EFF-001 as described in the MRP.

V. RECEIVING WATER LIMITATIONS

The discharge shall not cause the following in the receiving water:

A. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

1. Floating, suspended, or deposited macroscopic particulate matter or foams;
2. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
3. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
4. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and
5. Toxic or other deleterious substances to be present 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 of waste shall not cause the following limits to be exceeded in waters of the State at any place within 1 foot of the water surface:

1. Dissolved Oxygen	5.0 mg/L, minimum Furthermore, 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 Board as required by 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. **Federal Standard Provisions.** The Discharger shall comply with Federal Standard Provisions included in Attachment D of this Order.

2. **Regional Standard Provisions.** The Discharger shall comply with all applicable items of the Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits (Attachment G), including amendments thereto.

B. MRP Requirements

The Discharger shall comply with the MRP, and future revisions thereto, including applicable sampling and reporting requirements in the standard provisions listed in Provision VI.A above.

C. Special Provisions

1. **Reopener Provisions**

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to, or will cease to have, adverse impacts on water quality or beneficial uses of the receiving waters.

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

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

d. If State Water Board precedential decisions, new policies, new laws, or new regulations on chronic toxicity or total chlorine residual become available.

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

f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Order No.

R2-2009-0074) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a stormwater pollutant control strategy.

g. Or as otherwise authorized by law.

The Discharger may request permit modification based on any of the circumstances described above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses. With the consent of the Discharger, the Executive Officer may make minor modifications to this Order for the purposes set forth in 40 CFR 122.63.

2. Effluent Characterization Study and Report

a. Study Elements

The Discharger shall continue to characterize and evaluate the discharge from the following discharge points to verify that the "no" or "cannot determine" reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples of the discharges as set forth below, with the location at the following monitoring station, as defined in the MRP, at no less than the frequency specified below:

Discharge Point	Monitoring Station	Minimum Frequency
001	EFF-001	Once per calendar year

The samples shall be analyzed for the priority pollutants listed in Table C of the Regional Standard Provisions, except for those priority pollutants with effluent limitations where the MRP already requires monitoring. Compliance with this requirement shall be achieved in accordance with the specifications of Regional Standard Provisions, sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any of these priority pollutants increase over past performance. The Discharger shall investigate the cause of any 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

(1) Routine Reporting

The Discharger shall, within 30 days of receipt of analytical results, report in the transmittal letter for the appropriate monthly self-monitoring report the following:

(a) Indication that a sample or samples for this characterization study was or were collected; and

(b) Identity of priority pollutants detected above applicable water quality criteria (see Fact Sheet Table F-8 for the criteria), together with the detected concentrations of those pollutants.

(2) Annual Reporting

The Discharger shall provide a summary of the annual data evaluation and source investigation in the annual self-monitoring report.

(3) Final Report

The Discharger shall submit a final report that presents all these data to the Regional Water Board no later than 180 days prior to the Order expiration date. The final report shall be submitted with the application for permit reissuance.

3. Best Management Practices and Pollutant Minimization Program

a. The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28 of each calendar year. Each annual report shall include at least the following information:

(1) *A brief description of the treatment plant, treatment plant processes and service area*.

(2) *A discussion of the current pollutants of concern.* Periodically, the Discharger shall analyze its own situation 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.

(3) *Identification of sources for the pollutants of concern*. This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger shall also identify 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.

(4) *Identification of tasks to reduce the sources of the 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 will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.

(5) *Outreach to employees.* The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of

these pollutants of concern into the treatment facilities. The Discharger may provide a forum for employees to provide input.

(6) *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution prevention to 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 websites. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

(7) *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 section shall discuss the specific criteria used to measure the effectiveness of each of the tasks in sections VI.C.3.b(3), (4), (5), and (6).

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

(9) *Evaluation of Pollutant Minimization Program and task effectiveness.* The Discharger shall use the criteria established in section VI.C.3.b(7) to evaluate the Program's and tasks' effectiveness.

(10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the Plant and subsequently in its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

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 DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) and either:

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

(2) A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using SIP definitions.

d. Pollutant Minimization Program Submittals for Pollutants with Effluent Limitations

If triggered by the reasons in section VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1) 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 approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(2) Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system, or an alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

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

(4) Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

(5) Annual report required by section VI.C.3.b above, shall specifically include the following items:

(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 POTWs

a. Pretreatment Program

The Discharger shall implement and enforce its approved pretreatment program in accordance with federal Pretreatment Regulations (40 CFR 403); pretreatment standards promulgated under CWA sections 307(b), 307(c), and 307(d); pretreatment requirements specified under 40 CFR 122.44(j); and the requirements in Attachment H, "Pretreatment Requirements." The Discharger's responsibilities include, but are not limited to:

(1) Enforcement of National Pretreatment Standards of 40 CFR 403.5 and 403.6;

(2) Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 CFR 403).

(3) Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H, Pretreatment Requirements.

(4) Evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) and, within 180 days after the effective date of this Order, submission of a report acceptable to the Executive Officer 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 in this evaluation.

b. Biosolids Management Practices

(1) All 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 CFR Part 503.

(2) Biosolids treatment, storage and disposal, or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

(3) The biosolids treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

(4) Biosolids disposed of in a municipal solid waste landfill shall meet the requirements of 40 CFR Part 258. In the annual Self-Monitoring Report, the Discharger shall include the amount of biosolids disposed and the landfill to which it was sent.

(5) This Order does not authorize permanent onsite 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. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is part of the facility that is subject to this Order. As such, the Discharger shall properly operate and maintain its collection system (Attachment D, section I.D). The City of San Mateo shall be responsible for operation and maintenance of its wastewater collection system, and the City of Foster City Estero Municipal Improvement District shall be responsible for operation and maintenance of its wastewater collection system. The City of San Mateo and the City of Foster City Estero Municipal Improvement District shall each separately report any noncompliance (Attachment D, sections V.E.1 and V.E.2) and each separately mitigate any discharge from their respective collection systems in violation of this Order (Attachment D, section I.C).

The General Waste Discharge Requirements for Wastewater Collection Agencies, State Water Board Order No. 2006-0003 DWQ (General Collection System Order), has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the City of San Mateo and the City of Foster

City Estero Municipal Improvement District must comply with both the General Collection System Order and this Order, the General Collection System Order more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows.

Implementation of the General Collection System Order 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) of this Order. Following notification and reporting requirements in the General Collection System Order will satisfy NPDES reporting requirements specified in Attachment D (as supplemented by Attachment G) of this Order for sanitary sewer overflows from the collection system upstream of the Plant boundaries. Attachments D and G specify reporting requirements for unauthorized discharges from anywhere within the Plant downstream of the Plant boundaries.

5. Other Special Provisions

a. Specific Tasks to Reduce Blending

The Discharger shall implement the following tasks to reduce blending. The Discharger may request, and the Regional Water Board authorizes the Executive Officer to approve, changes to Tasks 3, 4, 5, 6, 8, and 9 and associated deadlines specified below. The request and any approvals must be in writing. The basis for the request may include allowing the Discharger time to consider a change in strategy for achieving compliance with Task 6 for completion of Plant upgrades to reduce blending. The Executive Officer may modify the tasks and deadlines as long as there is reasonable progress toward development of an alternative strategy and reasonable assurance that the alternative strategy will achieve equal or better results.

Table 9. Specific Tasks to Reduce Blending

Task	Due Date
Hydraulic/Outfall Capacity Tasks	
1. Complete Capacity Evaluation The Discharger shall evaluate the capacity of the collection system and the flows anticipated at the Plant. The Discharger shall develop alternatives for handling increased flows.	***Completed July 2009***
2. Complete Master Plans for Plant Upgrades The Discharger shall submit a final Wastewater Treatment Plant Master Plan that includes, at a minimum, a 10-year capital improvement plan, along with an implementation schedule to increase the Plant's secondary treatment capacity to 60 MGD, based in part on capacity findings from Tasks 1, 9, and 10. The plan shall list the treatment and hydraulic capacities of all components in the treatment process prior to and after the upgrades, as well as their foreseeable benefits in reducing blending volumes and number of blending events.	April 1, 2014
3. Identify Funding for Plant Upgrades and Start Design The Discharger shall identify funding and issue a request for proposals for designs to increase the Plant's secondary treatment capacity to 60 MGD.	June 1, 2015
4. Complete Plant Upgrades Design The Discharger shall provide documentation of final design to increase the Plant's secondary treatment capacity to 60 MGD, including, but not limited to, construction specifications, cost estimates, implementation schedules, etc. The Discharger shall verify or update the treatment and hydraulic capacity conclusions from Task 2. The Discharger	June 1, 2017

shall also document completion of environmental review and clearance.	
5. Complete Construction of Plant Upgrades The Discharger shall provide documentation to verify completion of the secondary treatment process upgrade to 60 MGD, including inspections, performance tests, and quality assurance/quality control checks for upgraded components. The Discharger shall confirm the treatment and hydraulic capacities of all components of the treatment process and provide the anticipated dates that the upgrades will be online.	November 1, 2019
6. Bring Plant Upgrades Online The Discharger shall update its operations and maintenance manuals as necessary and notify the Executive Officer that the Plant upgrades are online.	June 1, 2020
7. Report Plant Upgrades Status The Discharger shall report on the status of the Plant upgrades, including any issues affecting the schedule set forth in Tasks 2 through 6. Specifically, the Discharger shall report on the status of projects completed in the previous year and those to be completed in the coming year.	Annually, each June 30, beginning in 2014
Collection System Tasks	
8. Develop Method for Quantifying Inflow from Satellite Collection Systems The Discharger shall develop a method for measuring or estimating inflows from satellite collection systems. The Discharger shall explain how estimates are to be made, if applicable.	June 1, 2013
9. Develop and Implement Wet Weather Improvement Program The Discharger shall, in cooperation with the satellite collection system agencies, develop and begin implementing a workplan for a comprehensive Wet Weather Improvement Program that establishes measurable goals to reduce infiltration and inflow (I/I) and minimize blending during wet weather. The workplan shall include all feasible alternatives to reduce blending caused by I/I during peak flows. The workplan shall consolidate the following: a. relevant components from existing sewer management programs, including, but not limited to, Sewer System Management Plans (SSMPs) and private sewer lateral programs; b. findings from existing reports, including, but not limited to, the Capacity Evaluation dated July 7, 2009, from Task 1; c. required actions from Cease and Desist Order No. R2-2009-0020, effective March 13, 2009; and d. other actions and activities the Discharger deems necessary and effective to minimize peak wet weather flows to the Plant. The workplan shall specify tasks to be implemented at the Plant and Discharger-owned wastewater collection systems, and identify their individual costs, implementation schedules, deadlines, performance measures, and proposed funding mechanisms. In addition, the workplan shall describe the Discharger's strategy to work with its satellite collection systems to reduce peak wet weather flows (e.g., establishing quantifiable I/I reduction goals). The Discharger shall identify measures to be undertaken during the term of this Order and incorporate feedback, if any, from the Executive Officer. The workplan shall estimate the anticipated reduction in peak wet weather influent flow to the Plant and describe the anticipated benefits in terms of blending volumes and number of blending events.	December 1, 2013
10. Develop Master Plans for Collection System Upgrades The Discharger shall submit a Collection System Master Plan that includes, at a minimum, a 10-year capital improvement project and implementation schedule to reduce I/I for Discharger-owned collection system improvements, based in part on capacity findings from Tasks 1 and 9. The plan shall include all feasible alternatives to reduce blending caused by I/I during peak flows.	April 1, 2014
11. Develop Private Sewer Lateral Ordinance The Discharger shall develop proposed regulations to require inspection and, as necessary, replacement or repair of private sewer laterals for homeowners upon change of property ownership and/or other appropriate triggers. The Discharger shall submit the proposed regulations to its respective governing boards for consideration.	April 1, 2014

12. Report Progress on Implementing Wet Weather Improvement Program The Discharger shall evaluate and report on the implementation and effectiveness of its Wet Weather Improvement Program. The evaluation shall, at a minimum, consist of the following: **a. Assess Collection System Performance** The Discharger shall assess collection system performance, including capacity, features, and improvements, and report the following for the previous year and the coming year: i. date, volume, duration, and rainfall data for individual blending events; ii. number and total volume of sanitary sewer overflows for each Discharger-owned and satellite-owned collection system; iii. existing capacity, average daily flow, and peak wet weather flow projections for each Discharger-owned and satellite-owned collection system; iv. collection system features for each Discharger-owned and satellite-owned collection system, including, but not limited to: (a) population served; (b) number of pump stations; (c) linear feet of sewer pipe, gravity fed; (d) linear feet of sewer pipe, force main; and (e) number of manholes; v. collection system improvements for each Discharger-owned and satellite-owned collection system, including, but not limited to: (a) percentage and linear feet of sewer pipe hydraulically cleaned, mechanically cleaned, rehabilitated, replaced, closed-circuit television inspected, added to system, foamed for roots, and lined; (b) number and names of pump stations improved, replaced, or added; (c) number of manholes improved and replaced; and (d) number of fat, oil, and grease interceptors added. Any additional capital improvement projects not captured in the above or major projects better described separately shall be individually reported. Such projects shall be described by project name, status (i.e., planned, in construction, completed, etc.), implementation schedule, cost, hydraulic capacity and other quantifiable performance measures (before and after implementation), and estimated impact on the need to blend (before and after implementation). **b. Describe Capital Improvement Programs of Satellite Collection Systems** The Discharger shall annually request information from all tributary collection system agencies regarding existing and future capital improvement activities intended to reduce I/I, including implementation schedules. The Discharger shall report the information received, preferably in tabular form. If, based on this information, the Discharger concludes that an agency is not making adequate improvements to reduce I/I, the Discharger shall note this conclusion, work with that agency to encourage performance improvement, and describe its efforts. **c. Monitor Inflow from Satellite Collection Systems** The Discharger shall monitor flows from each satellite collection system to the Plant. The Discharger shall report, preferably in an electronic format, the highest flows (average daily and maximum daily) from each satellite collection system for each calendar month. **d. Assess Private Sewer Lateral (PSL) Program Performance** The Discharger shall report, preferably in tabular form, the following for the Discharger and its satellite collection systems: i. entity name; ii. existence (yes or no) of a PSL program; iii. date of PSL program adoption; iv. PSL program description; v. summary of associated ordinance, if applicable; vi. estimated number of PSLs in collection system; vii. number of PSLs inspected; viii. number of PSLs replaced or repaired; and ix. additional and relevant information. Satellite collection system information shall be based on data the Discharger obtains	Annually, each May 15, beginning in 2014

from its satellite collection system agencies. The report shall note any significant changes to existing PSL programs.	
Additional Tasks	
13. Develop and Implement Public Notification Protocol The Discharger shall develop and implement a public notification protocol to alert the public of any bypass, including blending. The protocol shall provide a mechanism to notify the public within 24 hours of the start of any bypass, and provide an approximate duration and volume for the incident within 48 hours of it ending. The mechanism could involve, for example, website posting or emailing a list of interested parties. The Discharger shall submit the protocol to the Regional Water Board.	October 1, 2013
14. Prepare No Feasible Alternatives Analysis The Discharger shall conduct a utility analysis if it seeks to continue to bypass peak wet weather flows around the secondary treatment units based on 40 CFR 122.41(m)(4)(i)(A)-(C). The utility analysis shall contain all elements described in USEPA's proposed guidance NPDES Permit Requirements for Peak Wet Weather Discharges from Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems (December 2005, or the most recent version). The analysis shall account for efforts by member agencies to reduce I/I to the extent that information is available. In addressing these elements, the Utility Analysis shall specifically contain an alternatives analysis for blending reduction to evaluate strategies to further reduce blending through capital improvements. The analysis shall identify all feasible alternatives and explain why infeasible alternatives are infeasible. The Discharger shall select feasible actions based on factors including, but not limited to, the need to blend (considering the effectiveness of the collection system and treatment plant improvement projects), the foreseeable impact on the need to blend, and estimated costs relative to the Discharger's ability to finance the costs. (One means to assess a community's ability to fund wet weather improvements is to consult USEPA's CSO Guidance for Financial Capability Assessment and Schedule Development, EPA Publication Number 832-B-97-004.) The Utility Analysis shall include a timeline for implementation of the feasible actions. The primary purposes of the Utility Analysis are to demonstrate that there are currently no feasible alternatives to blending (i.e., all feasible actions that could have been implemented have been implemented) and to identify all feasible actions that can be implemented within the next permit reissuance cycle.	With Report of Waste Discharge due November 2, 2017

b. 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 10. Copper Action Plan

Task	Compliance Date
1. Review Potential Copper Sources The Discharger shall submit an inventory of potential copper sources to the Plant.	*Completed May 22, 2009*

Task	Compliance Date
2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper sources identified in Task 1. The plan shall consists, at a minimum, of the following elements: a. Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion). 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. c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.	With the annual Pollution prevention report due February 28, 2014
3. Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration of the receiving water exceeds 3.6 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 action taken together with a schedule for actions to be taken in the next 12 months.	With the annual pollution prevention report due February 28 following 90 days after notification
4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties. 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 technical studies 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.	*Completed January 6, 2011, through study plan submitted by Bay Area Clean Water Agencies*
5. Report Status of Copper Control Program. 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, together with 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.	With annual pollution prevention report due February 28 each year

c. 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 11. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Sources The Discharger shall submit an inventory of potential cyanide sources to the Plant. If no cyanide sources are identified, Tasks 2 and 3 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. If so, the Discharger shall notify the Executive Officer and implement Tasks 2 and 3.	*Completed November 6, 2008*

Task	Compliance Date
2. Implement Cyanide Control Program The Discharger shall submit a plan and begin implementation of a program to minimize cyanide discharges to its treatment plant consisting, at a minimum, of the following elements: a. Inspect each potential source to assess the need to include that contributing source in the control program. b. Inspect contributing sources included in the control program annually. Inspection elements may be based on USEPA guidance, such as Industrial User Inspection and Sampling Manual for POTWs (EPA 831-B-94-01). c. Develop and distribute educational materials to contributing sources and potential contributing sources regarding the need to prevent cyanide discharges. d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. For purposes of this Order, a "significant cyanide discharge" is occurring if cyanide is found in the Plant's influent above 19 µg/L.	With the annual Pollution prevention report due February 28, 2014
3. Implement Additional Cyanide Control Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, and shall report on the progress and effectiveness of actions taken, together with a schedule for actions to be taken in the next 12 months.	With next annual pollution prevention report due February 28 (at least 90 days following notification)
4. Report Status of Cyanide Control Program 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, together with a schedule for actions to be taken in the next 12 months.	With annual pollution prevention report due February 28 each year

d. 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 (SOPs) for this activity. The SOPs shall be developed by July 30, 2013, or prior to initiation of hauling. The SOPs 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 provide training to its staff on the SOPs and shall maintain records for a minimum of three years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of three years for the disposition location and quantity of cumulative pre-digestion segregated solid waste hauled offsite.

VII.COMPLIANCE DETERMINATION

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachment A—Definitions, the MRP, Fact Sheet section VI, and the Regional Standard Provisions. For purposes of reporting and administrative enforcement by the Regional and

State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

ATTACHMENT A – DEFINITIONS

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

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

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

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

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

Carcinogenic
Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

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

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

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

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

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

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

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

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

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California 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
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

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

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

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

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations (40 CFR), Part 136, Attachment B, revised as of July 3, 1999.

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

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

Not Detected (ND)
Sample results less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

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

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the 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. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a

Pollution Prevention Plan, if required pursuant to California Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in California 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 or Regional Water Board.

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

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

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

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

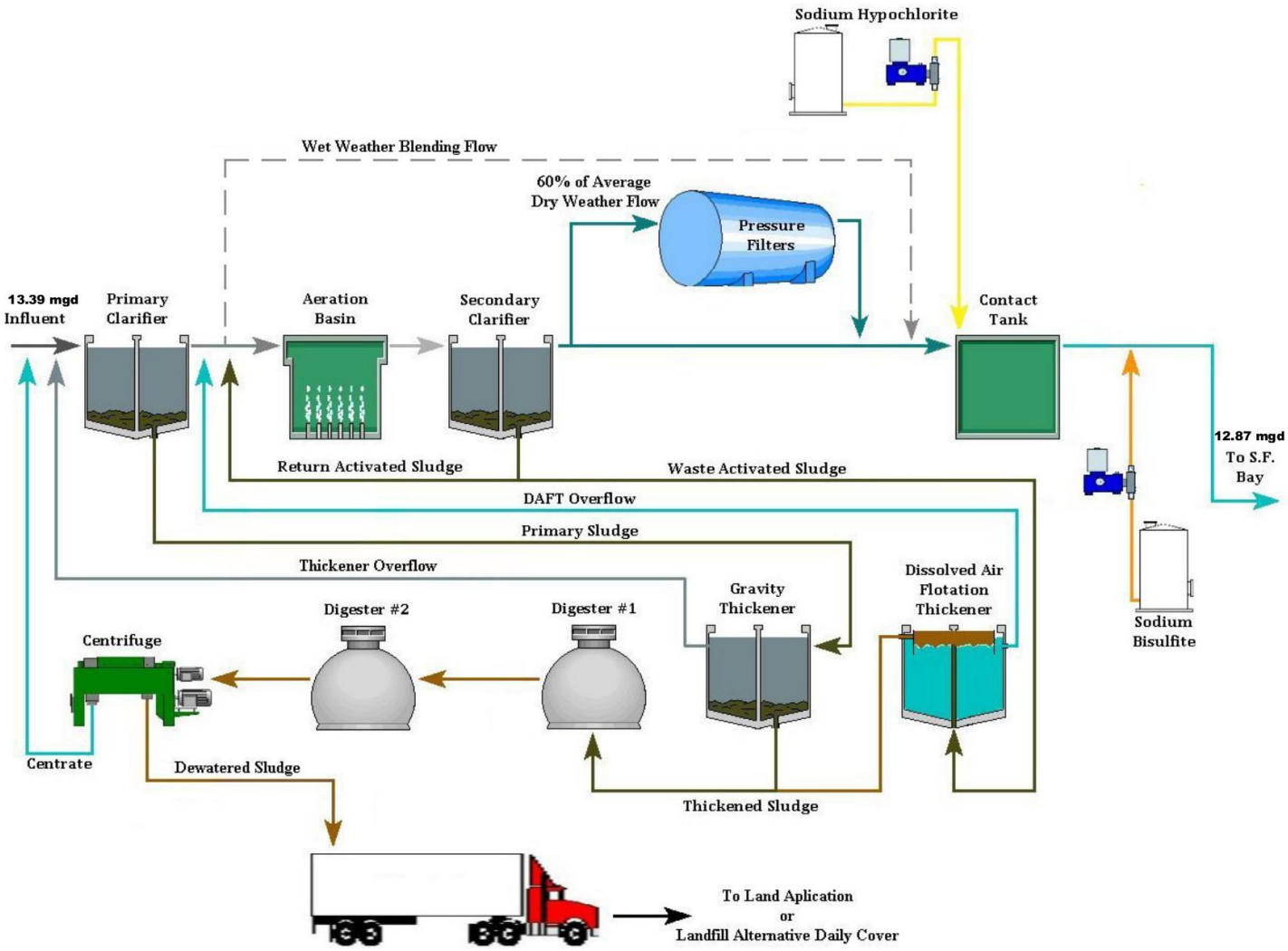
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

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

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

ATTACHMENT B – FACILITY MAP

ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a)).

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 CFR 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 CFR 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 CFR 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 CFR 122.41(e)).

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 122.41(g).)

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR 122.41(i); Wat. Code, § 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 (40 CFR 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR 122.41(i)(4).)

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i).)

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

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

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

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 122.41(m)(4)(i)(A));

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

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

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR 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 CFR 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 CFR 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.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 CFR 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 CFR 122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR 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 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 CFR 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and

6. The results of such analyses. (40 CFR 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 CFR 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA 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 CFR 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR 122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the

facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order. (40 CFR 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this 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 CFR 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 CFR 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 CFR 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 CFR 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A).)
   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 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 CFR 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 CFR 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's 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 CFR 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 General Order requirements. (40 CFR 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR 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 USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 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 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR 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 CFR 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 CFR 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 CFR 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

National Pollutant Discharge Elimination System (NPDES) regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the Regional Standard Provisions (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 CFR 136 and must be specified in this permit.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Influent	INF-001	At any point in the plant headworks at which all waste tributary to the plant is present and preceding any phase of treatment.
Effluent	EFF-001	At any point after full treatment prior to the outfall in Lower San Francisco Bay.
Effluent	EFF-001a (formerly EFF-001-D)	At any point in the disinfection facilities where adequate contact with the disinfectant is assured.
Effluent	EFF-001b	At any point at which all blended fully-treated and primary-treated waste tributary to the outfall is present (may be the same location as EFF-001 or, for bacteria monitoring, the same location as EFF 001a).
Biosolids	BIO-001	Biosolids.

III. INFLUENT MONITORING REQUIREMENTS

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

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD	Continuous	Continuous/D
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)($CBOD_5$)	mg/L	C-24	2/Week
Total Suspended Solids (TSS)	mg/L	C-24	2/Week

Parameter	Units	Sample Type	Minimum Sampling Frequency
Cyanide, Total[2]	µg/L	Grab	1/Month

Unit Abbreviations:

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

Sample Type:

Continuous = measured continuously, and recorded and reported daily
C-24 = 24-hour composite
Grab = Grab sample

Sampling Frequency:

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

Footnotes:

[1] Flow shall be monitored continuously and the following information shall be reported in the 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] Influent cyanide monitoring may be used to satisfy pretreatment monitoring requirements in Table E-6.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Except when blending, the Discharger shall monitor discharges of treated wastewater at Monitoring Location EFF-001, as follows:

Table E-3. Effluent Monitoring — EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD	Continuous	Continuous/D
$CBOD_5$	mg/L	C-24	2/Week
TSS	mg/L	C-24	2/Week
Oil and Grease[2]	mg/L	Grab	2/Year
pH[3]	s.u.	Grab	1/Day
Total Chlorine Residual[4]	mg/L	Continuous or Grab	Continuous/H or 1/2 Hours
Acute Toxicity[5]	% Survival	Flow through	1/Month
Chronic Toxicity[6]	TUc	C-24	2/Year
Total Ammonia (as N)	mg/L as N	Grab or C-24	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month
Cyanide, Total	µg/L	Grab	1/Month
Dioxin-TEQ	µg/L	Grab	2/Year
Nickel, Total Recoverable	µg/L	C-24	1/Month

Unit Abbreviations:

MGD = million gallons per day
s.u. = standard units
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
MPN/100 mL = most probable number per 100 milliliters
°C = degrees Celsius

TUc = chronic toxicity units, equal to 100/NOEL, where NOEL = IC_{25}, EC_{25}, or NOEC
µg/L = micrograms per liter

Sample Type:
Continuous/D = measured continuously, and recorded and reported daily
Continuous/H = measured continuously, and recorded and reported hourly
Calculate = Calculated result
C-24 = 24-hour composite
Grab = Grab sample

Sampling Frequency:
Continuous/D = measured continuously, and recorded and reported daily
1/Day = once per day
3/Week = three times per week
1/Month = once per month
2/Year = twice per year
1/2 Hours = once per two hours

Footnotes:

[1] For effluent flows, the following information shall also be reported monthly:
- Daily:Daily average flow (MGD)
- Monthly: Monthly average flow (MGD)
- Daily:Maximum daily flow (MGD)
- Daily:Minimum daily flow (MGD)

[2] Each oil and grease sampling and analysis event shall be conducted in accordance with USEPA Method 1664.

[3] If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in monthly Self-Monitoring Reports.

[4] Effluent chlorine residual concentrations shall be monitored continuously or, at a minimum, every hour. The Discharger shall report for each day the maximum residual chlorine concentration observed following dechlorination. However, if monitoring continuously, the Discharger shall report for each day the maximum residual chlorine concentration based only on discrete readings from the continuous monitoring taken every hour on the hour. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all other continuous monitoring data for discretionary enforcement.

[5] Acute bioassay tests shall be performed in accordance with MRP section V.A

[6] Critical life stage toxicity tests shall be performed and reported in accordance with the Chronic Toxicity Requirements of specified in MRP section V.B.

B. Except when blending, the Discharger shall monitor treated effluent at Monitoring Location EFF-001a, as follows:

Table E-4. Effluent Monitoring — EFF-001a

Parameter	Units	Sample Type	Minimum Sampling Frequency
Enterococcus Bacteria[1], [2]	MPN/100 mL	Grab	5/Month
Fecal Coliform Bacteria	MPN/100 mL	Grab	5/Month

Unit Abbreviations:
MPN/100 mL = most probable number per 100 milliliters

Sample Type:
Grab = Grab sample

Sampling Frequency:
1/Week = once per week
5/Month = five times per month

Footnotes:

[1] The Discharger shall monitor for enterococcus bacteria using USEPA-approved methods, such as the IDEXX Enterolert method. When replicate analyses are made, the reported result shall be the geometric mean of the replicate results.

[2] If after three months the Discharger has demonstrated full compliance with the enterococcus effluent limitation, the minimum monitoring frequency shall be reduced to four times per year. The four samples shall be collected in different calendar months during the higher recreational water contact season (June to October). If the enterococcus effluent limitation is later exceeded, the Discharger shall conduct 5/Month accelerated sampling for at least three consecutive months. If full compliance is demonstrated after the three-month period, the Discharger may return to the 4/Year sampling frequency.

C. During blending events, the Discharger shall monitor discharges of treated wastewater at Monitoring Location EFF-001b as follows:

Table E-5. Effluent Monitoring — EFF-001b

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD	Continuous	Continuous/D
Volume of Partially-treated Wastewater Discharged	MG	Calculated	1/Blending Event
Duration of Blending[2]	Hours	Calculated	1/Blending Event
TSS	mg/L	C-24	1/Day
$CBOD_5$	mg/L	C-24	1/Year[3]
pH[4]	s.u.	Grab	1/Day
Total Chlorine Residual[5]	mg/L	Continuous or Grab	Continuous/H or 1/2 Hours
Enterococcus Bacteria[6]	MPN/100 mL	Grab	1/Day
Fecal Coliform Bacteria	MPN/100 mL	Grab	1/Day
Temperature	°C	Grab	1/Day
Total Ammonia (as N)	mg/L as N	Grab or C-24	1/Year[3]
Copper, Total Recoverable	µg/L	C-24	1/Year[3]
Cyanide, Total Recoverable	µg/L	Grab	1/Year[3]
Nickel, Total Recoverable	µg/L	C-24	1/Year[3]
Standard Observations[7]	---	---	1/Blending Event

Unit Abbreviations:

MG = million gallons
MGD = million gallons per day
Hours = duration of blending event in hours
s.u. = standard units
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
MPN/100 mL = most probable number per 100 milliliters
°C = degrees Celsius
µg/L = micrograms per liter

Sample Type:

Continuous = measured continuously, and recorded and reported daily
C-24 = 24-hour composite
Grab = Grab sample

Sampling Frequency:

Continuous/D = measured continuously, and recorded and reported daily
1/Blending Event = once per blending event
1/Day = once per day
2/Week = twice per week
1/Month = once per month
1/Quarter = once per calendar quarter
1/Year = once per year
2/Year = twice per year

Footnotes:

[1] For effluent flows, the following information shall also be reported monthly:
- Daily: Daily average flow (MGD)
- Monthly: Monthly average flow (MGD)
- Daily: Maximum daily flow (MGD)

- Daily: Minimum daily flow (MGD)

[2] For each blending event, report the date and time each event starts and ends.

[3] If a TSS sample collected during a blending event exceeds 45 mg/L, the frequency shall be once per day.

[4] If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in monthly Self-Monitoring Reports.

[5] Effluent chlorine residual concentrations shall be monitored continuously or, at a minimum, every hour. The Discharger shall report for each day the maximum residual chlorine concentration observed following dechlorination. However, if monitoring continuously, the Discharger shall report for each day the maximum residual chlorine concentration based only on discrete readings from the continuous monitoring taken every hour on the hour. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all other continuous monitoring data for discretionary enforcement.

[6] The Discharger shall monitor for Enterococcus bacteria using EPA-approved methods, such as the IDEXX Enterolert method. When replicate analyses are made, the reported result shall be the geometric mean of the replicate results.

[7] Standard Observations are specified in the Regional Standard Provisions section III.C.2.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor whole effluent acute and chronic toxicity at Monitoring Location EFF-001 as follows:

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.

2. Test organisms shall be rainbow trout (*Oncorhynchus mykiss*) unless the Executive Officer specifies otherwise in writing.

3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* 5th Edition.

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 the test samples are adjusted to remove the influence of those substances. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference. Written approval from the Executive Officer must be obtained to authorize any other such adjustment.

5. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If a violation of acute toxicity requirements occurs, the bioassay test shall be repeated with new fish as soon as practical and shall be repeated 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. Chronic Toxicity Monitoring Requirements

a. Sampling. The Discharger shall collect 24-hour composite samples of the effluent for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

b. Test Species. The test species shall be *Americamysis bahia* (mysid shrimp). The Discharger shall conduct a screening chronic toxicity test as described in Appendix E-1 prior to application for permit reissuance or following any significant change in the nature of the effluent. The most sensitive species shall be used thereafter for routine chronic toxicity monitoring. The Executive Officer may authorize a change to another test species if the Discharger's chronic toxicity screening data suggest that another test species is more sensitive to the discharge.

c. Frequency. The frequency of routine and accelerated chronic toxicity monitoring shall be as specified below. The Discharger shall comply with the following tiered requirements:

(1) Undertake routine monitoring *twice per year*.

(2) Accelerate monitoring to *monthly* after exceeding a single-sample maximum of 10 TU_c. The Executive Officer may specify a different frequency for accelerated monitoring based on the TU_c results.

(3) Return to routine monitoring if accelerated monitoring does not exceed either trigger in (2), above.

(4) If accelerated monitoring confirms consistent toxicity in excess of either trigger in (2), above, continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section V.B.3, below.

(5) Return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below both triggers in (2), above, or, based on the TRE results, the Executive Officer authorizes a return to routine monitoring.

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

d. Methodology. Sample collection, handling, and preservation shall be in accordance with USEPA 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 fourth edition (EPA-821-R-02-014), with exceptions granted the Discharger in writing by the Executive Officer and the Environmental Laboratory Accreditation Program. 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 the test samples

are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment.

e. Dilution Series. The Discharger shall conduct tests at 40%, 20%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged. Test sample pH in each dilution in the series may be controlled to the level of the effluent sample as received prior to being salted up.

2. Chronic Toxicity Reporting Requirements

a. Toxicity test results for the current reporting period shall be provided in the self-monitoring report and shall include, at a minimum, for each test:

(1) Sample date

(2) Test initiation date

(3) Test species

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

(5) No Observable Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC_{25} or EC_{25} (see MRP Appendix E-1). If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall equal to the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test.

(6) IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) as percent effluent

(7) TUc values (100/NOEL, where NOEL = IC_{25}, EC_{25}, or NOEC as discussed in Appendix E-1)

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

(9) IC_{50} or EC_{50} values for reference toxicant tests

(10) Available water quality measurements for each test (pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)

b. The results of the most recent three chronic toxicity tests and the 3-sample median shall be provided in the self-monitoring report as TUc's.

3. Chronic 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 either chronic toxicity trigger in section V.B.1.c, above, the Discharger shall submit to the Regional Water Board 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 either trigger, 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 USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

(1) Tier 1 consists of basic data collection (routine and accelerated monitoring).

(2) Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.

(3) Tier 3 consists of a toxicity identification evaluation (TIE).

(4) Tier 4 consists of evaluation of options for additional effluent treatment processes.

(5) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.

(6) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (i.e., complying with Provision IV.C.2 of the Order).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

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 substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention, and storm water 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 comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board 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 (RMP), which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger's participation and support of the RMP is the basis for not including additional receiving water monitoring requirements in this Order.

VII. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

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

Table E-6. Pretreatment and Biosolids Monitoring Requirements

Constituents	Sampling Frequency			Sample Type[4]	
	Influent INF-001	Effluent EFF-001[1]	Biosolids BIO-001	INF-001 and EFF-001	Biosolids BIO-001
VOC[2]	1/5 Years	1/5 Years	1/5 Years	Grabs	Grabs[6c]
BNA[3]	1/5 Years	1/5 Years	1/5 Years	Grabs	Grabs[6c]
Metals[4]	1/Year	1/Year	1/Year	24-hr Composite[6a]	Grabs[6c]
Copper	1/Month	1/Month	1/Year	24-hr Composite[6a]	Grabs[6c]
Nickel	1/Month	1/Month	1/Year	24-hr Composite[6a]	Grabs[6c]
Hexavalent Chromium[5]	1/Year	1/Year	1/Year	Grabs	Grabs[6c]
Mercury	1/Quarter	1/Month	1/Year	Grab or 24-hr Composite[6a,6b]	Grabs[6c]
Cyanide, Total	1/Month[7]	1/Month	1/Year	Grabs	Grabs[6c]

Footnotes:

[1] Effluent monitoring conducted in accordance with Table E-3 can be used to satisfy these pretreatment monitoring requirements.

[2] VOC: volatile organic compounds

[3] BNA: base/neutrals and acids extractable organic compounds

[4] The metals are arsenic, cadmium, lead, silver, zinc, and selenium.

[5] The Discharger may elect to report total chromium instead of hexavalent chromium. Samples collected for total chromium measurements shall be 24-hour composites.

[6] Sample types:

a. 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.

b. The Discharger may use automatic compositors for mercury if either (1) the compositing equipment (hoses and containers) comply with ultraclean specifications, or (2) appropriate equipment blank samples demonstrate that the compositing equipment has not contaminated the sample.

c. 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 CFR 503.

[7] The Discharger may use the influent monitoring required in Table E-2 to satisfy this pretreatment monitoring requirement.

[8] If one of the significant categorical industrial users resumes discharging or if a new significant industrial user commences operations within the service area, the Discharger shall notify the Regional Water Board in writing within 10 days of becoming aware of the significant industrial user's intent to discharge. Sampling frequencies shall increase as follows:

- biosolids: twice per year;
- VOC and BNA influent and effluent: twice per year;
- metals influent and effluent: once per month;
- hexavalent chromium effluent: once per month; and
- hexavalent chromium influent: once per quarter.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Federal Standard Provisions (Attachment D) and Regional Standard Provisions (Attachment G) related to monitoring, reporting, and recordkeeping, with modifications shown in section VIII.D, 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) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional directions for SMR submittals in the event of a 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.6.b (Effluent Characterization Study and Report) of this Order for information that must also be reported with the monthly 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.5.a (Specific Tasks to Reduce Blending) of the Order for requirements to submit reports with the annual SMR.

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

Table E-7. SMR Reporting for CIWQS

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for All Results	
Dissolved Oxygen Temperature	Required for Monthly Maximum and Minimum Results Only (1)	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium	Required for All Results (2)	

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	**Attached File**
Silver Zinc Dioxins and Furans (by USEPA Method 1613)		
Antimony Beryllium Thallium Pollutants by USEPA Methods 601, 602, 608, 610, 614, 624, and 625	Not Required (unless identified in influent, effluent, or receiving water monitoring tables), But Encouraged (1)	Discharger may use this method and submit results with application for permit reissuance, unless data submitted by CDF/EDF upload
Volume and Duration of Blended Discharge (3)	Required for All Blended Effluent Discharges	
Analytical Method	Not Required (Discharger may select "data unavailable") (1)	
Collection Time Analysis Time	Not Required (Discharger may select "0:00") (1)	

Footnotes:

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

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

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

3. **Monitoring Periods.** Monitoring periods for all required monitoring shall be completed as set forth in the table below:

Table E-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Permit effective date	All
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
2/Week	Permit effective date	Sunday through Saturday
1/Month	Permit effective date	First day of calendar month through last day of calendar month
1/2 Months	Permit effective date	First day of calendar month through last day of next calendar month
1/Year	Permit effective date	January 1through December 31
2/Year	Permit effective date	Once during the wet season (typically November 1 – April 30) and once during the dry season (typically May 1 through October 31)
1/5 Years	Permit effective date	Once during the permit term within 12 months prior to applying for permit reissuance.

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 CFR 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.

C. Discharge Monitoring Reports

1. As described in section VIII.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. Once notified by the State or Regional Water Board, the Discharger shall submit hard copy DMRs. DMRs must be signed and certified as required by Attachment D. The Discharger shall submit the original DMR and one copy of 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, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Modifications to Attachment G

1. 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.

a. Annual self-monitoring report requirements

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

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events (this summary table is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);

2) Comprehensive discussion of treatment plant performance and compliance with the permit. (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater (this item is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);

4) List of approved analyses, including the following:

(i) List of analyses for which the Discharger is certified;

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

(iii) List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews. (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The

Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.)

b. 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*

2. 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.

Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

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;

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

5) 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;

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*

E. Modifications to Attachment H

1. 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).

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

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

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

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA'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, or as approved by the Executive Officer.

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 and as approved by the Executive Officer.

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 the Executive Officer.

C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. 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	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	*(Strongylocentrotus purpuratus, S. franciscanus)* *(Dendraster excentricus)*	Percent fertilization	1 hour	2
Shrimp	*(Americamysis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.

2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.

3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA 821-R-02-014. October 2002.

Table AE-2. Critical Life Stage Toxicity Tests for Fresh Waters

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

Toxicity Test Reference:

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

Table AE-3. Toxicity Test Requirements for Stage One Screening Phase

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

[1] (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.

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

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

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

ATTACHMENT F - FACT SHEET

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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.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the City of San Mateo Wastewater Treatment Plant (Plant) and its wastewater collection system:

Table F-1. Facility Information

WDID	2 417035001
CIWQS Place ID	255420
Discharger	City of San Mateo and City of Foster City Estero Municipal Improvement District, a joint powers authority
Name of Facility	City of San Mateo Wastewater Treatment Plant and its wastewater collection system.
Facility Address	2050 Detroit Drive, San Mateo, CA 94404
	San Mateo County
Facility Contact, Title, Phone	Chad Davisson, City of San Mateo, Environmental Services Division Manager, (650) 522-7385 Brad Underwood, City of Foster City, Public Works Director, (650) 286-3200 610 Foster City Blvd, Foster City CA 94404, bunderwood@fostercity.org
Authorized Person to Sign & Submit Reports	Chad Davisson, City of San Mateo, Environmental Services Division Manager, (650) 522-7385
Mailing Address	330 West 20th Avenue, San Mateo, CA 94403
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	No
Mercury and PCBs Discharge Requirements	Regional Water Board Order No. R2-2012-0096
Facility Permitted Flow	15.7 million gallons per day (MGD) (average daily dry weather flow)
Facility Design Flow	15.7 MGD (average daily dry weather flow) 40 MGD (peak wet weather design flow for secondary treatment)
Watershed	South Bay
Receiving Water	Lower San Francisco Bay
Receiving Water Type	Marine
Service Area	The City of San Mateo, the City of Foster City, the Town of Hillsborough, and portions of the City of Belmont and unincorporated San Mateo County
Service Area Population	139,000

A. The City of San Mateo and the City of Foster City Estero Municipal Improvement District (hereinafter collectively the Discharger) own the San Mateo Wastewater Treatment Plant (hereinafter the Plant), through a Joint Powers Agreement (JPA), and the City of San Mateo operates the Plant as the administering agency of the JPA. The City of San Mateo and the City of Foster City Estero Municipal Improvement District individually own and operate their respective collection systems. The Plant and the collection systems belonging respectively to the City of San Mateo and the City of Foster City Estero Municipal Improvement District are collectively the Facility. The Plant provides secondary and advanced secondary treatment of wastewater and discharges it to Lower San Francisco Bay.

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. Discharge of treated wastewater from the Plant into the deep-water channel of Lower San Francisco Bay, a water of the State and the United States, is currently regulated by Order No. R2-2007-0075 (National Pollutant Discharge Elimination System Permit [NPDES] No. CA0037541), which was adopted on November 1, 2007, became effective on February 1, 2008, and expired on January 31, 2013. Order No. R2-2010-0054 amended Order No. R2-2007-0075, effective March 1, 2010.

C. The Discharger filed a Report of Waste Discharge and application for reissuance of its waste discharge requirements and NPDES permit on August 3, 2012.

D. The discharge is also regulated under Regional Water Board Order No. R2-2012-0096 (NPDES Permit No. CA0038849), which establishes requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges in the region. This Order does not affect the mercury and PCBs permit.

E. Cease and Desist Order No. R2-2007-0076 was adopted concurrently with the 2007 NPDES permit, in order to address possible noncompliance with mercury effluent limits. The mercury limits were superseded a few months later by the Mercury Watershed Permit. Therefore, this Order rescinds Cease and Desist Order No. R2 2007-0076 except for enforcement purposes.

F. The City of San Mateo and its satellite collection systems, the Town of Hillsborough and the Crystal Springs County Sanitation District, are subject to Cease and Desist Order No. R2-2009-0020, which requires them to eliminate sanitary sewer overflows and upgrade sewer capacity.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment

1. **Location and Service Area.** The Plant, located within the southeast portion of the City of San Mateo, northwest of Foster City (see Attachment B), provides secondary and advanced secondary treatment of domestic, commercial, and industrial wastewater for the City of San Mateo, the City of Foster City, the Town of Hillsborough, and portions of the City of Belmont and unincorporated San Mateo County. The service area population is approximately 139,000. Two significant industrial users discharge to the Facility and are subject to the Discharger's pretreatment program.

2. **Collection System.** The Discharger's wastewater collection system is part of the Facility covered by this Order. The Plant also receives wastewater from the satellite wastewater collection systems of three municipal jurisdictions (Town of Hillsborough, Crystal Springs County Sanitation District, and County of San Mateo Tower Road Complex), which account for approximately 120 additional

miles of sanitary sewer. The Discharger's collection system includes approximately 257 miles of sanitary sewer and 25 pump stations in the City of San Mateo, and approximately 66 miles of sanitary sewer and 49 pump stations in the City of Foster City Estero District.

3. **Treatment.** Treatment processes at the Plant consist of primary sedimentation, secondary biological treatment through aeration basins, secondary clarification, chlorine disinfection, and dechlorination using sodium bisulfite, as well as the option of pressure filters when necessary to comply with effluent limitations. These processes are shown in the process flow diagram in Attachment C.

   From March 2009 through May 2012, the average daily flow was 12.5 MGD, and the maximum daily flow was 44.8 MGD. The average daily flow is within the average dry-weather design capacity of 15.7 MGD. When the Plant's wet weather secondary treatment capacity of 40 MGD is exceeded for an extended period, diversion and blending of primary-treated effluent may occur to prevent a washout of microbial populations critical to the secondary treatment process. Blending occurs when flows exceed the wet weather treatment capacity, resulting in effluent from the primary clarifier being routed around the aeration basin, secondary clarifier, and pressure filters to the chlorine contact tank, where it is "blended" with secondary-treated wastewater.

4. **Biosolids Management.** Secondary sludge is thickened using dissolved air flotation prior to being blended with primary sludge from a gravity thickener. Thickened sludge is anaerobically digested in two digesters and then dewatered in a centrifuge. Dewatered biosolids are trucked to either land application sites for beneficial use or landfills for disposal. Centrate from the centrifuge and overflow from the thickening units are piped to the head of the liquid treatment process. Trucking and disposal of biosolids is managed under contract by Terra Renewal Services (Garden Grove, CA) and Synagro Technologies, Inc. (Suisun City, CA).

5. **Stormwater Discharge.** Most stormwater captured within the Plant's storm drain system is directed to the headworks for treatment. A portion of the stormwater from the Plant flows offsite to Seal Slough. This stormwater is covered under the State Water Board's statewide industrial stormwater NPDES permit (NPDES General Permit No. CAS000001).

B. Discharge Point and Receiving Waters

Secondary and advanced secondary-treated wastewater is discharged at Discharge Point 001 to Lower San Francisco Bay via a submerged outfall equipped with a multiport diffuser. The outfall is approximately 3,700 feet offshore and 500 feet north of the San Mateo-Hayward Bridge, at a depth of approximately 41 feet below the water surface.

Table F-2. Outfall Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary and Advanced Secondary Treated Municipal Wastewater	37º 34′ 50″ N	122º 14′ 45″ W	Lower San Francisco Bay

Lower San Francisco Bay is located within the South Bay watershed. Lower San Francisco Bay is a tidally influenced, marine waterbody. The discharge is a deep water discharge and receives a minimum initial dilution of 33:1.

According to the Discharger's dilution study, *Dilution Modeling Results for San Mateo Wastewater Treatment Plant Discharge to San Francisco Bay* (LimnoTech, July 2007), the diffuser consists of 30 diffuser ports placed 10 feet apart on center and alternating on either side along the terminal 150 feet of the 54-inch diameter discharge pipe. The length of the diffuser is oriented 45 degrees off north, which results in the effluent being discharged toward the northeasterly and southwesterly directions. The diffuser ports are sharp-edged, with openings 10 inches in diameter, located at an elevation 42 inches above the sediment bed, and set at 45º upward from horizontal. The Discharger undertook an external inspection in August 2012 using a non-toxic green dye; it performed an internal dive in September 2012. The results of the study are pending.

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

Effluent limitations from Order No. R2-2007-0075 (hereinafter the previous order) and representative monitoring data from the term of the previous order are presented below:

Table F-3. Historic Effluent Limitations and Monitoring Data for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations				Monitoring Data (From 02/08- 12/12)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum	Highest Daily Discharge
May 1 – September 30						
5-day Carbonaceous Biological Oxygen Demand ($CBOD_5$)	mg/L	15	25	---	---	18
Total Suspended Solids (TSS)	mg/L	20	30	---	---	31
October 1 – April 30						
5-day Carbonaceous Biological Oxygen Demand ($CBOD_5$)	mg/L	25	40	---	---	30
Total Suspended Solids (TSS)	mg/L	30	45	---	---	72
Year-Round						
Oil and Grease	mg/L	10	---	20	---	8.1
Total Chlorine Residual	mg/L	---	---	---	0.0	1.3
pH	s.u.	6.0 – 9.0 at all times			---	6.4 – 7.3
Fecal Coliform Bacteria	MPN/100 mL	[1]			---	500
Enterococcus Bacteria	MPN/100 mL	35[2]			---	29[2]

Unit Abbreviations:

mg/L = milligrams per liter
s.u. = standard units
mL = milliliters
MPN = Most Probable Number

Footnotes:

[1] The five day log mean shall not exceed 200 MPN/100 mL and the 90th percentile value of the last ten values shall not exceed 400 MPN/100 mL.

[2] Monthly geometric mean.

Table F-4. Historic Effluent Limitations and Monitoring Data for Toxic Pollutants

Parameter	Units	Effluent Limitations		Monitoring Data (From 02/08 – 05/12)
		Monthly Average	Daily Maximum	Highest Daily
Copper[1]	µg/L	54	72	19
Mercury	µg/L	0.020	0.043	0.036
Nickel	µg/L	30	71	22
Cyanide[2]	µg/L	22	38	5.3
Dioxin-TEQ	µg/L	1.4×10^{-8}[3]	2.8×10^{-8}[3]	2.6×10^{-8}
Total Ammonia	mg/L as N	66	120	39

Unit Abbreviations:

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

Footnotes:

[1] Final effluent limitations for copper became effective on the effective date of the copper site-specific objectives (January 6, 2009).

[2] Final effluent limitations for cyanide became effective on the effective date of the cyanide site specific objectives (July 22, 2008).

[3] Final effluent limitations for dioxin-TEQ are not in effect due to a compliance schedule that expires January 31, 2018.

Table F-5. Historic Effluent Limitations and Monitoring Data for Acute Toxicity

Parameter	Effluent Limitations		Monitoring Data (From 02/08 – 05/12, lowest values)	
	11 Sample Median	90th Percentile	11 Sample Median	90th Percentile
Acute Toxicity[1]	90%	70%	100%	72%

In December 2011, the Discharger observed fish toxicity twice (December 8-12 and December 17-21). These observations were not permit violations. The Discharger contacted the Regional Water Board and initiated a targeted toxicity identification evaluation (TIE) focused on possible ammonia toxicity on December 24, 2011. The contracted laboratory concluded that ammonia caused the toxicity observed in the effluent. The Discharger had observed elevated ammonia values in the month of December during the acute toxicity tests and during the TIE testing; however, the ammonia results did not violate the Discharger's effluent limits. The Discharger recently finished modifications to its acute toxicity monitoring system to allow for pH adjustment and has not experience any further acute toxicity problems.

D. Compliance Summary

1. **Effluent Limitations.** One numeric effluent limitation violation occurred during the term of the previous order. On December 23, 2012, Plant staff detected up to 1.3 mg/L chlorine in the final effluent for 1 hour and 40 minutes (the effluent limit is 0.0 mg/L). The violation resulted from a communication signal failure between the effluent flow meter and the automated chlorination and dechlorination chemical feed system. Plant staff are investigating to better understand the circumstances surrounding the incident and develop corrective actions.

2. **Sanitary Sewer Overflows.** The City of San Mateo violated Discharge Prohibition III.E of the previous order and Prohibition C.2 of the State Water Board's Order No. 2006-0003-DWQ for

sanitary sewers overflows (SSOs) to waters of the State and United States. On March 13, 2009, the Regional Water Board adopted Cease and Desist Order No. R2-2009-0020. The Cease and Desist Order requires the City of San Mateo and two of its satellite collection systems, the Town of Hillsborough and the Crystal Springs County Sanitation District, by December 31, 2018, to complete improvements necessary to eliminate conditions in their collection systems that cause or contribute to SSOs or unauthorized discharges from the Plant, achieve full compliance with Order No. 2006-0003 DWQ, and comply with the prohibition against unpermitted discharges under CWA section 301.

3. **Compliance with Previous Order Provisions.** The table below presents a list of special activities required of the City of San Mateo by the previous order and the status of those requirements:

Table F-6. Compliance with Previous Order Provisions

Provision Number	Requirement	Status of Completion
VI.C.2.a – Blending Monitoring Study	Task 1. Blending Study Plan	Completed June 3, 2008
	Task 2. Implementation of Study Plan	Completed Feb 2009 – Dec 2010
	Task 3. Final Report	Completed August 2, 2012
VI.C.5.c – Utility Analysis & Implementation Schedule for Wet Weather Bypass of Secondary Treatment	Prepare a Utility Analysis (No Feasible Alternatives Analysis)	Submitted with Report of Waste Discharge, August 2, 21012
VI.C.6 – Corrective Measures to Minimize Blending Events	Task 1. Capacity Evaluation	Completed July 7, 2009
	Task 2. Collection System Improvements	
	a. Sewer Rehabilitation ($2 million/year)	On-going [1]
	b. Las Pados Relief Sewers	Completed April 2011
	c. South Trunk System Upgrade	*Construction initiated by Dec. 31, 2013* [1]
	d. El Cerrito Relief Line	*To be completed September 11, 2015*[1]
	e. Force Main, Dale Avenue to Plant	*Construction initiated by Dec. 31 2021* [1]
	Task 3. Hydraulic Improvements/Outfall	On-going [2]
	Task 4. Treatment Plant Capacity Improvements	On-going [2]
VI.C.8 – Cyanide Action Plan	Task 1. Review Potential Cyanide Sources	Completed November 6, 2008. Cyanide sources identified.
	Task 2. Implement Cyanide Control Program	Updates provided in Annual Pollution Prevention reports
	Task 3. Implement Additional Measures	Not applicable; no further action required
	Task 4. Report on Status of Cyanide Control program	Updates provided in Annual Pollution Prevention reports
VI.C.9 – Copper Action Plan	Task 1. Review Potential Copper Sources	Completed May 22, 2009. Copper sources identified.
	Task 2. Implement Copper Control Program	Updates provided in Annual Pollution Prevention reports
	Task 3. Implement Additional Measures	Not applicable; no further action required
	Task 4. Studies to Reduce Copper Pollutant Impact Uncertainties	Completion through participation in Bay Area Clean Water Agencies effort
	Task 5. Report on Status of Copper Control program	Updates provided in Annual Pollution Prevention reports

Footnotes:

[1] As required by Cease and Desist Order No. R2-2009-0020.

[2] The previous order imposed final compliance dates after the order's expiration date. These tasks have been incorporated into this Order's Provision VI.C.5.a, Table 9: Specific Tasks to Reduce Blending.

E. Planned Changes

The Discharger currently has no planned improvements or implementation plans that will affect the Plant's wastewater treatment, effluent quality, or design capacity.

The Discharger currently plans to complete Wastewater Treatment Plant and Collection System Master Plans in early 2014. These plans will identify capital improvement projects to reduce the volume and occurrence of blending events and increase Facility capacity. The plans will prioritize feasible upgrades, by quantifying impacts on wet weather capacity, associated costs, and budget impacts. The plans will enable the Discharger to comply with the requirements of Provision 5.a, Specific Tasks to Reduce Blending.

The Discharger also plans to continue implementing rehabilitation of its collection system as required by Cease and Desist Order No. R2-2009-0020.

F. Blending Summary

The previous order allowed the Discharger to bypass secondary treatment for the portion of the flow above 40 MGD when influent flows exceeded 40 MGD. The bypass flow was blended with the secondary-treated flow, which was then disinfected and discharged to San Francisco Bay. Over the term of the previous order, the Discharger blended in this manner twelve times with an average volume of 3.4 million gallons of blended effluent per event, representing approximately 0.075% of annual plant flow. The table below provides a summary of recent blending events:

Table F-7. Historical Blending Summary

Date	Blended Volume (million gallons)	Storm Event Total Rainfall (inches)
2/15/2009 – 2/16/2009	5.5	2.61
2/16/2009	2.9	0.63
3/3/2009	0.4	0.70
10/13/2009	3.0	2.64
1/19/2010	3.1	1.27
1/20/2010 – 1/21/2010	6.7	1.81
1/21/2010 – 1/22/2010	5.5	0.79
1/22/2010	1.5	0.58
4/11/2010	1.0	0.85
12/19/2010	4.2	1.59
12/28/2010	1.8	1.08
12/23/2012-12/24/2012	5.4	1.30
Average	**3.4**	**--**

The Discharger conducted a Blending Monitoring Study from February 2009 to December 2010 to comply with Provision VI.C.6 of the previous order and submitted the results with the application for permit reissuance. The results demonstrate that a total suspended solids (TSS) trigger of 45 mg/L can serve as an appropriate indicator of compliance with other regulated parameters when blending at the Plant. The effluent produced during wet weather blending complied with all effluent limits when TSS concentrations were below 45 mg/L. As such, the TSS indicator and the monitoring and reporting protocols specified in Attachment G section III.A.3.b.6 are appropriate measures of compliance for Plant effluent.

Currently, the Discharger analyzes grab samples for fecal coliform and enterococcus and a composite for TSS when blending. The Discharger also stores additional samples in the event that further analyses are needed based on the TSS trigger in Attachment G section III.A.3.b.6. If the TSS result exceeds 45 mg/L, the Discharger analyzes the remaining samples for ammonia, cyanide, copper, nickel and $CBOD_5$. Also, during one blending event each calendar year, the Discharger analyzes the collected samples for all parameters.

TSS and $CBOD_5$ concentrations were higher during blending than when not blending. However, blending is rare and typically of short duration and relatively small volume; therefore, the overall effects of increased pollutant loadings to San Francisco Bay are small. The average TSS and $CBOD_5$ results during blending were 40 mg/L and 26 mg/L. The average TSS and $CBOD_5$ results overall were 7.5 mg/L and 7.9 mg/L. All discharges of blended effluent complied with TSS and $CBOD_5$ effluent limitations.

As described in the Discharger's August 2012 Utility Analysis, and summarized in Section IV.A.3 of this Fact Sheet, the Discharger and its satellite collection systems are continuing to take measures to reduce inflow and infiltration, which lead to blending.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

This Order's requirements are based on the requirements and authorities described below.

A. Legal Authorities

This Order is issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by the USEPA, and California Water Code (CWC) chapter 5.5, division 7, commencing with section 13370. It serves as an NPDES permit for point source discharges from the Facility to surface waters. This Order also serves as waste discharge requirements pursuant to CWC article 4, chapter 4, division 7, commencing with section 13260.

B. California Environmental Quality Act (CEQA)

Under CWC section 13389, this action to issue an NPDES permit is exempt from Chapter 3 of the California Environmental Quality Act.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface and groundwater. It also includes implementation programs to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan.

   The Basin Plan beneficial uses of Lower San Francisco Bay are listed below. State Water Board Resolution No. 88-63 establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on Lower San Francisco Bay, total dissolved solids levels exceed 3,000 mg/L

and meet an exception to State Water Board Resolution No. 88-63. The Regional Water Board therefore has not designated the receiving water MUN.

Table F-8. Basin Plan Beneficial Uses

Receiving Water Name	Beneficial Uses
Lower San Francisco Bay	Industrial Service Supply (IND) Commercial, and Sport Fishing (COMM) Shellfish Harvesting (SHELL) 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) Navigation (NAV)

The State Water Board's *Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1, Sediment Quality* 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.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority toxic pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (hereinafter the State Implementation Policy [SIP]). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated through the NTR and to the water quality objectives established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria 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.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (65 Fed. Reg. 24641 [April 27, 2000], codified at 40 CFR 131.21). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 establish the federal antidegradation policy and require that State water quality standards include antidegradation policies consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates federal policy where federal policy applies. Resolution 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 State and federal antidegradation policies. Compliance with antidegradation is discussed further in this Fact Sheet section IV.C.4.c.

6. **Anti-Backsliding Requirements.** CWA sections 402(o)(2) and 303(d)(4) and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous order, with some exceptions in which limitations may be relaxed. Compliance with anti-backsliding is discussed further in Fact Sheet section IV.C.4.c.

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

In October 2011, USEPA approved a revised list of impaired water bodies 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 waterbodies.

Lower San Francisco Bay is listed as an impaired waterbody. The pollutants impairing Lower San Francisco Bay are chlordane, DDT, dieldrin, exotic species, dioxins and furans, mercury, and PCBs. On February 12, 2008, USEPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, USEPA approved a TMDL for PCBs in San Francisco Bay. The TMDLs for mercury and PCBs are incorporated into the Basin Plan and apply to this discharge; however, mercury and PCBs discharges are not covered by this Order. Instead, they are regulated under Regional Water Board Order No. R2-2012-0096.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than as described in this Order):** This prohibition is based on 40 CFR 122.21(a), duty to apply, and CWC section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur.

Discharges not described in the permit application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B (Minimum initial dilution of 33:1):** This Order allows a dilution credit of 33:1 in the calculation of one or more WQBELs, based on information of dilution achieved by the Discharger's current outfall. Therefore, this prohibition is necessary to ensure that the assumptions used to derive the dilution credit remain substantially the same so the limitations are protective of water quality.

3. **Discharge Prohibition III.C (Bypass or overflow of untreated or partially treated wastewaters to waters of the U.S. is prohibited, except as provided for in section I.G.2 of Attachment D):** This prohibition is based on 40 CFR 122.41(m) (see Attachment D, section I.G). Bypasses are prohibited when influent flows are below 40 MGD (the secondary treatment capacity of the Plant). When inflows are above 40 MGD, the Discharger may bypass secondary treatment for the portion of the flow above 40 MGD and blend the bypassed flows with the secondary-treated flow prior to disinfection and discharge. Routing flows around dual- or mono-media filters is not considered a bypass, whether blending or not, and is not a violation of this Order. The filters are designed to be used only when necessary to meet TSS effluent limitations. Effluent typically meets limitations without filtration. As discussed below, the Discharger has shown that it meets the criteria required to allow blending in 40 CFR 122.41(m)(4)(i)(A)-(C):

   (A) Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. The Plant's maximum treatment capacity is 40.0 MGD based on the process capacity of the secondary system. When influent flow exceeds 40.0 MGD, blending is necessary to prevent a washout of microbial populations, which are critical to achieving compliance with secondary treatment standards. The Plant can process up to 60 MGD through the primary clarifiers, aeration tanks, secondary clarifiers, chlorine contact tank, and effluent pumps. However, flows greater than 40 MGD may wash microbes and solids out of the aeration tanks and secondary clarifiers. Under such conditions, TSS and $CBOD_5$ effluent limits would likely be exceeded, and it would take considerable time to re-establish microbe populations and optimal treatment conditions. In very large wet weather events, the Plant has reached, or very nearly reached, its maximum hydraulic capacity. Peak flows have resulted in SSOs in the upstream conveyance system during some storm events. Blending in these instances is necessary to prevent backups and overflow of raw sewage in basements and on city streets, which could result in severe property damage and personal injury.

   Weather patterns are expected to remain similar to what has occurred in previous years, and the Discharger reports that storms that result in 1.25 inches or greater of rain in a 24-hour period may result in blending. Based on historic rainfall data, blending is expected to occur approximately 1 to 2 times per year. Therefore, the need to bypass remains unavoidable.

   (B) There are no feasible alternatives to bypass. In its August 2, 2012, Utility Analysis, the Discharger completed a No Feasible Alternatives Analysis using the criteria identified in USEPA's draft guidance on *NPDES Permit Requirements for Peak Wet Weather Discharges from Publicly Owned Treatment Works Treatment Plant Serving Separate Sanitary Sewer Collection Systems* (December 2005). In the Utility Analysis, the Discharger asserts that 40 MGD is the design capacity and the maximum flow that can be reliably treated with current equipment. Records show that the Plant has often processed higher flows (up to

58 MGD) through the secondary system, but these peak flows have occurred for only for short periods.

During the term of the previous order, the Discharger identified the main actions it needs to take to eliminate the need to blend during wet weather: (1) optimizing use of the existing secondary system, (2) expanding secondary treatment capacity, (3) reducing flows to the Plant, and (4) providing storage of peak influent flows before delivery to the Plant. The Discharger has since optimized its use of the existing secondary system, conducted a capacity evaluation of the treatment plant and collection system, and initiated actions to reduce influent flows and increase peak flow storage. The City of San Mateo focused most of its efforts on the collection system as a result of Cease and Desist Order No. R2-2009-0020. The City undertook several collection system projects both to reduce peak flows to the Plant and to reduce sanitary sewer overflows.

To reduce peak flows to the Plant, the City developed and implemented an annual sewer rehabilitation program, which focuses on sewer line repair and replacement to reduce inflow and infiltration (see Fact Sheet section VII.C.5.a, Table F-13). The program is on-going and in some sub-basins is projected to result in an estimated 70 percent reduction in inflow and infiltration. In addition to intensive closed circuit television inspections and cleaning of sewer lines to assess and remedy troubled areas, from 2009 through 2012 the City repaired or replaced about 28,000 linear feet of sewer pipe. As a result of implementing the supplemental environmental project that the Regional Water Board approved to incentivize private lateral replacement, 200 private sewer laterals (5,994 linear feet) have been inspected, resulting in replacement of 76 laterals (2,788 linear feet) since September 2009. The Discharger plans to continue activities to reduce flows to the Plant, including the Kingridge Rehabilitation Phase III, planned for 2013 through 2018, which will include rehabilitation of 1,500 linear feet of sewer pipe.

To reduce SSOs, the City prepared collection system capacity assessments to develop short term and long-term capital improvements plans to relieve collection system capacity problems (see Fact Sheet section VII.C.5.a, Table F-13). The intent of the improvements is to collect excess flow so it does not escape the system and store it until capacity is available at the Plant. Major capacity projects completed during the term of the previous order include the 5th Avenue Trunk Line Upgrade and the new Las Prados Relief Trunk Line. The City will complete construction of the new 24th Avenue Sanitary Sewer Relief and Flint Pump Station Upgrade within the next couple months. Collection system capacity expansion projects scheduled for construction within the next 5 years (2013-2017) include South Trunk Relief Phase I and II, El Cerrito Trunk Relief, 25th Avenue Relief, Mariner's Island #5 and #6, Pump Station Upgrades, Hacienda/Flores Relief, Dale Avenue Relief, Kehoe-Van Buren Relief, Casanova Drive Relief, Santa Clara Way Relief, Santa Clara Pump Station Upgrade, and Flow Monitoring for San Mateo Village. Collection system capacity expansion projects scheduled for preliminary or final design within the next 5 years (2013 - 2017) include South Delaware/Bay Meadows Parallel, Los Prados #1 Pump Station Upgrade, Dale Avenue Wet Weather Pump Station, Dale Avenue Wet Weather Force Main, Wet Weather Storage Facility at the Plant, Flow Meters and Model Upgrade, Collection System SCADA, and possibly South Trunk Storage Basin.

Provision VI.C.5.a of this Order requires actions for the Discharger (both the City of San Mateo and the City of Foster City Estero Municipal Improvement District) to implement

during the term of this Order to reduce further the need to blend. As the Discharger implements improvements as required by Provision VI.C.5.a, and the City of San Mateo resolves collection system capacity deficiencies as required by Cease and Desist Order No. R2-2009-0020, the frequency, volume, and occurrence of blending events are expected to decrease. Based on the Discharger's analysis and programs discussed above, the Discharger is implementing all feasible alternatives to avoid blending.

(C) *The Discharger provided notice at least ten days before bypass.* The Discharger provided notice of its ongoing need to blend during wet weather with its Report of Waste Discharge and Utility Analysis. The notice was submitted more than ten days before any bypass subject to this Order.

4. **Discharge Prohibition III.D (Average dry weather flow not to exceed dry weather design capacity):** This prohibition is based on the Plant's design treatment capacity. Exceeding the Plant's average dry weather flow design capacity could result in lowering the reliability of achieving compliance with water quality requirements.

5. **Discharge Prohibition III.E (No sanitary sewer overflows):** Basin Plan Discharge Prohibition 15 (Table 4-1) 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]). An SSO 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.

B. Conventional and Non-Conventional Pollutant Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 CFR 122.44 require that permits include conditions meeting technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet the minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR 133, which are summarized below. The 30-day average percent removal for BOD_5 (or $CBOD_5$) and TSS, by concentration, is not to be less than 85 percent. The Basin Plan contains additional requirements for certain pollutants.

Table F-9. Secondary Treatment Requirements

Parameters	Monthly Average	Weekly Average
BOD_5	30 mg/L	45 mg/L
$CBOD_5$ [1]	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnotes:

[1] At the option of the permitting authority, $CBOD_5$ effluent limitations may be substituted for BOD_5 limitations.

2. Effluent Limitations for Conventional and Non-conventional Pollutants

a. $CBOD_5$ and TSS. The dry-season (May through September) seasonal effluent limitations for $CBOD_5$ and TSS are more stringent that the Secondary Treatment Standards because the Plant can provide advanced secondary treatment. Consistent with anti-backsliding requirements, these limits are retained from the previous order. The 85 percent removal requirement and the wet-season (October through April) seasonal effluent limitations are based on the Secondary Treatment Standards. The dry-season (May through September) limits are more stringent than the wet-season limits because they are intended to protect shellfish harvesting based on Regional Water Board Resolutions No. 74-14, 78-8, and 83-10, summarized in Basin Plan section 5.2.8, Shellfish. They were originally imposed in 1974 through Order No. 74-98 as year-round limits to protect shellfish beds located along the shore from Burlingame to Foster City. In accordance with Resolution No. 78-8, the Shellfish Program investigated these shellfish beds and, as summarized in Resolution No. 83-10, found that they were not adversely affected by wastewater discharges from properly operated and maintained facilities meeting effluent limits during the dry season; but were affected by coliform bacteria from non-point sources, including stormwater runoff. Therefore, in 1982 (Order No. 82-51), the Regional Water Board relaxed the $CBOD_5$ and TSS limits during the wet season, and has retained these limits since.

b. Oil and Grease. Basin Plan Table 4-2 requires the oil and grease effluent limitations in this Order.

c. pH. The Secondary Treatment Standards and Basin Plan Table 4-2 require the pH limitation in this Order.

d. Total Chlorine Residual. Basin Plan Table 4-2 requires the residual chlorine effluent limitation in this Order. The allowance for determination of false positives using continuous devices is based on the fact that continuous instruments occasionally have anomalous spikes, and it is chemically improbable to have free chlorine present in the presence of sodium bisulfite.

e. Enterococcus Bacteria. Basin Plan Table 4-2A requires the enterococcus bacteria effluent limitations in this Order.

f. Fecal Coliform Bacteria. Shellfish beds may be present along the Foster City shoreline, which is located approximately 2 miles from the discharge point. Basin Plan Table 4-2A requires limitations for total coliform bacteria for discharges to receiving waters with the shellfish harvesting beneficial use. Basin Plan Table 4-2A, footnote c, allows substituting total coliform organisms limitations with fecal coliform organisms limitations provided that it can be conclusively demonstrated that the substitution will not result in unacceptable adverse impacts on the beneficial uses. The Discharger submitted a study in January 1998 that demonstrated that the current limitations for fecal coliform ensure that receiving fecal coliform bacteria water quality objectives are achieved at all off-shore monitoring locations sampled. The study also demonstrated that the discharge does not affect shoreline fecal coliform concentrations where shellfish harvesting may occur. The current fecal coliform bacteria limitations, therefore, protect the shellfish harvesting beneficial use.

C. Toxic Substances Effluent Limitations

Water Quality Based Effluent Limitations (WQBELs) have been derived for toxic pollutants to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law. The procedures for calculating individual WQBELs are based on the SIP and the Basin Plan. Most Basin Plan beneficial uses and water quality objectives were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than those required by the CWA.

1. Scope and Authority

a. NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have reasonable potential to cause or contribute to an excursion of a water quality standard, including numeric and narrative objectives within a standard. The process for determining "reasonable potential" and calculating WQBELs when necessary is intended to protect the designated beneficial uses of the receiving water, and achieve applicable water quality objectives contained in the CTR, NTR, and other state plans and policies.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs):

(1) NPDES Regulations. NPDES regulations at 40 CFR 122.45(d) state, "(f)or continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as MDELs and average monthly discharge limitations (AMELs) for all discharges other than publicly owned treatment works."

(2) SIP. SIP section 1.4 requires WQBELs to be expressed as MDELs and AMELs.

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Water Quality Objectives

The water quality objectives applicable to the receiving water for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the NTR, established by USEPA at 40 CFR 131.36. Some pollutants have water quality objectives established by more than one of these sources.

a. Basin Plan. The Basin Plan specifies numeric water quality objectives for 10 priority toxic pollutants, as well as narrative water quality objectives for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in marine and freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states, "(a)ll 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, "(c)ontrollable 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." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

b. CTR. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region, although Basin Plan Tables 3-3 and 3-4 include numeric objectives for certain of these priority toxic pollutants that supersede the CTR criteria. Human health criteria are further identified as for "water and organisms" and for "organisms only." The CTR criteria applicable to "organisms only" apply to this receiving water because it is not a source of drinking water.

c. NTR. The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic organic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Lower San Francisco Bay, the receiving water 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 water quality 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 water quality objective, it is to impose the water quality objective as a receiving water limit.

e. Basin Plan Receiving Water Salinity Policy. The Basin Plan (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities 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 water quality objectives (the latter calculated based on ambient hardness) for each substance.

The receiving water for this discharge, Lower San Francisco Bay, is a salt water environment based on salinity data generated through the Regional Monitoring Program (RMP) conducted by the San Francisco Estuary Institute. Salinity data collected at the Redwood Creek (BA40) and San Bruno Shoal (BB15) sampling locations between 1993 and 2001, and additional random sampling at various locations within Lower San Francisco Bay collected from July 2002 to August 2009, indicate that the salinity was greater than 10 ppt in 100 percent of the samples. The waters of Lower San Francisco Bay are therefore classified

as saltwater, and the reasonable potential analysis and effluent limitations in this Order are based on saltwater water quality objectives.

f. Site-Specific Metals Translators. NPDES regulations at 40 CFR 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal. Since applicable 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 includes default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon greatly affect the form of metal (dissolved, non-filterable, or otherwise) present in the water and therefore available to cause toxicity. In general, the dissolved form of the metal is more available and more toxic to aquatic life than non-filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective water quality objectives. For deep water discharges to Lower San Francisco Bay, the Basin Plan translators for copper are 0.73 and 0.87 (AMEL and MDEL) (Basin Plan Table 7.2-2). The translators for nickel, based on recommendations of the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* report (March 2005), are 0.65 and 0.85 (AMEL and MDEL).

3. Determining the Need for WQBELs

Assessing whether a pollutant has reasonable potential to exceed a water quality objective in the water body is the fundamental step in determining whether or not a WQBEL is required.

a. Reasonable Potential Methodology

According to SIP section 1.3, the reasonable potential analysis begins with identifying the observed maximum effluent concentration (MEC) for each pollutant based on effluent concentration data. There are three triggers in determining reasonable potential:

(1) Trigger 1 is activated if the MEC is greater than or equal to the lowest applicable water quality objective (MEC $\geq$ water quality objective), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted water quality objective, then that pollutant has reasonable potential, and a WQBEL is required.

(2) Trigger 2 is activated if the observed maximum ambient background concentration (B) is greater than the adjusted water quality objective (B > water quality objective) and the pollutant is detected in any of the effluent samples.

(3) Trigger 3 is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the water quality objective.

b. Effluent Data

The Discharger's priority pollutant data and the nature of the discharge were analyzed to determine if the discharge has reasonable potential. The reasonable potential analysis is based on effluent monitoring data the Discharger collected from February 2008 through May 2012.

c. Ambient Background Data

The SIP states that, for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for water quality objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. Ambient background concentrations are the observed maximum detected water column concentrations for aquatic life protection.

On May 15, 2003, a group of San Francisco Bay Region dischargers known as the Bay Area Clean Water Agencies submitted a collaborative receiving water study entitled the *San Francisco Bay Ambient Water Monitoring Interim Report* (2003). This study includes monitoring results from sampling events in 2002 and 2003 for priority pollutants not monitored by the RMP. This study included the Yerba Buena Island RMP station. Additional data were provided in the Bay Area Clean Water Agencies' *Ambient Water Monitoring: Final CTR Sampling Update* report, dated June 15, 2004.

For the priority pollutants, the reasonable potential analysis was conducted and WQBELs were calculated using RMP data from 1993 through 2010 at the Yerba Buena Island RMP station (BC10), and additional data from the Bay Area Clean Water Agencies receiving water studies. For ammonia, the ambient concentration at the nearest RMP station to the discharge point, the San Bruno Shoal RMP station (BB15), was used.

d. Reasonable Potential Analysis (RPA)

The MECs, most stringent applicable water quality objectives, and background concentrations used in the RPA are presented in the following table, along with the RPA results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not water quality objectives for all pollutants, and monitoring data are unavailable for others. Based on a review of the effluent data collected during the term of the previous order (i.e., from February 2008 through May 2012), the pollutants that exhibit reasonable potential are copper, cyanide, dioxin-TEQ, nickel, and total ammonia by Trigger 1.

Table F-10. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	Governing water quality objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
1	Antimony	4,300	0.4	1.8	No
2	Arsenic	36	2.7	2.46	No
3	Beryllium	No Criteria	< 0.006	0.215	Ud
4	Cadmium	9.36	0.04	0.13	No
5a	Chromium (III)	No Criteria	1.1	4.4	No
5b	Chromium (VI)	50	0.8	4.4	No
6	**Copper**	**9.5**	**19**	**2.5**	**Yes**
7	Lead	8.5	0.53	0.80	No
8	Mercury (303(d) listed)[4]	---	---	---	---
9	**Nickel**	**13**	**22**	**3.7**	**Yes**
10	Selenium (303(d) listed)	5	0.47	0.39	No
11	Silver	2.2	0.1	0.052	No
12	Thallium	6.3	< 0.01	0.21	No

CTR #	Priority Pollutants	Governing water quality objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
13	Zinc	86	37	5.0	No
14	**Cyanide**	**2.9**	**5.3**	**< 0.4**	**Yes**
15	Asbestos	No Criteria	Unavailable	Unavailable	Ud
16	2,3,7,8-TCDD (303(d) listed)	$1.40x10^{-8}$	**< $2.1x10^{-7}$**	$8.2x10^{-9}$	No
	Dioxin TEQ (303(d) listed)	**$1.40x10^{-8}$**	**$2.6x10^{-8}$**	**$5.3x10^{-8}$**	**Yes**
17	Acrolein	780	< 1.3	< 0.5	No
18	Acrylonitrile	0.66	< 0.66	0.03	No
19	Benzene	71	< 0.18	< 0.05	No
20	Bromoform	360	1.0	< 0.5	No
21	Carbon Tetrachloride	4.4	< 0.16	0.06	No
22	Chlorobenzene	21,000	< 0.18	< 0.5	No
23	Chlorodibromomethane	34	1	< 0.05	No
24	Chloroethane	No Criteria	< 0.37	< 0.5	Ud
25	2-Chloroethylvinyl ether	No Criteria	< 0.28	< 0.5	Ud
26	Chloroform	No Criteria	3.2	< 0.5	Ud
27	Dichlorobromomethane	46	0.8	< 0.05	No
28	1,1-Dichloroethane	No Criteria	0.35	< 0.05	Ud
29	1,2-Dichloroethane	99	< 0.18	0.04	No
30	1,1-Dichloroethylene	3.2	< 0.21	< 0.5	No
31	1,2-Dichloropropane	39	< 0.18	< 0.05	No
32	1,3-Dichloropropylene	1,700	< 0.16	< 0.5	No
33	Ethylbenzene	29,000	< 0.26	< 0.5	No
34	Methyl Bromide	4,000	< 0.17	< 0.5	No
35	Methyl Chloride	No Criteria	0.4	< 0.5	Ud
36	Methylene Chloride	1,600	4.9	22	No
37	1,1,2,2-Tetrachloroethane	11	< 0.1	< 0.05	No
38	Tetrachloroethylene	8.85	0.4	< 0.05	No
39	Toluene	200,000	1.3	< 0.3	No
40	1,2-Trans-Dichloroethylene	140,000	< 0.22	< 0.5	No
41	1,1,1-Trichloroethane	No Criteria	3.3	< 0.5	Ud
42	1,1,2-Trichloroethane	42	< 0.16	< 0.05	No
43	Trichloroethylene	81	< 0.2	< 0.5	No
44	Vinyl Chloride	525	< 0.25	< 0.5	No
45	2-Chlorophenol	400	< 0.8	< 1.2	No
46	2,4-Dichlorophenol	790	< 0.7	< 1.3	No
47	2,4-Dimethylphenol	2,300	< 0.8	< 1.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	< 0.6	< 1.2	No
49	2,4-Dinitrophenol	14,000	< 0.6	< 0.7	No
50	2-Nitrophenol	No Criteria	< 0.6	< 1.3	Ud
51	4-Nitrophenol	No Criteria	< 0.7	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	No Criteria	< 0.6	< 1.1	Ud
53	Pentachlorophenol	7.9	< 0.6	< 1	No
54	Phenol	4,600,000	< 0.6	< 1.3	No
55	2,4,6-Trichlorophenol	6.5	< 0.6	< 1.3	No
56	Acenaphthene	2,700	< 0.03	0.0019	No
57	Acenaphthylene	No Criteria	< 0.02	0.0012	Ud
58	Anthracene	110,000	< 0.02	0.00059	No
59	Benzidine	0.00054	< 5	< 0.0015	No
60	Benzo(a)Anthracene	0.049	< 0.02	0.00531	No
61	Benzo(a)Pyrene	0.049	< 0.02	0.0033	No
62	Benzo(b)Fluoranthene	0.049	< 0.02	0.0046	No
63	Benzo(ghi)Perylene	No Criteria	< 0.02	0.0045	Ud
64	Benzo(k)Fluoranthene	0.049	< 0.02	0.0018	No

CTR #	Priority Pollutants	Governing water quality objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
65	Bis(2-Chloroethoxy)Methane	No Criteria	< 0.7	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	1.4	< 0.9	< 0.00015	No
67	Bis(2-Chloroisopropyl)Ether	170,000	< 0.6	Unavailable	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	2.3	< 0.7	No
69	4-Bromophenyl Phenyl Ether	No Criteria	< 0.97	< 0.23	Ud
70	Butylbenzyl Phthalate	5,200	< 0.7	0.0056	No
71	2-Chloronaphthalene	4,300	< 0.98	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	< 0.99	< 0.3	Ud
73	Chrysene	0.049	< 0.02	0.0028	No
74	Dibenzo(a,h)Anthracene	0.049	< 0.02	0.00064	No
75	1,2-Dichlorobenzene	17,000	< 0.27	< 0.3	No
76	1,3-Dichlorobenzene	2,600	< 0.18	< 0.3	No
77	1,4-Dichlorobenzene	2,600	< 0.18	< 0.3	No
78	3,3 Dichlorobenzidine	0.077	< 1	< 0.001	No
79	Diethyl Phthalate	120,000	< 0.6	< 0.21	No
80	Dimethyl Phthalate	2,900,000	< 0.7	< 0.21	No
81	Di-n-Butyl Phthalate	12,000	< 0.6	0.016	No
82	2,4-Dinitrotoluene	9.1	< 0.6	< 0.27	No
83	2,6-Dinitrotoluene	No Criteria	< 0.6	< 0.29	Ud
84	Di-n-Octyl Phthalate	No Criteria	< 0.7	< 0.38	Ud
85	1,2-Diphenylhydrazine	0.54	< 0.6	0.0037	No
86	Fluoranthene	370	0.03	0.011	No
87	Fluorene	14,000	< 0.02	0.00208	No
88	Hexachlorobenzene	0.00077	< 0.91	0.000022	No
89	Hexachlorobutadiene	50	< 0.92	< 0.3	No
90	Hexachlorocyclopentadiene	17,000	< 0.8	< 0.3	No
91	Hexachloroethane	8.9	< 0.94	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	< 0.02	0.0040	No
93	Isophorone	600	< 0.8	< 0.3	No
94	Naphthalene	No Criteria	< 0.02	0.013	Ud
95	Nitrobenzene	1,900	< 0.7	< 0.25	No
96	N-Nitrosodimethylamine	8.1	< 0.8	< 0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	< 0.6	< 0.001	No
98	N-Nitrosodiphenylamine	16	< 0.6	< 0.001	No
99	Phenanthrene	No Criteria	< 0.02	0.0095	Ud
100	Pyrene	11,000	0.04	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	< 0.98	< 0.3	Ud
102	Aldrin	0.00014	< 0.003	0.0000028	No
103	Alpha-BHC	0.013	< 0.002	0.00050	No
104	Beta-BHC	0.046	< 0.002	0.00041	No
105	Gamma-BHC	0.063	< 0.002	0.00070	No
106	Delta-BHC	No Criteria	< 0.002	0.000053	Ud
107	Chlordane (303(d) listed)	0.00059	< 0.005	0.00018	No
108	4,4'-DDT (303(d) listed)	0.00059	< 0.003	0.00017	No
109	4,4'-DDE (linked to DDT)	0.00059	< 0.003	0.00069	No
110	4,4'-DDD	0.00084	< 0.003	0.00031	No
111	Dieldrin (303d listed)	0.00014	< 0.003	0.00026	No
112	Alpha-Endosulfan	0.0087	< 0.003	0.000031	No
113	beta-Endosulfan	0.0087	< 0.003	0.000069	No
114	Endosulfan Sulfate	240	< 0.003	0.000082	No
115	Endrin	0.0023	< 0.003	0.00004	No
116	Endrin Aldehyde	0.81	< 0.002	Unavailable	No
117	Heptachlor	0.00021	< 0.003	0.000019	No

CTR #	Priority Pollutants	Governing water quality objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
118	Heptachlor Epoxide	0.00011	< 0.003	0.000094	No
119-125	PCBs sum (303(d) listed)[4]	---	---	---	---
126	Toxaphene	0.0002	< 0.2	Unavailable	No
	Tributyltin	0.0074	< 0.00036	Unavailable	No
	Total PAHs	15	0.07	0.084	No
	Total Ammonia[5]	**0.93**	**39**	**0.19**	**Yes**

Footnotes:

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

[2] The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

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

[4] SIP section 1.3 excludes from its RPA 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.

[5] Units for total ammonia are milligrams per liter as nitrogen.

e. **RPA for Sediment Quality Objective.** 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 the 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 RPAs.

f. **Constituents with limited data.** In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether numeric effluent limitations are necessary.

g. **Pollutants with No Reasonable Potential.** WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the sources of the increases. Remedial measures are required if the increases pose a threat to receiving water quality.

4. **WQBEL Calculations**

a. **Pollutants with Reasonable Potential.** WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of the water

quality objectives. The WQBELs were calculated based on water quality objectives and the procedures specified in SIP section 1.4. The water quality objectives used for each pollutant with reasonable potential are discussed below.

b. Dilution Credit. The SIP allows dilution credits for completely-mixed discharges, and under certain circumstances for incompletely-mixed discharges. The Discharger submitted a dilution study, *Dilution Modeling Results for San Mateo Wastewater Treatment Plant Discharge to San Francisco Bay*, dated July 31, 2007. The report presents the findings regarding the initial dilution of the discharge at the outfall.

The study used an average dry-weather design flow rate of 13 MGD to calculate the initial dilution ratio representing chronic conditions, and 40 MGD, the peak wet weather design flow rate, to calculate the initial dilution ratio representing acute conditions. The study found that, depending on the flow conditions, near-field mixing is complete at approximately 20 feet from the diffuser center line. Estimated initial dilutions are 74:1 (73 parts ambient water to one part effluent) at 13 MGD and 33:1 at 40 MGD. Initial dilution ratios were estimated using the UM3 model as implemented with the USEPA-supported Visual PLUMES modeling package.

i. **Bioaccumulative Pollutants:** For certain bioaccumulative pollutants, dilution credit is significantly restricted or denied. Specifically, these pollutants include chlordane, DDT, dieldrin, dioxin compounds, furan compounds, and dioxin-like PCBs, which all appear on the CWA section 303(d) list for Lower San Francisco Bay because, based on available data on concentrations of these pollutants in aquatic organism, sediment, and the water column, they impair San Francisco Bay beneficial uses. The following factors suggest insufficient assimilative capacity in San Francisco Bay for these pollutants.

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

ii. **Non-Bioaccumulative Pollutants:** For non-bioaccumulative pollutants (except ammonia), a conservative dilution allowance of 10:1 (D = 9) has been assigned. The 10:1 dilution allowance is consistent with the previous order and is based, in part, on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit. The dilution credit is limited for the following reasons:

(a) San Francisco Bay is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. A water body-by-water body basis approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis. The Yerba Buena Island RMP monitoring station, relative to other RMP stations, fits SIP guidance criteria for establishing background conditions. The SIP requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. Water quality data from the Yerba Buena Island monitoring station is representative of the water that will mix with the discharge.

(b) Because of the complex hydrology of San Francisco Bay, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider the three dimensional nature of San Francisco Bay currents resulting from the interaction of tidal flushes and seasonal fresh water outflows. Being heavier and colder than fresh water, ocean salt water enters San Francisco Bay on a twice-daily tidal cycle, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters. The complex patterns occur throughout San Francisco Bay, but are most prevalent in the San Pablo Bay, Carquinez Strait, and Suisun Bay areas. The locations of this mixing and interaction change, depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of San Francisco Bay, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

(c) For ammonia, a conservative estimate of actual initial dilution was used to calculate the effluent limitations. This is justified because ammonia, a non-persistent pollutant, quickly disperses and degrades to a non-toxic state, and cumulative toxicity effects are unlikely. The dilution study discussed above estimated actual initial dilution ratios to be 74:1 (D = 73) at the permitted annual average flow rate of 13 MGD, and 33:1 (D = 32) at the peak wet weather design flow of 40 MGD. The 74:1 dilution ratio is appropriate for calculating limits based on the chronic criterion because that criterion is an annual median; the dilution ratio at the permitted annual average flow rate is the most representative of long-term (chronic) conditions. The 33:1 dilution ratio is appropriate for calculating limits based on the acute criterion because that criterion has no averaging period; the dilution at the worst-case maximum flow rate is the most representative of short-term (acute) conditions. Both dilution ratios were calculated assuming slack tide conditions.

c. WQBEL Development

(1) Copper

(a) Water Quality Objectives. The Basin Plan contains chronic and acute marine water quality objectives for copper of 6.9 µg/L and 10.8 µg/L (site-specific objectives for

San Francisco Bay), expressed as dissolved metal and accounting for a Water Effects Ratio of 2.77 (Basin Plan Table 3-3A). Converting these water quality objectives to total recoverable metal using the site-specific translators of 0.73 (chronic) and 0.87 (acute) results in a chronic water quality objective of 9.5 µg/L and an acute water quality criterion of 12.4 µg/L.

(b) RPA Results. This Order establishes effluent limitations for copper because the MEC (19 µg/L) exceeds the governing water quality objective (9.5 µg/L), demonstrating reasonable potential by Trigger 1, and because the Basin Plan section 7.2.1.2 requires that individual NPDES permits for municipal and industrial wastewater treatment facilities include copper WQBELs.

(c) WQBELs. WQBELs for copper, calculated according to SIP procedures with an effluent data coefficient of variation (CV) of 0.45 and a dilution credit of D = 9 (dilution ratio = 10:1), are an AMEL of 59 µg/L and an MDEL of 101µg/L. These limits are less stringent than those from the previous order (AMEL of 54 µg/L and MDEL of 72 µg/L). This Order retains the more stringent effluent limits to avoid backsliding.

(d) Anti-backsliding. Anti-backsliding requirements are satisfied because this Order's copper limits are the same as those in the previous order.

(2) Cyanide

(a) Water Quality Objectives. The Basin Plan contains chronic and acute marine water quality objectives for cyanide of 2.9 µg/L and 9.4 µg/L (site-specific objectives for San Francisco Bay).

(b) RPA Results. This Order establishes effluent limitations for cyanide because the MEC (5.3 µg/L) exceeds the governing water quality objective (2.9 µg/L), demonstrating reasonable potential by Trigger 1.

(c) WQBELs. WQBELs for cyanide, calculated according to SIP procedures with an effluent data CV of 0.65 and a dilution credit of D = 9, are an AMEL of 20 µg/L and an MDEL of 43 µg/L. The previous order imposed an AMEL of 22 µg/L and an MDEL of 38 µg/L. This Order establishes the more stringent MDEL to avoid backsliding.

(d) Anti-backsliding. Anti-backsliding requirements are satisfied because this Order's cyanide limits are at least as stringent as those in the previous order.

(3) Dioxin – TEQ

(a) Water Quality Objective. The Basin Plan narrative water quality objective for bioaccumulative substances states, "(m)any 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 is applicable to these pollutants. Elevated levels of dioxins and furans in fish tissue in San Francisco Bay demonstrate that the narrative bioaccumulation water quality objective is not being met. USEPA has therefore included Lower San Francisco Bay as impaired by dioxin and furan compounds in the current 303(d) listing of receiving waters, where water quality objectives are not being met after imposition of applicable technology-based requirements.

The CTR establishes a numeric water quality objective for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} µg/L for the protection of human health, when aquatic organisms are consumed. When the CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, "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. 31682, 31695 [2000]).

This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization (WHO) developed in 1998 and a set of bioaccumulation equivalency factors (BEFs) USEPA developed for the Great Lakes region (40 CFR 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. 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 appropriate for the RPA.

To determine if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative bioaccumulation water quality objective, TEFs and BEFs were used to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These "equivalent" concentrations were then compared to the CTR numeric criterion for 2,3,7,8-TCDD (1.4×10^{-8} µg/L). Although the 1998 WHO 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 standard for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

(b) **RPA Results.** This Order establishes effluent limitations for dioxin-TEQ because the MEC (2.6×10^{-8} µg/L) exceeds the governing water quality objective (1.4×10^{-8} µg/L), demonstrating reasonable potential by Trigger 1.

(c) **WQBELs.** WQBELs for dioxin-TEQ, calculated according to SIP procedures with a default CV of 0.6 and no dilution credit, are an AMEL of 1.4×10^{-8} µg/L and an MDEL of 2.8×10^{-8} µg/L. These limits are the same as those from the previous order.

(d) Anti-backsliding. Anti-backsliding requirements are satisfied because this Order's dioxin-TEQ limits are the same as those in the previous order.

(e) Compliance Feasibility. Data from March 2008 to March 2012 was evaluated using the procedures specified in Attachment G, section V.C.1.c.3. The MEC of 2.6×10^{-8} µg/L from February 16, 2009, exceeds the AMEL of 1.4×10^{-8} µg/L, and other samples from February 15, 2009, and March 3, 2009, also exceed the AMEL. The remaining eight samples did not contain quantifiable concentrations of dioxin congeners. Therefore, recent data indicate that the Discharger can comply with the dioxin-TEQ limits. For this reason, this Order does not carry over the compliance schedule established in the previous order.

(4) Nickel

(a) Water Quality Objectives. The Basin Plan contains chronic and acute marine water quality objectives for nickel of 8.2 µg/L and 74 µg/L, expressed as dissolved metal and assuming a Water Effects Ratio of 1.0 (Basin Plan Table 3-3A). Converting these water quality objectives to total recoverable metal using the site-specific translators of 0.65 (chronic) and 0.85 (acute) results in a chronic water quality objective of 13 µg/L and an acute water quality objective of 87 µg/L.

(b) RPA Results. This Order establishes effluent limitations for nickel because the MEC (22 µg/L) exceeds the governing water quality objective (13 µg/L), demonstrating reasonable potential by Trigger 1.

(c) WQBELs. WQBELs for nickel, calculated according to SIP procedures with an effluent data CV of 0.89 and a dilution credit of D = 9, are an AMEL of 69 µg/L and an MDEL of 166 µg/L. These limits are less stringent than those from the previous order (AMEL of 30 µg/L and MDEL of 71 µg/L). This Order retains the more stringent effluent limits to avoid backsliding.

(d) Anti-backsliding. Anti-backsliding requirements are satisfied because this Order's nickel limits are the same as those in the previous order.

(5) Total Ammonia

(a) Water Quality Objectives. The Basin Plan contains water quality objectives for un-ionized ammonia of 0.025 mg/L as an annual median and 0.4 mg/L as a maximum south of the San Francisco Bay Bridge. These water quality objectives were translated from un-ionized ammonia concentrations to equivalent total ammonia concentrations (as nitrogen) since (1) sampling and laboratory methods are not available to analyze for un-ionized ammonia; and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on the pH, salinity, and temperature of the receiving water.

To translate the Basin Plan un-ionized ammonia objectives, pH, salinity, and temperature data were used from the nearest RMP station to the outfall, the San Bruno Shoal RMP monitoring station (BB15). The un-ionized fraction of total ammonia is calculated as follows:

For salinity > 10 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 = Molal ionic strength of saltwater = $\frac{19.9273(S)}{(1{,}000 - 1.005109(S))}$

S = Salinity (parts per thousand)

T = Temperature in degrees Kelvin

P = Pressure (one atmosphere)

The 90th percentile and median un-ionized ammonia fractions were then used to express the daily maximum and the annual average un-ionized objectives as acute and chronic total ammonia objectives, respectively. This approach is consistent with USEPA guidance on translating dissolved metal water quality objectives to total recoverable metal water quality objectives (USEPA, 1996, *The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion*, EPA Publication 823-B-96-007.)

The equivalent total ammonia chronic and acute criteria are 0.93 mg/L as nitrogen and 11 mg/L as nitrogen.

(b) RPA Results. The SIP methodology was used as guidance to perform the RPA and to calculate the ammonia WQBELs. This Order establishes effluent limitations for total ammonia because the MEC (39 mg/L as nitrogen) exceeds the translated water quality objective, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. WQBELs for total ammonia, calculated according to SIP procedures as guidance using an effluent data CV of 0.37 and a dilution credit of D = 73 (because more stringent limits are based on the chronic water quality objective), are an AMEL of 85 mg/L and an MDEL of 139 mg/L. These limits are less stringent than those from the previous order (AMEL of 66 µg/L and MDEL of 120 µg/L). This Order retains the more stringent effluent limits to avoid backsliding.

Statistical adjustments were made to the total ammonia WQBEL calculations because:

- the Basin Plan's chronic water quality objective for un-ionized ammonia is based on an annual median instead of the typical 4-day average;
- the SIP assumes a 4-day average concentration and a monthly sampling frequency of 4 days per month to calculate effluent limitations based on chronic criteria, whereas a 365-day average and a monitoring frequency of 30 days per month (the maximum daily sampling frequency in a month since the averaging period for the chronic criteria is longer than 30 days) were used.

These statistical adjustments are supported by USEPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia*, published on December 22, 1999, in the Federal Register. Following the SIP methodology, the maximum ambient background total ammonia concentration at the San Bruno Shoal RMP station (BB15) of 0.19 mg/L was used to calculate effluent limitations based on the acute criterion, and the median background total ammonia concentration of 0.027 mg/L was used to calculate effluent limitations based on the chronic criterion. Because the Basin Plan's chronic un-ionized ammonia objective is an annual median, the median background concentration is more representative of ambient conditions than a daily maximum.

(d) Anti-backsliding. Anti-backsliding requirements are satisfied because this Order's total ammonia limits are the same as those in the previous order.

(e) Growing Regional Concern with Nutrients. As described above and in section IV.C.4.b, Dilution Credit, a translated Basin Plan un-ionized ammonia objective and a conservative estimate of actual initial dilution were used to calculate the total ammonia effluent limitations. In the future, the Regional Water Board may grant less dilution credit or change the ammonia limitations in other ways to address growing concerns about nutrients in the receiving water. Currently, a regionwide effort is underway to study and evaluate potential effects. This effort, which is referred to as the San Francisco Bay Nutrient Strategy, includes developing a nutrient assessment framework that can be used to calculate WQBELs for nutrients. The Regional Water Board, through its Executive Officer, has also required wastewater dischargers, including this Discharger, to monitor nutrients, including ammonia, in their influent and effluent. This information will be used to compare nutrient loads from wastewater discharges to loads from other sources, to support modeling and evaluation of load reduction scenarios, and to determine the need for additional wastewater treatment to address nutrients.

e. Effluent Limit Calculations

The following table shows the WQBEL calculations for copper, cyanide, dioxin-TEQ, nickel, and total ammonia:

Table F-11. WQBEL Calculations

PRIORITY POLLUTANTS	**Copper**	**Nickel**	**Cyanide**	**Dioxin TEQ**	**Total Ammonia (acute)**	**Total Ammonia (chronic)**
Units	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**mg/L N**	**mg/L N**
Basis and Criteria type	Basin Plan SSO	Basin Plan SSO and CTR HH	Basin Plan SSO and CTR HH	Basin Plan Narrative	Basin Plan Aquatic Life	Basin Plan Aquatic Life
Criteria -Acute	-----	-----	-----	-----	11	-----
Criteria -Chronic	-----	-----	-----	-----	-----	0.93
SSO Criteria -Acute	10.8	74	9.4	-----	-----	-----
SSO Criteria -Chronic	6.9	8.2	2.9	-----	-----	-----
Water Effects ratio (WER)	1	1	1	1	1	1
Lowest water quality objective	6.9	11.9	2.9	1.4E-08	11	0.93

PRIORITY POLLUTANTS	Copper	Nickel	Cyanide	Dioxin TEQ	Total Ammonia (acute)	Total Ammonia (chronic)
Site Specific Translator - MDEL	0.87	0.85	-----	-----	-----	-----
Site Specific Translator - AMEL	0.73	0.65	-----	-----	-----	-----
Dilution Factor (D) (if applicable)	9	9	9	0	32	73
No. of samples per month	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N	Y	Y
HH criteria analysis required? (Y/N)	N	Y	Y	Y	N	N
Applicable Acute water quality objective	12	73	9.4	-----	11	-----
Applicable Chronic water quality objective	9.5	18	2.9	-----	-----	0.93
HH criteria	-----	4,600	220,000	1.4E-08	-----	-----
Background (Maximum Conc for Aquatic Life calc)	2.5	3.7	0.4	-----	0.19	0.03
Background (Average Conc for Human Health calc)	-----	2.19	0.4	5.3E-08	-----	-----
Is the pollutant on the 303d list (Y/N)?	N	N	N	Y	N	N
ECA acute	101	701	90	-----	367	-----
ECA chronic	72	150	25	-----	-----	67
ECA HH	-----	4.6E+04	2.2E+06	1.4E-08	-----	-----
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	N
Avg of effluent data points	6.3	5.2	1.9	4.1E-09	21	21
Std Dev of effluent data points	2.9	4.6	1.3	9.3E-09	7.7	7.7
CV calculated	0.45	0.89	0.65	2.26	0.37	0.37
CV (Selected) - Final	0.45	0.89	0.65	0.60	0.37	0.37
ECA acute mult99	0.40	0.23	0.30	-----	0.46	
ECA chronic mult99	0.61	0.41	0.50	-----		0.96
LTA acute	41	159	27.0	-----	169	
LTA chronic	44	61	12.8	-----		64
minimum of LTAs	41	61	12.8	-----	169	64
AMEL mult95	1.4	1.8	1.6	1.6	1.3	1.3
MDEL mult99	2.5	4.4	3.3	3.1	2.2	2.2
AMEL (aq life)	57	112	20.5	-----	225	85
MDEL(aq life)	101	269	42.7	-----	367	139
MDEL/AMEL Multiplier	1.8	2.4	2.1	2.0	1.6	1.6
AMEL (human hlth)	-----	4.6E+04	2.2E+06	1.4E-08	-----	-----
MDEL (human hlth)	-----	1.1E+05	4.6E+06	2.8E-08	-----	-----
minimum of AMEL for Aq. life vs HH	57	112	20	1.4E-08	225	85
minimum of MDEL for Aq. Life vs HH	101	269	43	2.8E-08	367	139
Current limit in permit (30-day average)	54	30	22	1.4E-08	66	66
Current limit in permit (daily)	72	71	38	2.8E-08	120	120
Final limit - AMEL	54	30	20	1.4E-08	66	66
Final limit - MDEL	72	71	38	2.8E-08	120	120
Max Effl Conc (MEC)	19	22	5.3	2.6E-08	39	39

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 USEPA approved method in 40 CFR 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition. The approved test species currently specified in the Monitoring and Reporting Program (Attachment E) is the rainbow trout.

If the Discharger can demonstrate to the satisfaction of the Executive Officer 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 will not constitute a violation of the effluent limitations for whole effluent acute toxicity. This is based on Basin Plan section 3.3.20.

6. Whole Effluent Chronic Toxicity

a. Toxicity Objective. Basin Plan section 3.3.18 states, "(t)here 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 semiannualchronic toxicity testing during the previous order term using mysid shrimp (*Americamysis bahia)*. The previous order included a chronic toxicity trigger of a single sample maximum of 10 TUc, which would trigger accelerated chronic toxicity testing if exceeded. Chronic toxicity testing results during the previous order term indicate that the maximum single sample chronic toxicity was 3.7 TUc. These low toxicity values indicate low reasonable potential for chronic toxicity so there is only a narrative chronic toxicity limit in this Order. A numeric limit is unwarranted.

c. Requirements. The chronic toxicity requirement is based on the narrative Basin Plan toxicity objective.

d. Screening Phase Study and Monitoring Requirement. The Discharger is required to conduct a chronic toxicity screening phase study, as described in MRP Appendix E-1, prior to permit reissuance or after significant changes in the treatment system. This is necessary to ensure use of the most sensitive species in case there changes in effluent quality or influent sources of new pollutants over time.

This Order requires use of *Americamysis bahia* based on the Discharger's July 2011, chronic toxicity screening study. While the study indicated that *M. galloprovincialis* was the most sensitive, *M. galloprovincialis* is one of the most sensitive test species to ammonia—as much as an order of magnitude or more sensitive than the *Americamysis bahia*, the test species found to be the second most sensitive.

The purpose of whole effluent toxicity testing is to determine if the discharge is toxic due to (1) pollutants for which there is no monitoring protocol, or (2) synergistic effects from a combination of pollutants. Because the discharge has ammonia and the Order already

specifies a pollutant specific limit for ammonia, the hypersensitivity of *M. galloprovincialis* to ammonia makes it an inappropriate species for routine monitoring. This is because of the potential for interference with toxicity test results. In other words, tests with *M. galloprovincialis* will more often than not show a response that is caused by ammonia in the test, but which is at a concentration safe for discharge. However, this response to a safe concentration of ammonia would mask toxicity from other potential pollutants that may be present.

In the screening, the Discharger attempted to minimize the interference caused by ammonia by manual pH adjustment. Although this method reduced the interference, it was only partially effective due to the high buffering capacity of seawater. The second most sensitive species in the screening analysis was *Americamysis bahia*, which was only slightly less sensitive than *M. galloprovincialis*. To minimize ammonia interference, *Americamysis bahia* is to be used for chronic toxicity tests. The accelerated monitoring triggers are consistent with the previous order and based on Basin Plan Table 4-5.

7. Antidegradation

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. This Order continues the status quo with respect to the level of discharge authorized in the previous order. This is because this Order does not provide for an increase in the permitted design flow, allow for a reduced level of treatment, or increase effluent limitations. Thus, there will be no lowering of water quality beyond the current level authorized in the previous order, which is the baseline by which to measure whether degradation will occur. The limitations in this Order hold the Discharger to performance levels that will neither cause nor contribute to water quality impairment, nor further water quality degradation. Therefore, further analysis in this permit is unnecessary, and findings authorizing degradation are unnecessary.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations V.A.1 and V.A.2 are based on the narrative and numeric water quality objectives contained in Basin Plan Chapter 3. Receiving water limitation V.A.3 is retained from the previous order and requires compliance with federal and State water quality standards.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a monitoring program are to:

- document compliance with waste discharge requirements and prohibitions established by the Regional Water Board;
- facilitate self-policing by the Discharger in the prevention and abatement of pollution arising from waste discharge;
- develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and
- prepare water and wastewater quality inventories.

The Monitoring and Reporting Program (MRP, Attachment E) is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of

terms and sets out requirements for reporting routine monitoring data in accordance with NPDES regulations, the CWC, and State and Regional Water Board policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs.

The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility:

A. Influent Monitoring

Influent monitoring requirements for $CBOD_5$ and TSS are unchanged from the previous order to allow determination of compliance with this Order's 85% removal requirement. Flow monitoring is also retained to evaluate compliance with Prohibition III.D (average dry weather flow). Basin Plan section 4.7.2.2 requires influent cyanide monitoring for discharges with cyanide limits based on site-specific objectives.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous order. Changes are summarized below:

- The MRP retains routine monitoring for the toxic pollutants with effluent limitations (copper, cyanide, dioxin-TEQ, nickel, and total ammonia). Monitoring for all other priority toxic pollutants is now required by Provision VI.C.2.

- A new monitoring location (EFF-001b) was established to monitor effluent discharges when blending. Monitoring Requirements for EFF-001b are consistent with Attachment G, section III.A.3.b.6.

- Monitoring for dissolved sulfides in the effluent has been added when dissolved oxygen levels in the effluent are less than 2 mg/L to determine compliance with the dissolved sulfide water quality objective.

C. Receiving Water Monitoring

The Discharger is not required to collect additional receiving water information as long as it continues to participate in the RMP.

D. Pretreatment and Biosolids Monitoring

The pretreatment and biosolids monitoring requirements for influent, effluent, and biosolids are retained from the previous order and are required to assess compliance with the Discharger's USEPA-approved pretreatment program. Two significant industrial users discharge to the Facility and are subject to the Discharger's pretreatment program. Biosolids monitoring is required pursuant to 40 CFR Part 503.

This Order specifies the sampling type for pretreatment monitoring. Specifically, it requires grab samples for VOCs, BNAs, cyanide, and hexavalent chromium. Discrete grabs are necessary for

these parameters to minimize potential losses during automatic compositing. VOCs are volatile, and cyanide and BNAs are also somewhat volatile. Hexavalent chromium is chemically unstable.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Federal Standard Provisions, which in accordance with 40 CFR 122.41and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachments D of this Order. NPDES regulations at 40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. NPDES regulations at 40 CFR 123.25(a)(12) allow the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions (Attachment G) supplement the Federal Standard Provisions. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the CWC enforcement authority is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. MRP Requirements (Provision VI.B)

The Discharger is required to monitor the permitted discharge in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP and Attachments D and G. This provision requires compliance with these documents and is authorized by 40 CFR 122.41(h) and (j), and CWC sections 13267 and 13383.

The table below summarizes routine monitoring requirements. This table is for informational purposes only. Actual requirements are specified in the MRP and other provisions of this Order:

Table F-12. Monitoring Requirements Summary

Parameter	Influent INF-001	Effluent EFF-001 or EFF-001a	Effluent EFF-001b	Sludge and Biosolids BIO-001	Receiving Water
Flow	Continuous	Continuous	Continuous		
Volume of Partially-treated Wastewater Discharged			1/Blending Event		
Duration of Blending			1/Blending Event		
$CBOD_5$	2/Week	2/Week	1/Year[2]		
TSS	2/Week	2/Week	1/Day		
Turbidity					
Oil and Grease		2/Year			
pH		1/Day	1/Day		Support RMP
Chlorine Residual		Continuous or 1/2 Hours	Continuous or 1/2 Hours		
Acute Toxicity		1/Month			Support RMP
Chronic Toxicity		2/Year			Support RMP
Fecal Coliform		5/Month	1/Day		
Enterococcus		5/Month	1/Day		
Dissolved Oxygen		1/Day			Support RMP
Sulfides		1/Day			Support RMP
Temperature		1/Day	1/Day		Support RMP
Copper		1/Month	1/Year[2]		Support RMP

Parameter	Influent INF-001	Effluent EFF-001 or EFF-001a	Effluent EFF-001b	Sludge and Biosolids BIO-001	Receiving Water
Cyanide	1/Month	1/Month	1/Year[2]	2/Year	Support RMP
Ammonia		1/Month	1/Year[2]		Support RMP
Dioxin-TEQ		2/Year			Support RMP
Standard Observations			1/Blending Event		
All other priority pollutants		1/Year			Support RMP
Volatile Organic Compounds	2/Year	2/Year		2/Year	
Base/Neutrals Acid Extractable Organic Compounds	2/Year	2/Year		2/Year	
Metals[1]	1/Month	1/Month		2/Year	
Hexavalent Chromium	1/Quarter	1/Month		2/Year	
Mercury	1/Quarter	1/Month		2/Year	
Nickel		1/Month	1/Year[2]		
Metric tons/year				See Attach. G, § III.B.1	
Paint filter test				See Attach. G, § III.B.2	

Footnotes:

[1] The metals are arsenic, cadmium, copper, lead, nickel, silver, zinc, and selenium.

[2] If a TSS sample collected on the same day exceeds 45 mg/L, the frequency shall be once per day.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 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 relevant information that may be established in the future and other circumstances as allowed by law.

2. Effluent Characterization Study and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in Attachment G and the MRP. This requirement is authorized pursuant to CWC section 13267 and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated changes in effluent quality during the term of this Order.

3. Best Management Practices and Pollutant Minimization Program

This provision for a Pollutant Minimization Program is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

4. Special Provisions for POTWs

a. Pretreatment Program. This provision is based on 40 CFR 403 (General Pretreatment Regulations for Existing and New Sources of Pollution) and is retained from the previous

order. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the Plant.

b. Biosolids Management Practices. This provision is based on Basin Plan section 4.17 and 40 CFR Parts 257 and 503, and is retained from the previous order.

c. Sanitary Sewer Overflows and Sewer System Management Plan. This provision is to explain the Order's requirements as they relate to the City of San Mateo's collection system and the City of Foster City Estero Municipal Improvement District's collection system and to promote consistency promote consistency with the State Water Board's General Waste Discharge Requirements for Sanitary Sewer Overflow and related Monitoring and Reporting Program (General Order, Order No. 2006-0003-DWQ).

The General Order requires 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 Order. The General Order requires agencies to develop sanitary sewer management plans and report all SSOs, among other requirements and prohibitions. Furthermore, the General Order contains requirements for operation and maintenance of collection systems, and for reporting and mitigating SSOs. Inasmuch that the City of San Mateo's collection system and the City of Foster City Estero Municipal Improvement District's collection system is part of the system subject to this Order, certain standard provisions apply as specified in Provision VI.C.4, Sanitary Sewer Overflows and Sewer System Management Plan. The City of San Mateo and the City of Foster City Estero Municipal Improvement District must comply with both the General Order and this Order. The Discharger and public agencies discharging wastewater to the Facility were required to enroll under the General Order by December 1, 2006.

The State Water Board amended the General Order on February 20, 2008, through Order No. WQ 2008-0002-EXEC, to strengthen the notification and reporting requirements for SSOs. Attachment G contains the same notification and reporting requirements for spills from wastewater treatment facilities.

5. Other Special Provisions

a. Specific Tasks to Reduce Blending. This provision is based on 40 CFR 122.41(m) and guidance provided by USEPA's proposed *Peak Wet Weather Policy* (December 2005). The previous order required the Discharger to submit a No Feasible Alternatives Analysis. Table 9 of the Order contains feasible actions that can be taken within the term of this Order to improve wet weather management and reduce blending. Table 9 requires, in part, tasks to reduce blending based on the Discharger's No Feasible Alternatives Analysis, dated August 2, 2012. Table 9 requires numerous tasks to improve the Discharger's and satellite agencies' collection systems and increase secondary treatment capacity at the Plant to 60 MGD.

This Order allows the Executive Officer to approve deviations from blending reduction tasks and deadlines related to certain plant and collection system improvements because, while those tasks and deadlines appear reasonable, circumstances (e.g., difficulty identifying funding or delays in plant design or construction caused by third parties) could arise beyond the Discharger's control, making it impossible for the Discharger to comply with these

particular requirements. Such approval would only be granted in limited instances where the Discharger demonstrated "reasonable progress toward development of an alternative strategy and reasonable assurance that the alternative strategy will achieve equal or better results."

Table 9 includes a requirement to submit a new No Feasible Alternatives Analysis with the application for permit reissuance. USEPA's proposed *Wet Weather Policy* suggests specific analyses for the Discharger to complete in order to determine whether its peak wet weather flow blending discharge should be considered a bypass under 40 CFR 122.41(m) and whether any feasible alternatives to blending are available. These analyses are intended to address the criteria for approving a bypass at 40 CFR 122.41(m)(4)(i)(A)-(C). The Regional Water Board will use the new No Feasible Alternatives Analysis to review and approve or deny peak wet weather bypasses. If these criteria are met and no feasible alternative exists, the Regional Water Board may approve peak wet weather flow diversions around secondary treatment units as an anticipated bypass under 40 CFR 122.41(m)(4)(ii).

This Order's task requirements do not apply to the Discharger's satellite agencies because they are not permittees under this Order. These satellites include the Town of Hillsborough, the Crystal Springs County Sanitation District, and the County of San Mateo Tower Road Complex. Each is subject to the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (General Order, Order No. 2006-0003-DWQ) and Cease and Desist Order No. R2-2009-0020. The Town of Hillsborough is also subject to a consent decree with San Francisco Baykeeper. The consent decree, settled on July 14, 2009, requires the Town of Hillsborough to prevent sanitary sewer overflows, comply with this NPDES permit, and further the goals and objectives of the Clean Water Act. Among other requirements, the General Order, the cease and desist order, and the consent decree require improvements to sewer maintenance and implementation of long-term programs to renew aging sewer pipes with the primary focus on reducing sanitary sewer overflows. These efforts could also lead to reductions in inflow and infiltration. Specifically, the cease and desist order requires the satellites to complete, or to have completed, the following plans and reports. These requirements mirror those of the General Order but must be implemented on a different and more aggressive time schedule.

Table F-13. Reports and Plans Required by CDO Order No. R2-2009-0020

Plans and Reports	City of San Mateo Due Date	Town of Hillsborough Due Date	Crystal Springs County Sanitation District Due Date
• Implement &Submit SSO Response Plan	June 15, 2009	June 15, 2009	June 15, 2009
• Implement & Submit Sewer System Cleaning & Root Control Plan • Submit Maintenance Management System Report • Submit FOG Program Report • Submit Sewer Pipe/Manhole Inspection & Condition Assessment Plan • Submit Initial Inspections & Condition Assessment Report • Install Flow Meters • Submit Collaborative Implementation Report	November 15, 2009	November 15, 2009	November 15, 2009

Plans and Reports	City of San Mateo Due Date	Town of Hillsborough Due Date	Crystal Springs County Sanitation District Due Date
• Submit Capacity Assurance Plan: Short- & Long-Term Improvements	November 15, 2009		
• Submit Pump Station Report, Certification & Upgrade Plan	May 15, 2010	May 15, 2010	May 15, 2010
• Submit Inspection & Condition Assessment Progress Report	November 15, 2010	November 15, 2010	November 15, 2010
• Submit Final Inspections & Condition Assessment Report • Submit Capacity Assessment Report • Submit Sewer Rehabilitation and Replacement Plan	November 15, 2011	November 15, 2011	November 15, 2011
• Submit Capacity Assurance Plan: Short- & Long-Term Improvements		November 15, 2011	
• Complete Short-Term Improvements	November 15, 2014		
• Complete Short-Term Improvements		November 15, 2016	
• Complete Crystal Springs/El Cerrito Trunk Sewer Project	September 11, 2015		
• Complete Remaining (8) CIPs			September 11, 2013
• Final Compliance Date	December 31, 2018		
• Annual Reports: o Sewer System Cleaning & Root Control Program o Pump Station & Force Main Renovations & Upgrades o Collection System Flow Monitoring o Capacity Assurance: Short- & Long- Term Improvements [1] o Infrastructure Renewal	Annually on May 15, beginning 2010		

Footnote:

[1] This annual report is due May 15 of each year beginning May 2010 for the City of San Mateo and May 2012 for the Town of Hillsborough and the District.

b. Copper Action Plan. This provision is based on Basin Plan section 7.2.1.2. It is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. Data SFEI compiled for 2008-2010 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).

c. Cyanide Action Plan. This provision is based on Basin Plan section 4.7.2.2. It is necessary to ensure that use of cyanide site-specific objectives is 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 19 µg/L. This concentration is about two times the maximum cyanide concentration (8.7 µg/L) found in the facility's influent during the term of the previous order. Because the Discharger has not observed influent cyanide concentrations greater than 8.7 µg/L, if influent concentrations twice this historical level were observed, there could be a significant cyanide source.

d. SOP Requirement for Resource Recovery. Standard operating procedures (SOPs) are required for dischargers that accept hauled waste fats, oil, and grease for injection into anaerobic digesters. The development and implementations of SOPs for management of these materials is intended to allow CalRecycle to exempt operations for separate and redundant permitting programs. If the Discharger does not accept fats, oil, and grease to the Plant for resource recovery purposes, the Discharger is not required to develop and implement SOPs.

VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of these waste discharge requirements that will serve as an NPDES permit for the Facility. As a step in the waste discharge requirements adoption process, Regional Water Board staff developed tentative waste discharge requirements. The Regional Water Board encouraged public participation in the waste discharge requirement adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the San Mateo Times on January 5, 2013.

B. Written Comments

Staff determinations are tentative. Interested persons were invited to submit written comments concerning the tentative waste discharge requirements. Comments were to be submitted either in person or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of Dylan Garner.

To receive full consideration and a written response, written comments were to be received at the Regional Water Board offices by 5:00 p.m. on February 4, 2013.

C. Public Hearing

The Regional Water Board held a public hearing on the tentative waste discharge requirements during its regular meeting at the following date and time, and at the following location:

Date:	Wednesday, March 13, 2013
Time:	9:00 a.m.
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Dylan Garner, (510) 622-2116, email Dylan.Garner@waterboards.ca.gov

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony, if any, pertinent to the discharge, waste discharge requirements, and permit. Oral testimony was heard; however, for accuracy of the record, the Regional Water Board requested important testimony submitted in writing.

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

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final waste discharge requirements. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge, related documents, tentative effluent limitations, and special provisions, comments received, and other information 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 waste discharge requirements 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 were to be directed to Dylan Garner at 510-622-2116 or by e-mail at Dylan.Garner@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

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

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

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

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

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

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

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

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

1. Contingency Plan - The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.

c. Provisions of emergency standby power.

d. Protection against vandalism.

e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.

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

g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.

2. Spill Prevention Plan - The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:

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

b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and

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

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

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

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

2. Wastewater Facilities Status Report - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how

the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

3. Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) - POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

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

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

2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

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

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

1. Storm Water Pollution Prevention Plan (SWPP Plan)

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

a. To identify pollutant sources that may affect the quality of storm water discharges; and

b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

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

2. Source Identification

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

a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map showing the following:

1) Storm water conveyance, drainage, and discharge structures;

2) An outline of the storm water drainage areas for each storm water discharge point;

3) Paved areas and buildings;

4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;

5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);

6) Surface water locations, including springs and wetlands; and

7) Vehicle service areas.

c. A narrative description of the following:

1) Wastewater treatment process activity areas;

2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;

3) Material storage, loading, unloading, and access areas;

4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and

5) Methods of on-site storage and disposal of significant materials.

d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

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

a. Storm water pollution prevention personnel

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

b. Good housekeeping

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

c. Spill prevention and response

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

d. Source control

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

e. Storm water management practices

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

f. Sediment and erosion control

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

g. Employee training

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

h. Inspections

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

i. Records

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

4. Annual Verification of SWPP Plan

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

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

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

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).

2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).

3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

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

1. Use of Certified Laboratories

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

2. Use of Appropriate Minimum Levels

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

   For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by USEPA (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. Storm Water Monitoring

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

1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.

2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

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

3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and

validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.

5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

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

1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.

2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.

3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

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

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

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

Metric tons biosolids/365 days	Frequency
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 (Attachment D)

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 USEPA, Region IX.

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

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

1. Analytical Information

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

2. Flow Monitoring Data

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

   a. Total volume for each day; and

   b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

   a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

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

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

   b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

      1) Total volume or mass of dewatered biosolids for each calendar month;

      2) Solids content of the dewatered biosolids; and

      3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

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

   a. For bacteriological analyses:

1) Wastewater flow rate at the time of sample collection; and

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

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

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

2) Chlorine dosage (kg/day); and

3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

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

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

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

6. Treatment Facility Overflows

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

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

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

1. Self Monitoring Reports

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

a. Transmittal letter

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

1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;

2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;

3) Causes of violations;

4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);

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

6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and

7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of

samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.

2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

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

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

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

where: C_x = measured or estimated concentration of congener *x*
TEF_x = toxicity equivalency factor for congener x
BEFx = 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 storm water to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

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

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 USEPA 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[1]

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, 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;

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

5) 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, 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, 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[1] from Municipal Wastewater Treatment Plants

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

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

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

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

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

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

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

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

1. Arithmetic Calculations

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

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

   or

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

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

   b. Mass emission rate is obtained from the following calculation for any calendar day:

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

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

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

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

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

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

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

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

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.

3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.

4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The

Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.

9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.

11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.

14. Untreated waste is raw wastewater.

15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (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)[3]	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[4]												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN^- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[5]	0100.2 [6]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										

[1] The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-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., USEPA 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 ug/l).

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

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

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

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or 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									

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
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)[7]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											

[7] 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[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

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)

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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 (USEPA), 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 USEPA 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 USEPA 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 USEPA'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 systems); and

3. A status summary of the tasks required by a Pretreatment Compliance Inspection (PCI), Pretreatment Compliance Audit (PCA), Cleanup and Abatement Order (CAO), or other pretreatment-related enforcement actions required by the Regional Water Board or the USEPA. A more detailed discussion can be referenced and included in the section entitled, "Program Changes," if needed.

C. Definitions

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

D. Discussion of Upset, Interference and Pass Through

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

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

E. Influent, Effluent and Biosolids Monitoring Results

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

This section shall include:

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

F. Inspection, Sampling and Enforcement Programs

This section shall include at a minimum the following information:

1. Inspections: Summary of the inspection program (e.g., criteria for determining the frequency of inspections and inspection procedures);

2. Sampling Events: Summary of the sampling program (e.g., criteria for determining the frequency of sampling and chain of custody procedures); and

3. Enforcement: Summary of Enforcement Response Plan (ERP) implementation including dates for adoption, last revision and submission to the Regional Water Board.

G. Updated List of Regulated SIUs

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

1. CIUs - Include a table that alphabetically lists the CIUs regulated by the Discharger as of the end of the reporting period. This list shall include:

   a. Name;

   b. Address;

   c. Applicable federal category(ies);

   d. Reference to the location where the applicable Federal Categorical Standards are presented in the report;

   e. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and

   f. Information, calculations and data used to determine the limits for those CIUs for which a combined waste stream formula is applied.

2. Non-categorical SIUs - Include a table that alphabetically lists the SIUs not subject to any federal categorical standards that were regulated by the Discharger as of the end of the reporting period. This list shall include:

   a. Name;

   b. Address;

   c. A brief description of the type of business;

d. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and

e. Indicate the applicable discharge limits (e.g., different from local limits) to which the SIUs are subject and reference to the location where the applicable limits (e.g., local discharge limits) are presented in the report.

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

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

1. **Inspection and Sampling Summary:** This section shall contain a summary of all the SIU inspections and sampling activities conducted by the Discharger and sampling activities conducted by the SIU over the reporting year to gather information and data regarding SIU compliance. The summary shall include:

   a. The number of inspections and sampling events conducted for each SIU by the Discharger;

   b. The number of sampling events conducted by the SIU. Identify SIUs that are operating under an approved Total Toxic Organic Management Plan;

   c. The quarters in which the above activities were conducted; and

   d. The compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

      (1) Consistent compliance;

      (2) Inconsistent compliance;

      (3) Significant noncompliance;

      (4) On a compliance schedule to achieve compliance (include the date final compliance is required);

      (5) Not in compliance and not on a compliance schedule; and

      (6) Compliance status unknown, and why not.

2. **Enforcement Summary:** This section shall contain a summary of SIU compliance and enforcement activities during the reporting year. The summary may be included in the summary table developed in section 8A and shall include the names and addresses of all SIUs affected by the actions identified below. For each notice specified in enforcement action “i” through “iv,” indicate whether it was for an infraction of a federal or local standard/limit or requirement.

a. Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

b. Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

c. Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

d. Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

e. Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty;

f. Order to restrict/suspend discharge to the Discharger; and

g. Order to disconnect the discharge from entering the Discharger.

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

a. Name and facility address of the SIU;

b. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;

c. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

d. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

e. For violations/noncompliance identified in the reporting period, provide:

(1) The date(s) of violation(s);

(2) The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

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

I. Baseline Monitoring Report Update

This section shall provide a list of CIUs added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR).

The BMR must contain the information specified in 40 CFR 403.12(b). For each new CIU, the summary shall indicate when the BMR was due; when the CIU was notified by the Discharger of this requirement; when the CIU submitted the report; and/or when the report is due.

J. Pretreatment Program Changes

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

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

K. Pretreatment Program Budget

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

L. Public Participation Summary

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

M. Biosolids Storage and Disposal Practice

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

N. Other Pollutant Reduction Activities

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

O. Other Subjects

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

P. Permit Compliance System (PCS) Data Entry Form

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

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

APPENDIX H-2

REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

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

A. Influent, Effluent and Biosolids Monitoring

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

B. Significant Industrial User Compliance Status

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

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

1. Name and facility address of the SIU;

2. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;

3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

5. For violations/noncompliance identified in the reporting period, provide:

    a. The date(s) of violation(s);

    b. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

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

C. Discharger's Compliance with Pretreatment Program Requirements

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

1. Date of latest PCA or PCI report;

2. Date of the Discharger's response;

3. List of unresolved issues; and

4. Plan(s) and schedule for resolving the remaining issues.

APPENDIX H-3

SIGNATURE REQUIREMENTS FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger [POTW - 40 CFR 403.12(m)]. Signed copies of the reports shall be submitted to the USEPA, 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

Pretreatment Coordinator
NPDES Wastewater Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(Submit the report as a single Portable Document Format (PDF) file to the Pretreatment Coordinator's folder in the Regional Water Board's File Transfer Protocol (FTP) site. The instructions for using the FTP site can be found at the following internet address:
http://www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/FTP_Discharger_Guide-12-2010.pdf.)

APPENDIX H-4

REQUIREMENTS FOR INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING

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

A. Reduction of Monitoring Frequency

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

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

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

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

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

B. Influent and Effluent Monitoring

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

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

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

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

1. Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.

2. A tabulation of the test results for the detected parameters shall be provided.

3. Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

C. Biosolids Monitoring

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

1. Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

2. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

3. Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5- day composite.

The USEPA 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 USEPA 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.