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California Regional Water Quality Control Board



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San Francisco Bay Region

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REVISED TENTATIVE ORDER NO. R2-2010-00XX NPDES NO. CA0110116

The following Discharger is subject to waste discharge requirements set forth in this Order.

Table 1. Discharger Information

Discharger	U.S. Department of Navy
Name of Facility	Treasure Island Wastewater Treatment Plant and its collection system
Facility Address	1220 Avenue M
	San Francisco, CA 94130
	San Francisco County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the U.S. Department of Navy from Treasure Island Wastewater Treatment Plant from the discharge point identified below is subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
E-001	Secondary Treated Municipal Wastewater	37° 49' 50" N	122° 21' 25" W	San Francisco Bay Central Basin

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	January 13, 2010
This Order shall become effective on:	March 1, 2010
This Order shall expire on:	February 28, 2015
CIWQS Regulatory Measure Number	371821
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

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 **January 13, 2010**.

Bruce H. Wolfe, Executive Officer

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- Attachment A – Definitions
- Attachment B – Maps showing location of the Facility
- Attachment C – Treatment Plant Process Flow Diagram
- Attachment D – Federal Standard Provisions
- Attachment E – Monitoring and Reporting Program (MRP)
- Attachment F – Fact Sheet
- Attachment G – Regional Standard Provisions, and Monitoring and Reporting Requirements

I. FACILITY INFORMATION

The U.S. Navy (Discharger) is subject to the waste discharge requirements set forth in this Order:

Table 4. Facility Information

Discharger	U.S. Navy
Name of Facility	Treasure Island Wastewater Treatment Plant and its collection system
Facility Address	1220 Avenue M
	San Francisco, CA 94130
	San Francisco County
Facility Contact, Title, and Phone	Patricia McFadden, BRAC Field Team Leader San Francisco Bay Area (415) 743-4720
Discharger Mailing Address	1 Avenue of the Palms, Bldg. 1, Suite 161, San Francisco, CA 94130
CIWQS Party Number	11445
CIWQS Facility Place Number	266328
Facility Operator	San Francisco Public Utilities Commission, Waste Water Enterprise, 750 Phelps Street, San Francisco, CA 94124
CIWQS Operator Number	39680
Facility Operator Contact	Tommy Moala, (415) 554 2465
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	2.0 million gallons per day (MGD) under dry weather conditions with secondary treatment
Facility Permitted Flow	4.4. MGD, under wet wether condition with secondary treatment
Service Areas	Treasure Island and Yerba Buena
Service Population	2,400

II. FINDINGS

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

A. Background. The Discharger has been discharging under Order No. R2-2004-0036 (previous Order) and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0110116. The Discharger submitted a Report of Waste Discharge on December 29, 2008, and applied for reissuance of its NPDES permit to discharge secondarily treated wastewater from the Treasure Island Wastewater Treatment Plant (Plant) to waters of the State and the United States. The Discharger’s discharge is also currently covered under Order No. R2-2007-0077 (NPDES Permit CA0038849) that superseded all requirements on mercury from wastewater discharges in the region. The mercury permit is unaffected by this Order.

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. The Facility consists of the Treasure Island Wastewater Treatment Plant and its associated collection system. The Discharger owns the Facility, which is operated by the City and County of San Francisco Public Utilities Commission (SFPUC) under a 1997 Cooperative Agreement between the Discharger and the City. Pursuant to this agreement, the SFPUC agreed to

operate and maintain the utility systems at Treasure Island, including the Plant, while the Discharger retains ownership of all the utility systems.

The Plant provides secondary treatment of domestic and non-domestic wastewater from facilities on Treasure Island and Yerba Buena Island, located in San Francisco Bay. The Facility serves a current population of approximately 2,400. The Plant was originally constructed in 1961 to provide primary treatment. It has been subsequently upgraded and now designed to provide secondary treatment, on average, of 2.0 million gallons per day (MGD). Under peak loading, in wet weather conditions, it can provide secondary treatment for up to 4.4 MGD. There are no industrial facilities in the service area. Daily dry weather influent flows measured between December 2005 and June 2009 ranged between 0.35 and 0.50 MGD. Higher flows, up to 1.5 MGD, occurred during wet weather and were caused by inflow and infiltration to the collection system. Anticipated redevelopment of the islands would increase the population served with the daily dry weather flow increasing to 1.3 MGD and the peak wet weather flow increasing to 3.0 MGD.

The collection system (shown in Attachment B) is a separate sanitary sewer system with approximately 10 miles of sewers ranging in diameter from 4 to 16 inches. Pipeline materials include cast iron, plastic, vitrified clay and asbestos cement. In addition to gravity sewers, the system also includes 29 sanitary sewer pump stations, 2 of which are on Yerba Buena Island. Wastewater from Yerba Buena Island is pumped through a 6-inch submarine force main as shown on the map in Attachment B. Stormwater on the Plant site is collected and processed through the treatment system. Stormwater from other parts of Treasure Island is discharged directly to the Bay and is not covered by this permit.

The Plant operations and processes include preliminary treatment to remove solids; primary treatment with primary sedimentation tanks; biological secondary treatment, including trickling filters and secondary sedimentation, followed by disinfection with sodium hypochlorite; and dechlorination with sodium bisulfate. The effluent is then discharged into the San Francisco Bay (Central Basin) through a deep water diffuser (Discharge Point E-001), approximately 400 feet offshore at a depth of 30 feet below mean lower low water (37° 49' 50" N latitude and 122° 21' 25" W longitude).

The sludge from the sedimentation tanks is anaerobically digested and mechanically dewatered to produce the resulting biosolids that are shipped off-site for landfill or permitted land application.

Attachment B includes maps of the area around the Plant and Attachment C is the current flow schematic of the Plant.

C. Legal Authorities. This Order is issued pursuant to Clean Water Act (CWA) section 402 and implements regulations adopted by the U.S. Environmental Protection Agency (USEPA). This Order is also issued pursuant to California Water Code (CWC) Chapters 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 and G are also incorporated into this Order.

- E. California Environmental Quality Act (CEQA).** Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.
- F. Technology-Based Effluent Limitations.** CWA Section 301(b) and NPDES regulations at 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 Part 133. A detailed discussion of technology-based effluent limitation development is included in the Fact Sheet.
- G. Water Quality-Based Effluent Limitations.** CWA section 301(b) and NPDES regulations at 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 that has no numeric criterion or objective, water quality-based effluent limitations (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 Plans.** *The Water Quality Control Plan for the San Francisco Bay Basin* (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 waters and groundwater. It also includes programs of implementation 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), USEPA, and the Office of Administrative Law. Requirements of this Order implement the Basin Plan.

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the marine influence on receiving waters of San Francisco Bay, total dissolved solids levels in San Francisco Bay exceed 3,000 milligrams per liter (mg/L) and thereby meet an exception to State Water Board Resolution No. 88-63. The MUN designation is therefore not applicable to the receiving water. Beneficial uses are listed in Table 5.

Table 5. Beneficial Uses of Central San Francisco Bay

Discharge Point	Receiving Water Name	Beneficial Uses
E-001	San Francisco Bay Central Basin	Industrial Service Supply (IND) Industrial Process Supply (PROC) Ocean, 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)

- 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 were applicable 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* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and to the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria 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. **Compliance Schedules and Interim Requirements.** SIP section 2.1 provides that, based on an existing discharger’s request and demonstration that it is infeasible for it to achieve immediate compliance with an effluent limitation derived from a CTR criterion, a compliance schedule may be allowed in an NPDES permit. Unless an exception has been granted under SIP section 5.3, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010). Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric limitations for that constituent or parameter. The Basin Plan allows compliance schedules and interim effluent limitations or discharge specifications to allow time to implement a new or revised water quality objective.

The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled “Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits” which includes compliance schedule policies for pollutants that are not addressed by the SIP. This

policy has been approved by USEPA and OAL, and became effective on August 27, 2008, superseding the Basin Plan's compliance schedule policy.

This Order includes a compliance schedule for dioxin-TEQ, and is consistent with the State Water Board's new policy. A detailed discussion of the basis for the compliance schedule and interim effluent limitation and/or discharge specifications is included in the Fact Sheet (Attachment F).

- L. 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.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and Water Quality Based Effluent Limits for individual pollutants. The technology-based effluent limitations consist of restrictions on oil and grease, pH, coliform, total suspended solids (TSS), and five-day biochemical oxygen demand (BOD₅). Derivation of these technology-based limitations is discussed in the Fact Sheet (Attachment F). 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.
- Water Quality Based Effluent Limits (WQBELs) have been derived 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 and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to USEPA. 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). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.
- N. Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with 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 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. As discussed in detail in the Fact Sheet (III C 5.), the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** CWA sections 402(o)(2) and 303(d)(4) and NPDES regulations at 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 permit, with some exceptions where limitations may be relaxed. As discussed in detail in the Fact Sheet (III C 6.), the permitted discharge is consistent with anti-backsliding requirements.

- P. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of applicable State and federal laws pertaining to threatened and endangered species.
- Q. Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- R. Standard and Special Provisions.** Standard Provisions, which 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, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the Fact Sheet (Attachment F).
- S. Provisions and Requirements Implementing State Law.** No provisions or requirements in this Order are included to implement State law only. All provisions and requirements are required or authorized under the federal CWA; consequently, violations of these provisions and requirements are subject to the enforcement remedies that are available for NPDES violations.
- T. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F).
- U. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F).

IT IS HEREBY ORDERED that this Order supersedes Order No. R2-2004-0036 except for enforcement purposes, and in order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** The effluent flow, as measured at Monitoring Location EFF-001, as described in the attached Monitoring and Reporting Plan (MRP) (Attachment E), shall not exceed an average dry weather flow of 2.0 MGD.
- C.** Discharge of treated wastewater into the San Francisco Bay at any point where it does not receive an initial dilution of at least 102:1 is prohibited.
- D.** 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 Subsections I.G.2 and I.G.4 of Attachment D of this Order.
- 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

1. Effluent Limitations for Conventional and Non-Conventional Pollutants

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point E-001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

a. Conventional and Non-Conventional effluent limitations:

Table 6. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C) (BOD ₅)	mg/L	30	45	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH ⁽¹⁾	s.u.	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0 ⁽²⁾

Footnotes for Table 6:

- ⁽¹⁾ 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.
- ⁽²⁾ This requirement is defined as below the limit of detection in standard test methods as defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*. The Discharger may elect to use a continuous on-line monitoring system for measuring flows, sodium hypochlorite, and sodium bisulfite dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff will conclude that these chlorine residual exceedances are false positives and are not violations of this Order’s total residual chlorine limit.

b. 85% Removal: The concentration-based average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.

c. Total coliform bacteria:

- (1) The moving median value for the Most Probable Number (MPN) of total bacteria in five consecutive samples shall not exceed 240 MPN/100 mL.
- (2) Any single sample shall not exceed 10,000 MPN/100 mL.

2. Effluent Limitations for Toxic Pollutants

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point E-001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Toxic Pollutants

Parameter	Units	Effluent Limitations ^(1,2)	
		AMEL	MDEL
Copper	µg/L	33	46
Cyanide	µg/L	20	54
Dioxin-TEQ ⁽³⁾	µg/L	1.4 x 10 ⁻⁸	4.4 x 10 ⁻⁸
Chlorodibromomethane	µg/L	340	680
Bis(2-ethylhexyl)phthalate	µg/L	59	120
Total Ammonia	mg/L N	150	490

Footnotes for Table 7:

- (1) a. Limitations for toxic pollutants apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).
b. All metals limitations are expressed as total recoverable metal.
- (2) A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limitations only if it exceeds the effluent limitation and the Reporting Level for that constituent. The Regional Standard Provisions (Attachment G) provide Minimum Levels (MLs) for compliance determination purposes. An 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.
- (3) Dioxin-TEQ is subject to the compliance schedule in Provision C.5.c. The final effluent limitations shall become effective starting on March 1, 2020.

3. Interim Effluent Limitations

The Discharger shall maintain compliance with the following interim effluent limitation for Dioxin-TEQ at Discharge Point E-001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). The interim limit for Dioxin-TEQ of 6.3 x 10⁻⁵ µg/L (an average monthly limit, there is no maximum daily limit) shall remain in effect until the final limits for Dioxin-TEQ in Table 7 that become effective starting March 1, 2020.

4. Whole Effluent Acute Toxicity:

- a. Representative samples of the effluent at Monitoring Location E-001 shall meet the following limits for acute toxicity. Bioassays shall be conducted in compliance with section V.A of the MRP (Attachment E).

The survival of organisms in undiluted effluent shall be:

- an eleven (11) sample median value of not less than 90 percent survival, and
- an eleven (11) sample 90 percentile value of not less than 70 percent survival.

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

11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if five or more of the past ten or less bioassay tests show less than 90 percent survival.

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 less bioassay tests show less than 70 percent survival.

- c. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species based on the most recent screening test results. 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).

5. Whole Effluent Chronic Toxicity:

- a. There shall be no chronic toxicity in the discharge. Chronic toxicity is a detrimental biological effect of 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 analyses of indicator organisms and toxicity tests. Compliance shall be measured at Monitoring Location E-001 as described in the MRP (Attachment E).
- b. The Discharger shall comply with the following tiered requirements based on results from representative samples of the effluent at E-001 as described in the attached MRP (Attachment E). Compliance with the Basin Plan narrative chronic toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated final effluent meeting test acceptability criteria and complying with MRP Section V.B (Attachment E).
 - (1) Conduct routine monitoring.
 - (2) Accelerate monitoring after exceeding a three sample median value of 10 chronic toxicity units (TUc) or a single sample maximum of 20 TUc or greater.
 - (3) Return to routine monitoring if accelerated monitoring does not exceed either “trigger” in (b), above.
 - (4) If accelerated monitoring confirms consistent toxicity above either “trigger” in (b), above, initiate toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) in accordance with MRP Section V.B (Attachment E).
 - (5) Return to routine monitoring after appropriate elements of TRE workplan are implemented and either the toxicity drops below “trigger” levels in (b), above, or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.
- c. The Discharger shall conduct routine monitoring using test species and protocols specified in MRP Section V.B (Attachment E). The Discharger shall also perform Chronic Toxicity Screening Phase monitoring as described in MRP Appendix E-1. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in MRP Appendices E-1 and E-2.

V. RECEIVING WATER LIMITATIONS

1. The discharge shall not cause the following in Central San Francisco Bay:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foams;
 - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil and other products of petroleum origin; or
 - e. Toxic or other deleterious substances to be present in concentrations or quantities that will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or that render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State within 1 foot of the water surface:
 - a. Dissolved Oxygen 5.0 mg/L, minimum

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.
 - b. Dissolved Sulfide Natural background levels
 - c. pH Within a range from 6.5 to 8.5
 - d. 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.

3. 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 the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved, the Regional Water Board may revise and modify this Order in accordance with such 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 (Supplement to Attachment D) for NPDES Wastewater Discharge Permits (Attachment G) including amendments thereto.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP (Attachment E), and future revisions thereto, including sampling and reporting requirements in the two standard provisions listed in VI.A.

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 will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b. If new or revised WQOs 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 updated WQOs and wasteload allocations in TMDLs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c. If translator 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 WDR addresses requirements similar to this discharge.
- f. Or as otherwise authorized by law.

The Discharger may request permit modifications based on the above. The Discharger shall include with any such request an antidegradation and anti-backsliding analysis.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from Discharge Point E-001 (measured at EFF-001) for the constituents listed in the Regional Standard Provisions (Attachment G) according to the sampling frequency specified in the attached MRP (Attachment E).

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of the increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of these constituents as “pollutants of concern” in the Discharger’s Pollutant Minimization Program described in Provision VI.C.3, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

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

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring data for priority pollutants for which the Regional Water Board is required to perform reasonable potential analyses and calculate effluent limitations. The data for water quality parameters (pH, salinity, and hardness) shall be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met through monitoring through a collaborative Bay Area Clean Water Agencies (BACWA) study or a similar ambient monitoring program for San Francisco Bay. This Order may be reopened, as appropriate, to incorporate effluent limits or other requirements based on Regional Water Board review of these data.

The Discharger shall submit a final report that presents all these data to the Regional Water Board 180 days prior to Order expiration, or cause one to be submitted on its behalf. This final report shall be submitted with the application for permit reissuance.

c. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of dioxin-TEQ to the receiving water cannot be achieved through economically feasible measures such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board, for approval, a mass offset plan to reduce dioxin-TEQ to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

3. Best Management Practices and Pollution Minimization

a. Pollution Minimization Program (PMP)

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

b. Annual Pollution Prevention Report

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

- (1) *A brief description of its treatment plant, treatment plant processes and service area.*
- (2) *A discussion of the current pollutants of concern.* Periodically, the Discharger shall determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.
- (3) *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger should 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 themselves or 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 its employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants. The Discharger may provide a forum for employees to provide input to the program.
- (6) *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution minimization measures 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 various media. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

- (7) *Discussion of criteria used to measure PMP's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its PMP. This discussion shall address the specific criteria used to measure the effectiveness of each of the tasks in Provision VI.C.3.b.(3-6), above.
- (8) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the PMP during the reporting year.
- (9) *Evaluation of PMP's and tasks' effectiveness.* The Discharger shall use the criteria established in b.(7), above, to evaluate the PMP's and tasks' effectiveness.
- (10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation of effectiveness, the Discharger shall describe how it will continue or change its PMP tasks to more effectively reduce the loadings of pollutant to the Plant, and therefore in its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as Detected but Not Quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- (1) A sample result is reported as DNQ and the effluent limitation is less than the Reporting Limit (RL); or
- (2) A sample result is reported as Not Detected (ND) and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. Pollutant Minimization Program Submittals for Pollutants with Effluent Limitations

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

- (1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures 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 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) The annual report required by **3.b.** above, shall specifically address the following items:
 - i. All PMP monitoring results for the previous year;
 - ii. A list of potential sources of the reportable priority pollutant(s);
 - iii. A summary of all actions undertaken pursuant to the control strategy; and
 - iv. A description of actions to be taken in the following year.

4. Special Provisions for POTWs

a. Pretreatment Program – Not Applicable

b. Biosolids Management Practices Requirements

- (1) All biosolids must 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 other recognized and approved technology, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503. If the Discharger desires to dispose of biosolids by a different method, a request for permit modification shall be submitted to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR Part 503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger. The Regional Water Board shall be copied on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.
- (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 Discharger shall take all reasonable steps to prevent or minimize any biosolid use or disposal that has a likelihood of adversely affecting human health or the environment.
- (4) The discharge of sludge shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site and deposited in waters of the State.
- (5) 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.

- (6) For biosolids applied to the land, placed on a surface disposal site, or fired in an incinerator as defined in 40 CFR Part 503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR Part 503, postmarked February 19 of each year, for the period covering the previous calendar year.
- (7) Biosolids disposed 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.
- (8) Permanent on-site biosolids storage or disposal activities are not authorized by this Order. 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.
- (9) Biosolids Monitoring and Reporting Provisions of this Regional Water Board's Standard Provisions (Attachment G) apply to sludge handling, disposal and reporting practices.
- (10) The Regional Water Board may amend this Order prior to expiration if changes occur in applicable State and federal biosolids regulations.

c. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is part of the Facility subject to this Order. As such, the Discharger must properly operate and maintain its collection system (Attachment D, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2) and mitigate any discharge from the Discharger's collection system in violation of this Order (Attachment D, Standard Provisions - Permit Compliance, subsection I.C). The General Waste Discharge Requirements for Sanitary Sewer Systems (General WRDs for Wastewater Collection Agencies, State Water Board Order No. 2006-0003 DWQ) has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General WDRs for Wastewater Collection Agencies and this Order, the General WDRs for Wastewater Collection Agencies more clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows.

Implementation of the requirements of the General WDRs for Wastewater Collection Agencies for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the General WDRs for Wastewater Collection Agencies will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans (SSMPs)

as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to CWC section 13267; and with the sanitary sewer overflow and unauthorized discharge notification and reporting requirements of the letter issued by the Regional Water Board on May 1, 2008, pursuant to CWC section 13267. The Discharger shall report sanitary sewer overflows electronically using the State Water Board’s on-line reporting system.

5. Other Special Provisions

a. Copper Action Plan

The Discharger shall implement source control and pollution prevention for copper in accordance with the following tasks and time schedule.

Table 8. Copper Action Plan

Task	Compliance Date
<p>1. Review Potential Copper Sources The Discharger shall submit an inventory of potential copper sources to the treatment plant.</p>	<p>June 1, 2010</p>
<p>2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper discharges identified in Task 1 consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> 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. 	<p>February 28, 2011, with 2010 Annual Pollution Prevention Report</p>
<p>3. Implement Additional Measures If the three-year rolling mean copper concentration of the receiving water exceeds 2.2 µg/L, evaluate the effluent copper concentration trend, and if it is increasing, develop and implement additional measures to control copper discharges.</p>	<p>Within 90 days of exceedance</p>
<p>4. Report Status of Copper Control Program Submit a report to the Regional Water Board documenting implementation of the copper control program.</p>	<p>Annually with Annual Pollution Prevention Reports due February 28</p>

b. Cyanide Action Plan

The Discharger shall implement monitoring and surveillance, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 9. Cyanide Action Plan

Task	Compliance Date
<p>1. Review Potential Cyanide Contributors The Discharger shall submit an inventory of potential contributors of cyanide to the treatment plant (e.g., metal plate operators, hazardous waste recycling, etc.). If no contributors of cyanide are identified, Task 2 and 3 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to its treatment plant. If so, the Discharger shall notify the Executive Officer and implement Tasks 2 and 3.</p>	<p>June 1, 2010</p>
<p>2. Implement Cyanide Control Program The Discharger shall submit a plan for and begin implementation of a program to minimize cyanide discharges to the sanitary sewer system consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> a. Inspect each potential contributor 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 U.S.EPA 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. e. If ambient monitoring shows cyanide concentrations of 1.0 µg/L or higher in the main body of San Francisco Bay, undertake actions to identify and abate cyanide sources responsible for the elevated ambient concentrations. 	<p>Annually with Annual Pollution Prevention Reports due February 28, or within 90 days of completing Task 1</p>
<p>3. Report Status of Cyanide Control Program Submit a report to the Regional Water Board documenting implementation of the cyanide control program.</p>	<p>Annually with Annual Pollution Prevention Report due February 28.</p>

c. Dioxin Compliance Schedule

The Discharger shall adhere to the following schedule to comply with final effluent limitations for dioxin-TEQ.

Table 10. Dioxin-TEQ Compliance Schedule

Task	Deadline
(1) The Discharger shall continue its annual dioxin monitoring at monitoring point EFF-001 and comply with the reporting requirements contained in the MRP. The Discharger shall also comply with the interim effluent limit, AMEL = 6.3×10^{-5} µg/L (There is no maximum daily limit)	March 1, 2010
(2) If dioxin-TEQ effluent monitoring data show that the Discharger would not be in compliance with the final effluent limits, as described in section 2.4.5, Compliance Determination, the Discharger shall submit a plan to	No later than 12 months after monitoring data show that the Discharger would

Task	Deadline
identify dioxin-TEQ sources to the discharge and identify source control measures to reduce concentrations of these pollutants to the Treatment Plant, and therefore to receiving waters.	be out of compliance
(3) Implement the plan developed in task (2), including both pollutant source identification and source control.	Within 30 days of the deadline for task 2
(4) Submit a report that contains an inventory of the pollutant sources.	No later than four months after the deadline for task 2
(5) Submit a report documenting development and initial implementation of a program to reduce and prevent the pollutants of concern in the discharge. The program shall consist, at a minimum, of the following elements: i. Maintain a list of sources of pollutants of concern. ii. Investigate each source to assess the need to include it in the program. iii. Identify and implement targeted actions to reduce or eliminate each source included in the program. iv. Develop and distribute, as appropriate, educational materials regarding the need to prevent sources to the sewer system.	No later than six months after the deadline for task 2
(6) Continue to implement the program described in task (5) and submit annual status reports that evaluate its effectiveness and summarize planned changes. Report whether the program has successfully brought the discharge into compliance with the effluent limits in this Order.	Annually with Annual Pollution Prevention Reports due February 28
(7) In the event that source control measures are insufficient for meeting final WQBELs specified in Section IV Effluent Limitations and Discharge Specifications for or dioxin-TEQ, the Discharger shall submit a schedule for implementation of additional actions to reduce the concentrations of these pollutants.	No later than 4 months after the most recent Annual Pollution Prevention Report that identifies that additional actions are needed
(8) The Discharger shall commence implementation of the identified additional actions in accordance with the schedule submitted in task (7).	Within 45 days after the deadline for task 7
(9) Full Compliance with Section IV. Effluent Limitations and Discharger Specifications for dioxin-TEQ. Alternatively, the Discharger may comply with the limits through implementation of a mass offset strategy for dioxin-TEQ in accordance with policies in effect at that time.	March 1, 2020 (10 years from Order effective date)

VII. COMPLIANCE DETERMINATION

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

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachment A to the MRP (Attachment E) and Fact Sheet Section VI. 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).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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:

$$\text{Arithmetic mean} = \mu = \Sigma x / n$$

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

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

Coefficient of Variation (CV) 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 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) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

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

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

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 are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation is 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 is 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) means 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 is 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) 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, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (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 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) are those sample results less than the laboratory's MDL.

Ocean Waters are 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 are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (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 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) 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 is 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 is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) 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) 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 MAPS

Figure B-1. Facility Location

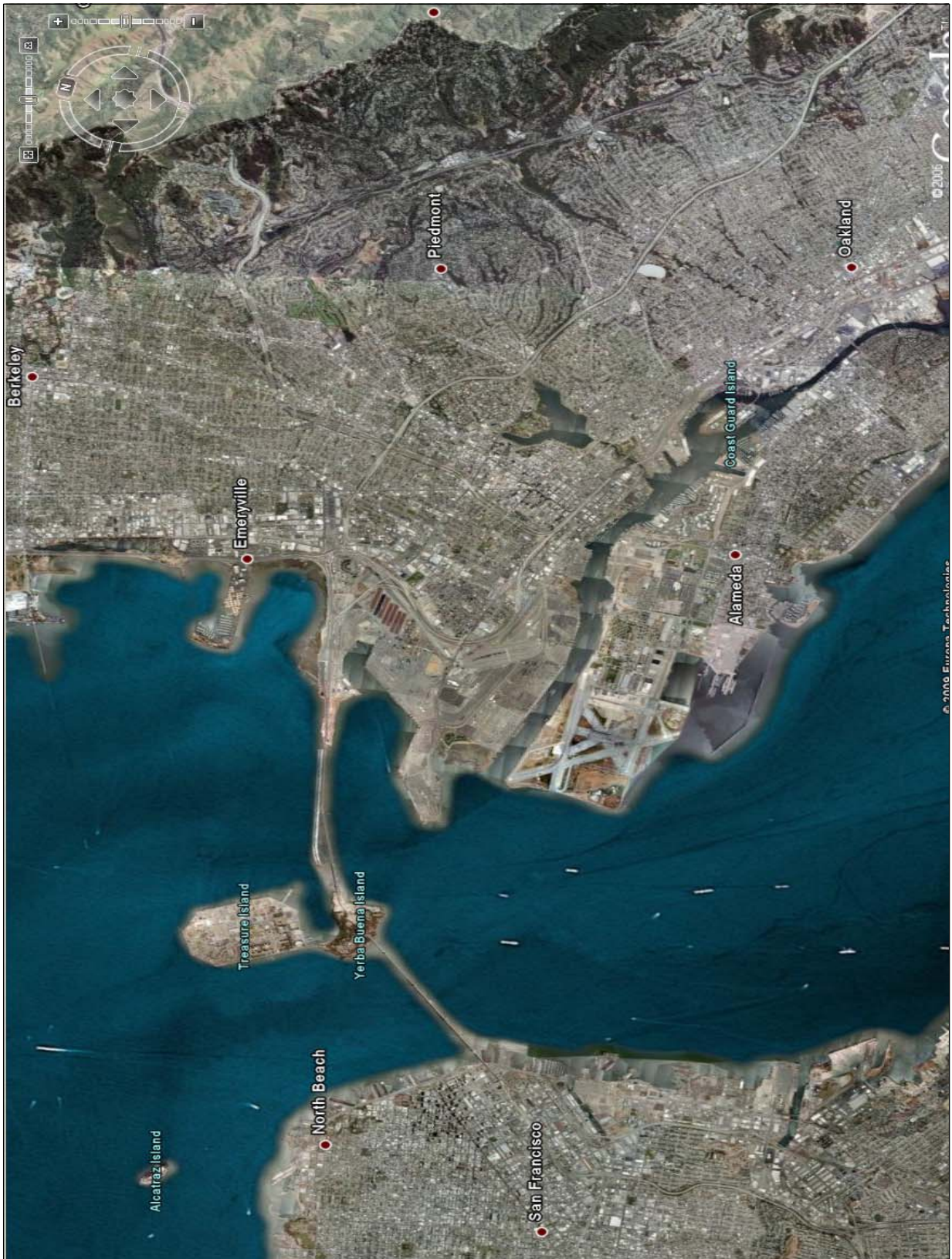


Figure B-2. Facility Location

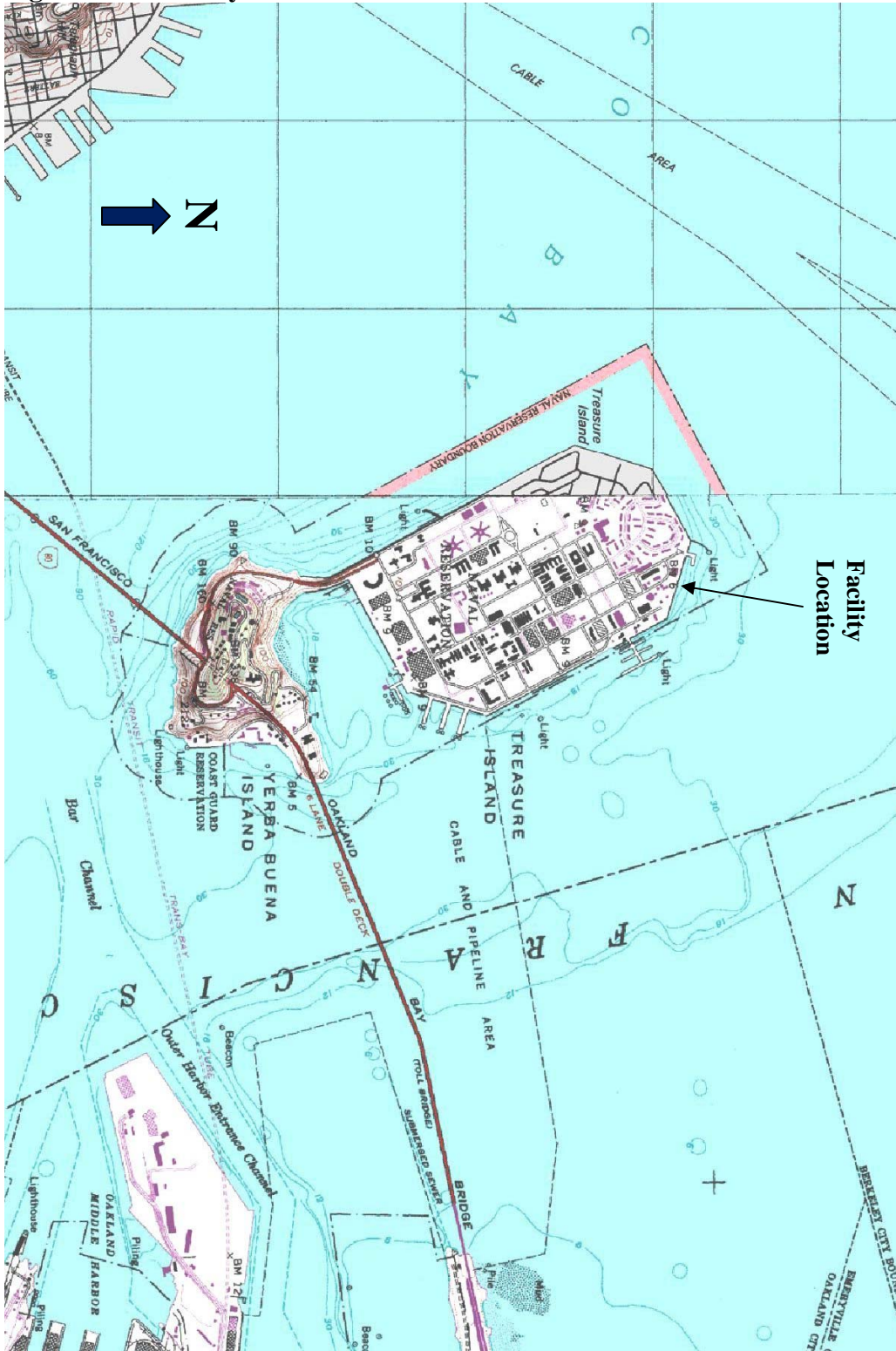
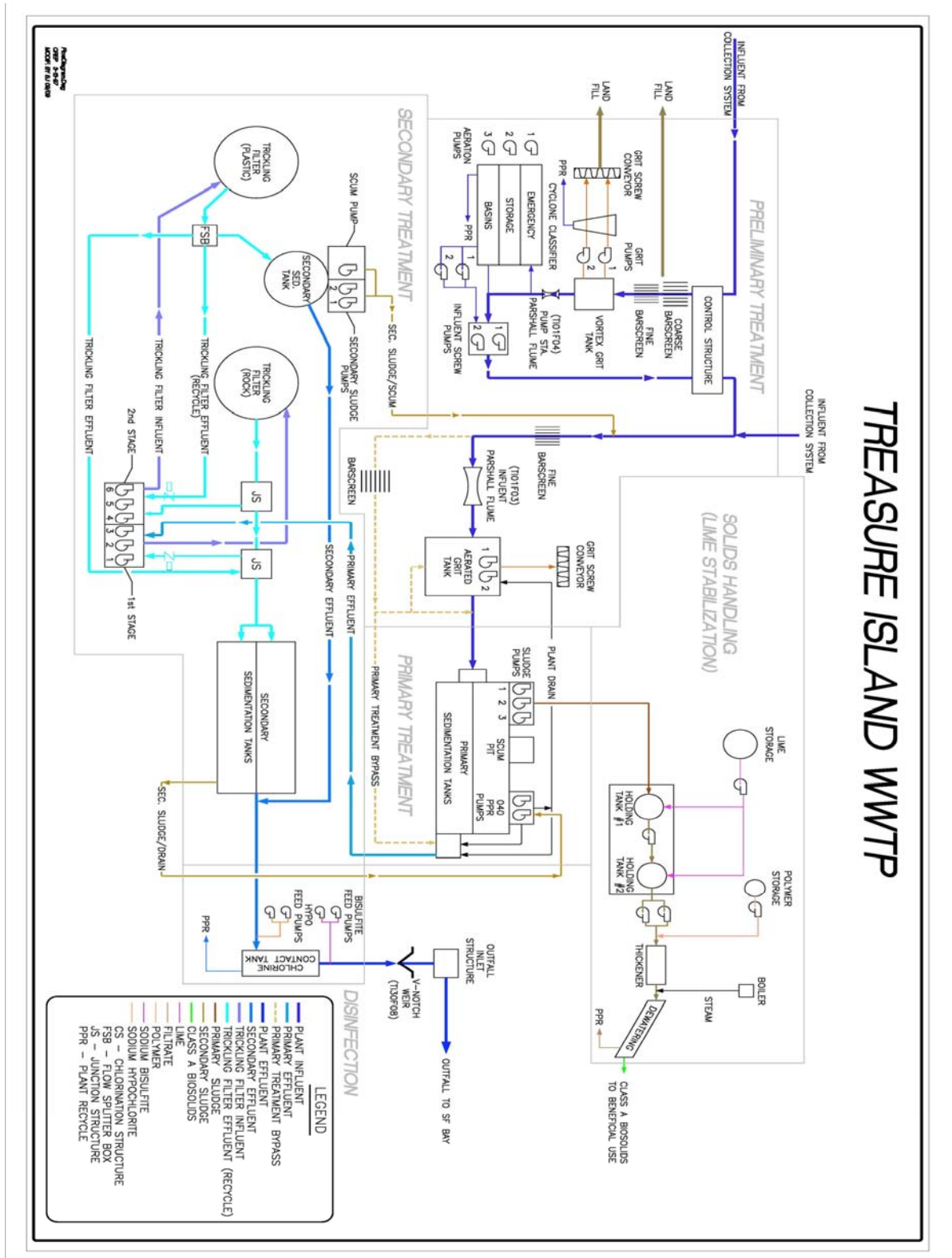


Figure B-3. Facility Map



ATTACHMENT C – PROCESS FLOW DIAGRAMS

Figure C-2. Process Flow Diagram with Lime



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 §22.41(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, United States Environmental Protection Agency (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 an 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); Water 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 (Attachment E) 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));
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)); or
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

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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 Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

- A.** The Discharger shall comply with this MRP, and with all of the requirements contained in the Regional Standard Provisions (Attachment G). The MRP may be amended by the Executive Officer pursuant to U.S. Environmental Protection Agency (USEPA) regulations 40 CFR Parts 122.62, 122.63, and 124.5.
- B.** All analyses shall be conducted using current USEPA methods, methods that have been approved by the USEPA Regional Administrator pursuant to 40 CFR Part 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analyses. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer following consultation with the State Water Quality Control Board (State Water Board) Quality Assurance Program.
- C.** Sampling and analysis of additional constituents is required pursuant to the Regional Standard Provisions (Attachment G).
- D.** Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (CDPH) under the Environmental Laboratory Accreditation Program (ELAP), in accord with CWC section 13176 and shall include in reports quality assurance/quality control data.
- E.** For compliance and reasonable potential monitoring, analyses shall be conducted using commercially available and reasonably achievable detection levels that are lower than the WQOs or the effluent limitations, whichever are lower.

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	Any point in the treatment plant headworks at which all waste tributary to the system is present and preceding any phase of treatment that may alter influent character.
Effluent	EFF-001	Any point in the treatment plant at which adequate contact with the disinfectant is assured and a representative sample of the final effluent can be obtained.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor influent to the Plant at INF-001 as follows.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate ⁽¹⁾	MGD	Cont/D	Cont	(2)
Biochemical Oxygen Demand (5-day @ 20°C) (BOD ₅)	mg/L	C-24	1/Week	(2)
	kg/day	C-24	1/Week	(2)
Total Suspended Solids (TSS)	mg/L	C-24	1/Week	(2)
	kg/day	C-24	1/Week	(2)
Cyanide	µg/L	Grab	1/quarter	

Legend for Table E-2

Unit Abbreviations

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

Sample Type

Cont = continuous sampling
 Cont/D = measured continuously and recorded and reported daily
 C-24 = 24 hour composite

Sampling Frequency

1/week = once per week
 1/month = once per month
 1/quarter = once every 3 months

Footnotes for Table E-2

⁽¹⁾ Flows shall be monitored continuously and the following shall be reported in monthly self-monitoring reports:

- Daily average flow (MGD)
- Daily total flow volume (MG)
- Monthly average flow rate (MGD)
- Monthly total flow volume (MG)
- Average daily maximum and average daily minimum flow rates (MGD) in a month.

⁽²⁾ Parameters shall be analyzed using the analytical methods described in 40 CFR 136.

IV. EFFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor treated effluent from the Plant at EFF-001 as follows:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate ⁽¹⁾	MGD	Cont	Cont/D	⁽²⁾
Oil and Grease ⁽³⁾	mg/L	G	1/Quarter	⁽²⁾
pH ⁽⁴⁾	s.u.	G	3/Week	⁽²⁾
Temperature	°C	G	1/Week	⁽²⁾
BOD ₅ ⁽⁵⁾	mg/L	C-24	1/Week	⁽²⁾
TSS ⁽⁵⁾	mg/L	C-24	1/Week	⁽²⁾
Acute Toxicity ⁽⁶⁾	% survival	C-24	1/Month	⁽²⁾
Chronic Toxicity ⁽¹⁰⁾	TUc	C-24	1/2 Year	⁽²⁾
Total Coliform Bacteria	MPN/100mL	G	3/Week	⁽²⁾
Chlorine Residual	mg/L	G	Cont/2H ⁽⁷⁾	⁽²⁾
Chlorine Dosage ⁽⁸⁾	gallons/day	Meter	1/Day	---
Ammonia (total as N)	mg/L as N	C-24	1/Month	⁽²⁾
Copper, Total Recoverable	µg/L	C-24	1/Month	⁽²⁾
Cyanide, Total (as CN)	µg/L	C-24	1/Month	⁽²⁾
Chlorodibromomethane	µg/L	C-24	1/Month	⁽²⁾
Bis (2-ethylhexyl) phthalate	µg/L	C-24	1/Month	⁽²⁾
Dioxin-TEQ ⁽¹¹⁾	µg/L	G	1/Year	⁽²⁾
Remaining Priority Pollutants	µg/L	G	1/2 Year ⁽⁹⁾	⁽²⁾

Legend for Table E-3:

Units:

- MG = million gallons
- MGD = million gallons per day
- s.u. = standard units
- TUc = chronic toxicity units
- MPN/100mL = most probable number per 100 milliliters
- °C = degrees Celsius
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- kg/d = kilograms per day

Footnotes for Table E-3

- (1) Flows shall be monitored continuously and the following shall be reported in monthly self-monitoring reports:
 - Daily average flow (MGD)
 - Daily total flow volume (MG)
 - Monthly average flow rate (MGD)
 - Monthly total flow volume (MG)
 - Average daily maximum and average daily minimum flow rates (MGD) in a month.
- (2) Pollutants and parameters shall be analyzed using the analytical methods described in 40 CFR 136. For priority pollutants, the methods shall meet the lowest MLs specified in SIP Attachment 4. Where no methods are specified for a given pollutant, the methods shall be approved by this Regional Water Board or the State Water Board.
- (3) Each oil and grease sampling event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within the accuracy of plus or minus 5%. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent as soon as possible after use, and the solvent rinseate shall be added to the composite sample for extraction and analysis.
- (4) If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in monthly Self-Monitoring Reports (SMRs).
- (5) The percent removal for BOD₅ and TSS shall be reported for each calendar month. Samples for BOD₅ and TSS shall be collected simultaneously with influent samples.
- (6) Acute bioassay tests shall be performed in accordance with MRP section V.A.
- (7) The dechlorinated effluent shall be monitored continuously or at a minimum, every 2 hours. The Discharger shall report on a daily basis, both maximum and minimum concentrations, for samples taken both prior to and following dechlorination. If a violation is detected, the maximum and average concentrations and duration of each non-zero residual event shall be reported, along with the cause and corrective actions taken. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and/or sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) concentration(s) to demonstrate that chlorine residual exceedences are false positives.
- (8) Total chlorine dosage shall be recorded on a daily basis.
- (9) Sampling for all priority pollutants is described in Attachment G.
- (10) Chronic bioassay tests shall be performed in accordance with MRP section V.B.
- (11) Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed according to methods described in Attachment G.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute and chronic toxicity at 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 static renewal bioassays.
2. Test organisms shall be fathead minnow or rainbow trout 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 Part 136, currently in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition.
4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being 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. Written approval from the Executive Officer must be obtained to authorize such an adjustment. Compliance with the acute toxicity limitation may be demonstrated after adjusting the effluent pH to minimize the concentration of un-ionized ammonia.
5. The sample may be taken from final secondary effluent prior to disinfection. 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% or greater is observed. If the control fish survival rate is less than 90%, 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% 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 at the compliance point specified in Table E-3 above for critical life stage toxicity testing. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
 - b. *Test Species*. The Discharger shall conduct a chronic screening on the effluent by December 31, 2011 using test species and test screening requirements as defined in Appendices E-1 and E-2. Upon completion of the chronic toxicity screening, the Discharger shall use the most sensitive species to conduct future monitoring during the permit cycle as required in Table E-3.

- c. *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 third edition (EPA-821-R-02-014), and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).
- d. *Dilution Series.* The Discharger shall conduct tests at 2%, 5%, 10%, 20%, and 40%. The "%" represents percent effluent as discharged. The Discharger may use a buffer only after obtaining written approval from the Executive Officer.

2. Chronic Toxicity Reporting Requirements

- a. *Routine Reporting.* Toxicity test results for the current reporting period shall include, at a minimum, for each test:
 - (1) Sample dates
 - (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 Observed Effect Concentration (NOEC) values in terms of "percent effluent"
 - (6) Inhibition Concentration (IC) values at IC₁₅, IC₂₅, IC₄₀, and IC₅₀ (or Effective Concentration (EC) values at EC₁₅, EC₂₅ ... etc.) in terms of "percent effluent"
 - (7) Chronic Toxicity Units (TUc) values (100/NOEC, 100/IC₂₅, or 100/EC₂₅)
 - (8) Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable)
 - (9) NOEC and Lowest Observed Effect Concentration (LOEC) values for reference toxicant tests
 - (10) IC₅₀ or EC₅₀ values for reference toxicant tests
 - (11) Available water quality measurements for each test (pH, dissolved oxygen [DO], temperature, conductivity, hardness, salinity, ammonia)
- b. *Compliance Summary.* The results of the chronic toxicity testing shall be provided in the Self-Monitoring Report (SMR) and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include items listed above under 2.a, specifically item numbers (1), (3), (5), (6) (IC₂₅ or EC₂₅), (7), and (8).

3. Chronic Toxicity Reduction Evaluation (TRE)

- a. To be ready to respond to toxicity events, the Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.
- b. Within 30 days of exceeding the trigger for accelerated monitoring, the Discharger shall submit to the Regional Water Board a specific TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.
- c. Within 30 days of the date of completion of the accelerated monitoring tests 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 prepared 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 (complying with requirements of Section IV.5 of this 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. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program for Trace Substances (RMP), which involves collection of data on pollutants and toxicity in water, sediment, and biota of the Estuary. The Discharger's participation and support of the RMP is used in consideration of the level of receiving water monitoring required by this Order.

IX. OTHER MONITORING REQUIREMENTS

The Discharger shall adhere to sludge monitoring requirements required by 40 CFR Part 503.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all standard provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to 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>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event that there will be service interruption for electronic submittal.
2. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order for each calendar month. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs shall be due on the 30th day

following the end of each calendar month, covering samples collected during that calendar month; Annual Reports shall be due on February 1 following each calendar year.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-4. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Day after permit effective date	All
Hourly	Day after permit effective date	Hourly
Daily	Day after permit effective date	Midnight through 11:59 PM or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31
Annually	January 1 following (or on) permit effective date	January 1 through December 31
Per Discharge Event	Anytime during the discharge event or as soon as possible after aware of the event	At a time when sampling can characterize the discharge event

4. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL) as determined by the procedure in 40 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 the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of

- data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected" or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
5. The Discharger shall submit SMRs in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Plant is operating in compliance with effluent limitations in this Order. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter with the SMR. The cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned, and include proposed time schedules for corrective actions. SMRs shall include a description of the requirements violated and a description of the violations.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

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

C. Discharge Monitoring Reports

1. As described in section X.B.1 above, at any time during the term of this Order, 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. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge 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, 15 th 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 as EPA Form 3320-1.

D. Other Reports

The Discharger shall report the results of any special studies, monitoring, and reporting required by Section VI.C.2 (Special Studies, Technical Reports, and Additional Monitoring Requirements) of the Order with the first monthly SMR following the respective due date. In the annual SMRs the Discharger shall also report progress toward implementing compliance schedules required by section VI.C.5 of this Order.

**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 IC₂₅ or EC₂₅. If the IC₂₅ or EC₂₅ cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC₂₅ 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 IC₂₅ is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as 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.
 - 2. Two stages:

- a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on **Appendix E-2** (attached).
 - b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.
3. Appropriate controls.
 4. Concurrent reference toxicant tests.
 5. Dilution series of 2%, 5%, 10%, 20%, and 40%, where “%” is percent effluent as discharged.
- 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**

Critical Life Stage Toxicity Tests for Estuarine Waters

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

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	<i>(Pimephales promelas)</i>	Survival; growth rate	7 days	4
Water flea	<i>(Ceriodaphnia dubia)</i>	Survival; number of young	7 days	4
Alga	<i>(Selenastrum capricornutum)</i>	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay ⁽²⁾	
	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 ⁽¹⁾ Marine/Estuarine	0	1 or 2	3
	4	3 or 4	0
Total number of tests	4	5	3

Footnotes:

- (1) The freshwater species may be substituted with marine species if:
 - a. The salinity of the effluent is above 1 part per thousand (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.
- (2) a. Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.
 b. Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

ATTACHMENT F - FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Treasure Island Wastewater Treatment Plant (Plant) and its collection system.

Table F-1. Facility Information

WDID	2 386013001
Discharger	U.S. Department of Navy
Name of Facility	Treasure Island Wastewater Treatment Plant and its collection system
Facility Address	1220 Avenue M
	San Francisco, CA 94130
Facility Contact, Title, Phone	Patricia McFadden, BRAC Field Team Leader San Francisco Bay Area, (415) 743-4720
Authorized Person to Submit Reports	Patricia McFadden , 1 Avenue of the Palms, Bldg 1, Suite 161, San Francisco, CA 94130
Mailing & BillingAddress	1 Avenue of the Palms, Suite 161, San Francisco, CA 94130
CIWQS Discharger Party Number	11445
CIWQS Facility Place Number	266328
Facility Operator	San Francisco Public Utilities Commission, Waste Water Enterprise, 750 Phelps Street, San Francisco, CA 94124
Facility Operator Contact	Tommy Moala (415) 554 2465
CIWQS Operator Number	39680
Type of Facility	Publicly Owned Treatment Works (POTW)
Service Area	Treasure Island and Yerba Buena Island
Service Area Population	2,400
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	No
Mercury Discharge Requirement	Order No. R2-2007-0077
Facility Design Flow	2.0 million gallons per day (MGD), average dry weather conditions providing secondary treatment
Facility Permitted Flow	4.4 MGD under wet weather conditions providing secondary treatment
Watershed	San Francisco Bay
Receiving Water and Type	San Francisco Bay Central Basin, Marine

- A.** The U.S. Navy (hereinafter the Discharger) owns the Treasure Island Wastewater Treatment Plant (Plant), which discharges to San Francisco Bay (Central Basin) through a submerged deep-water diffuser. The San Francisco Public Utilities Commission (SFPUC) operates the Plant and its associated collection system (Facility) under a 1997 Cooperative Agreement between the Discharger and the City. Pursuant to the Cooperative Agreement, the SFPUC agreed to operate and maintain the utility systems at Treasure Island, including the Plant, while the Discharger retains ownership of all the utility systems.

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

- B.** The Discharger is currently regulated by Order No. R2-2004-0036 (National Pollutant Discharge Elimination System (NPDES) Permit No. CA0110116), which was adopted on May 19, 2004. The Discharger’s discharge is also currently covered under Order No. R2-2007-0077 (NPDES Permit CA0038849) that superseded all requirements on mercury from wastewater discharges in the region. The mercury permit is unaffected by this Order.

The terms and conditions of Order No. R2-2004-0036 have been automatically continued past that Order’s expiration date of June 30, 2009, and remain in effect until new Waste Discharge Requirements (WDRs) and a new NPDES permit are adopted and become effective.

- C.** The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its WDRs and NPDES permit on December 29, 2008.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment

The Discharger owns the Facility, which is operated by the SFPUC under a 1997 Cooperative Agreement between the Discharger and the City. Pursuant to this agreement, the SFPUC operates and maintains the utility systems at Treasure Island, including the Plant, while the Discharger retains ownership of all the utility systems.

The Plant provides secondary treatment of domestic and non-domestic wastewater from facilities on Treasure Island and Yerba Buena Island, located in San Francisco Bay. The Facility currently serves a population of approximately 2,400. It was initially constructed in 1961 to provide primary treatment and has been subsequently upgraded to provide secondary treatment and disinfection. It is designed to provide secondary treatment for on average of 2.0 million gallons per day (MGD) and , as indicated in the study “Improving Process Reliability and Performance Through Flow Equalization”, D. Richard & E.M. Bolstad, Nolte & Associates, April 1991”, under wet weather conditions, can provide treatment for up to 4.4 MGD. There are a few commercial facilities, including a restaurant and culinary academy, but no manufacturing industries in the service area. Daily influent flows to the Plant measured between December 2005 and June 2009 ranged between 0.35 and 0.50 MGD. Higher flows, up to 1.5 MGD, occurred during wet weather and were caused by inflow and infiltration to the collection system. Anticipated redevelopment of the islands would

increase the population served with the daily dry weather flow increasing to 1.3 MGD and the peak wet weather flow increasing to 3.0 MGD.

The collection system (shown in attachment B) is a separate sanitary sewer system with approximately 10 miles of sewers ranging in diameter from 4 to 12 inches. Pipeline materials include cast iron, plastic, vitrified clay and asbestos cement. In addition to gravity sewers, the system also includes 29 sanitary sewer pump stations, 2 of which are on Yerba Buena Island. Wastewater from Yerba Buena Island is pumped through a 6-inch submarine force main as shown on the map in Attachment C. Stormwater on the Plant site is collected and processed through the treatment system. Stormwater from other parts of Treasure Island is discharged directly to the Bay and is not covered by this permit.

The Plant operations and processes include preliminary treatment to remove solids; primary treatment with primary sedimentation tanks; biological secondary treatment, including trickling filters and secondary sedimentation followed by disinfection with sodium hypochlorite; and dechlorination with sodium bisulfate. The effluent is then discharged into Central San Francisco Bay through a deep water diffuser (Discharge Point E-001), approximately 400 feet offshore at a depth of 30 feet below mean lower low water (37° 49' 50" N latitude and 122° 21' 25" W longitude).

The sludge from the sedimentation tanks is anaerobically digested and mechanically dewatered and the resulting biosolids shipped off-site for landfill or permitted land application.

Stormwater from land covered by the Plant is, after being processed through the treatment plant, discharged to the San Francisco Bay through E-001 and is covered under the Statewide Industrial Storm Water Permit (NPDES General Permit No. CAS000001).

B. Discharge Points and Receiving Waters

The receiving water and the location of the discharge point are shown in Table F-2 below and Attachment B. Compliance monitoring is conducted at Monitoring Location E-001, as described in the attached Monitoring and Reporting Program (MRP). Central San Francisco Bay is located in the San Francisco Bay Watershed Management Area.

Table F-2. Outfall Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
E-001	Secondary Treated Municipal Wastewater	37° 49' 50" N	122° 21' 25" W	San Francisco Bay Central Basin

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

Effluent limitations contained in the previous Order for discharges to Central San Francisco Bay and representative monitoring data from the previous Order are shown in Table F-3.

Table F-3. Effluent Limitations in Previous Order and Monitoring Data for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations			Monitoring Data (From August 2004 to May 2009)		
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Oil and Grease	mg/L	10	-----	20	<5	-----	<5
pH	standard units	6.0 – 9.0			-----	-----	5.7 – 8.04
Total Suspended Solids (TSS)	mg/L	30	45	-----	15.2	22	40.5
Acute Toxicity	% survival	(1)	(1)	(1)	-----	-----	100 ⁽²⁾
Biochemical Oxygen Demand [5-day @ 20 °C] (BOD ₅)	mg/L	30	45	---	11.3	15.7	20
Total Coliform Bacteria	MPN/100 mL	(3)	(3)	(3)	-----	100 ⁽⁴⁾	16,000
Chlorine, Total Residual	mg/L	-----	-----	0.0 ⁽⁵⁾	-----	-----	0.0

Footnotes for Table F-3:

mg/L = milligrams per liter, mL/L-hr = milliliters per liter per hour

MPN/100 mL = Most Probable Number per 100 milliliters

ND = Non-Detect, NA = Not Applicable, % survival = percent survival

- (1) The limit as an 11-sample median value of not less than 90 percent survival and an 11-sample 90th percentile value of not less than 70 percent survival.
- (2) The lowest percent survival reported was 100 percent.
- (3) The moving median value for the MPN of total coliform bacteria in five consecutive samples was not to exceed 240 MPN/100 mL; any single sample was not to exceed 10,000 MPN/100 mL.
- (4) Highest five consecutive sample median.
- (5) For Total Residual Chlorine, 0.0 mg/L was established as an instantaneous maximum effluent limitation.

Table F-4. Effluent Limitations in Previous Order and Monitoring Data for Toxic Pollutants

Parameter	Units	Final Limits		Interim Limits		Monitoring Data (From August 2004 to May 2009)
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Highest Daily Concentration
Copper	µg/L	-----	-----	25	-----	18
Lead	µg/L	89	36	-----	-----	7.3
Mercury	µg/L	-----	-----	-----	0.087	0.03
Silver	µg/L	22	7.3	-----	-----	0.30
Zinc	µg/L	740	490	-----	-----	75
Cyanide	µg/L	-----	-----	10	-----	11.0
4,4-DDE	µg/L	-----	-----	0.05	-----	<1 ⁽¹⁾
Dieldrin	µg/L	-----	-----	0.01	-----	<0.8 ⁽¹⁾

Footnotes for Table F-4:

Units: µg/L = micrograms per liter

- (1) Analyte not detected in effluent. Number is the lowest method detection limit (MDL) as reported by the analytical laboratory.

D. Compliance Summary

- 1. Compliance with Numeric Effluent Limits.** Exceedances of numeric effluent limits were observed during the previous permit term for total coliform and cyanide. The exceedances are listed below:

Table F-5. Numeric Effluent Exceedances

Date of Violation	Exceeded Parameter	Units	Effluent Limitation	Reported Concentration
August 11, 2004	Total Coliform, Effluent Instantaneous Maximum	µg/L	10,000	16,000
October 1, 2007	Cyanide, Effluent Daily Maximum	µg/L	10	10.7

The Discharger’s acute toxicity monitoring data from 2004 – 2009 show that there were no exceedances of the effluent limitations for toxicity during the permit term.

- 2. Compliance with Previous Permit Provisions.** A list of special activities required by the previous Order and the status of those requirements are shown in Table F-6 below.

Table F-6. Required Reports and Studies Progress

Provision Number	Requirement	Date Due	Status of Completion
E.2	Effluent Characterization for Selected Constituents	Annual Basis, Final Report due 180 days prior to Order expiration date	Annual report was submitted on February 8, 2005, and annually thereafter. Final report was submitted on December 29, 2008.
E.3	Mercury Source Control Special Project	Submit project outline within 6 months and initiate project within 12 months of permit adoption	Project outline was submitted on January 31, 2005 Implementation of mercury source control special project was implemented within 12 months as required.
E.4	Ambient Background Receiving Water Study	Final report due 180 days prior to Order expiration.	The Ambient Background Receiving Water Study was performed through monitoring in the Regional Monitoring Program for Toxic Substances required by the Regional Water Board and administered by the San Francisco Estuary Institute.
E.5.b	Cyanide Compliance Schedule and Site Specific Objective (SSO) Study, SSO Study – Participation through Bay Area Clean Water Agencies (BACWA)	Annual progress reports due January 31 st each year until completion	Annual reports were submitted as required through participation with BACWA. Annual report was submitted on February 8, 2005 and annually thereafter.
E.6.b	Pollution Prevention and Pollutant Minimization Program, Annual Report	Annual Report, no later than February 28 th each year	Annual report was submitted on February 28, 2006, and annually thereafter.
E.8	Regional Monitoring Program (RMP)	The Discharger shall continue to	The Discharger participated in the RMP as required.

Provision Number	Requirement	Date Due	Status of Completion
		participate in the RMP	
E.9	Optional Mass Offset	N/A	The Discharger did not elect to perform this optional study.
E.10	Optional Receiving Water Beneficial Use and Alternative Bacteriological Limits Study	N/A	The Discharger did not elect to perform this optional study.
E.11	Optional Copper and Nickel Translator Study and Schedule	N/A	The Discharger did not elect to perform this optional study.
E.12.c	Wastewater Facilities, Review and Evaluation, and Status Reports	Submitted with Annual Status Report, due July 15 th of each year	Annual report submitted on July 15, 2005, and annually thereafter.
E.13.c	Operations and Maintenance Manual, Review and Status Reports	Submitted with Annual Status Report, due July 15 th of each year	Annual report submitted on July 15, 2005, and annually thereafter.
E.14.c	Contingency Plan, Review and Status Reports	Submitted with Annual Status Report, due July 15 th of each year	Annual report submitted on July 15, 2005, and annually thereafter.
E.15	Annual Status Reports	July 15 th of each year	Annual report submitted on July 15, 2005, and annually thereafter.
E.16	303(d)-Listed Pollutants, SSOs and Total Daily Maximum Daily Load (TMDL) Status Review/Update	By January 31 of each year	This requirement was completed through efforts by the Bay Area Clean Water Agencies work on 303(d) Listed Pollutants, including dioxin, SSOs, cyanide and copper, and TMDLs, mercury and selenium. Annual status reports were prepared by BACWA for all agencies.

3. Enforcement Summary

None of the violations listed in Table F-5 resulted in financial enforcement actions, but the Discharger took actions to prevent further similar violations.

E. Planned Changes

During the effective period of this Order the Discharger will implement capital improvement projects to create a new sludge stabilization and dewatering facility. This will eliminate aging and unreliable infrastructure and produce a higher classification of biosolids. During 2010 the Discharger will abandon the existing sludge stabilization and dewatering processes and install a new sludge process utilizing lime for stabilization. These changes will improve the quality of dewatered sludge, resulting in a final production of Class (A) Biosolids under U.S. EPA classification regulations. The Discharger also plans to replace existing process piping and equipment which is prone to failure and has required extensive maintenance.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to the Clean Water Act (CWA) section 402 and implementing regulations adopted by the U. S. Environmental Protection Agency (USEPA) and pursuant to California Water Code (CWC) Chapter 5.5, Division 7 (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from the Plant to surface waters. This Order also serves as a WDR 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 adopt an NPDES permit is exempt from the provisions of CEQA.

C. State and Federal Regulations, Policies, and Plans

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

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the marine influence on receiving waters of San Francisco Bay, total dissolved solids levels in San Francisco Bay commonly (and often significantly) exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. The designation MUN does not apply to the Central San Francisco Bay. Beneficial uses are as follows:

Table F-7. Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	San Francisco Bay Central Basin	Industrial Service Supply (IND) Industrial Process Supply (PROC) Ocean, 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)

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 applied 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. USEPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority toxic pollutants, which apply to Central San Francisco Bay.
3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and to the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria 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.
4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [40 CFR 131.21, 65 Fed. Reg. 24641 (April 27, 2000)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
5. **Antidegradation Policy.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with 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. Resolution No. 68-16 requires that existing water quality be maintained unless

degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both State and federal antidegradation policies. As discussed in section IV.D. the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

- 6. Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and NPDES regulations at 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 permit, with some exceptions in which limitations may be relaxed. As discussed in section IV.D. the permitted discharge is consistent with anti-backsliding requirements.

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

In November 2006, the USEPA approved a revised list of impaired water bodies prepared by the State (hereinafter referred to as the 303(d) list), pursuant to provisions of 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. Central San Francisco Bay is listed as an impaired waterbody for chlordane, DDT, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with Total Maximum Daily Loads (TMDLs) and associated waste load allocations.

The Regional Water Board plans to adopt TMDLs for pollutants on the 303(d) list in Central San Francisco Bay within the next ten years. A TMDL for mercury became effective on February 12, 2008.

TMDLs will establish waste load allocations for point sources and load allocations for non-point sources, and will result in achieving the water quality standards for the waterbodies. The discharge of mercury from the Plant is regulated by Regional Water Board Order No. R2-2007-0077, which implements the mercury TMDL and contains monitoring and reporting requirements.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations 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 criteria (WQC) to protect the beneficial uses of the receiving water.

Specific factors affecting the development of limitations and requirements in this Order are discussed as follows.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than that described in this Order):** This prohibition is the same as in the previous permit and is based on CWC section 13260, which requires filing a Report of Waste Discharge before discharges can occur. Discharges not described in the Report of Waste Discharge, and subsequently in this Order, are prohibited.
2. **Discharge Prohibition III.B (Effluent flow not to exceed design capacity):** This prohibition is based on the fact that an exceedance of the design treatment capacity of the Plant of 2.0 MGD may result in lowering the reliability of achieving compliance with water quality requirements.
3. **Discharge Prohibition III.C (No discharge receiving less than 102:1 dilution):** This prohibition is based, in part, on Basin Plan Discharge Prohibition No. 1 (Table 4-1), which prohibits discharges that do not receive a minimum 10:1 initial dilution. This Order allows a 102:1 dilution credit in the calculation of WQBELs for ammonia, and these WQBELs would not be protective of water quality if the discharge did not actually achieve a 102:1 minimum initial dilution.
4. **Discharge Prohibition III.D (No bypass or overflow of untreated or partially treated wastewaters):** This prohibition is based on 40 CFR 122.41(m) (see Federal Standard Provisions, Attachment D, Section G)
5. **Discharge Prohibition III. E (No sanitary sewer overflows to waters of the United States). Basin Plan Discharge Prohibition No. 15 (Table 4-1) and the CWA prohibit the discharge of wastewater to surface waters except as authorized under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations necessary to achieve water quality standards [33 U.S.C. § 1311 (b)(1)(B and C)]. Therefore, a sanitary sewer overflow that results in the discharge of raw sewage, or sewage not meeting secondary treatment requirements, to surface waters is prohibited under the CWA and the Basin Plan.**

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b)(1)(B) requires USEPA to develop secondary treatment standards (the level of effluent quality attainable through application of secondary or equivalent treatment) for POTWs. USEPA promulgated such technology-based effluent guidelines for POTWs at 40 CFR Part 133. These Secondary Treatment Regulations include the following minimum requirements for POTWs that apply to discharges from the Plant.

Table F-8. Secondary Treatment Requirements

Parameter	30-Day Average	7-Day Average
BOD ₅ ⁽¹⁾	30 mg/L	45 mg/L
TSS ⁽¹⁾	30 mg/L	45 mg/L
pH	6.0 – 9.0	

Footnotes for Table F-8:

⁽¹⁾ The 30-day average percent removal shall not be less than 85 percent.

2. Applicable Technology-Based Effluent Limitations

In accordance with Secondary Treatment requirements in 40 CFT Part 133 and Basin Plan Table 4.2, this Order retains technology-based effluent limitations, to Discharge Point E-001 from the previous Order

Effluent limitations for total coliform are retained from the previous Order. These limitations reflect applicable water quality limits in Basin Plan Table 4-2 and are applied as end-of-pipe effluent limitations.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

a. 40 CFR 122.44(d)(1)(i) requires permits to include WQBELs for pollutants that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard (Reasonable Potential). The process for determining Reasonable Potential and, when necessary, calculating WQBELs is intended to (1) protect the designated beneficial uses of the receiving water specified in the Basin Plan and (2) achieve applicable Water Quality Objectives contained in the California Toxics Rule (CTR), National Toxics Rule (NTR), and the Basin Plan 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. 40 CFR 122.45(d) states, “For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works.”

(2) SIP. SIP section 1.4 requires that WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

MDELs are necessary to protect against acute water quality effects and for preventing fish kills or acute mortality to aquatic organisms.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The water quality criteria (WQC) and water quality objectives (WQOs) applicable to the receiving waters 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 WQC or WQOs established by more than one of these three sources.

- a. Basin Plan.** The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs 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 freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states in part, “[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 in part, “[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 based on available information to implement these objectives.
- b. CTR.** The CTR specifies numeric aquatic life criteria for 23 toxic pollutants and numeric human health criteria for 57 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 contain numeric objectives for certain toxic pollutants that supersede the CTR criteria in some circumstances.
- c. NTR.** The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento River Delta. These criteria apply to Central San Francisco Bay, the receiving water for this discharger.
- d. Basin Plan Receiving Water Salinity Policy.** The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQOs. Freshwater objectives apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria are to be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The receiving water for this discharge, Central San Francisco Bay, is a salt water environment based on salinity data generated through the RMP at the Alameda (BB70), Oyster Point (BB30), and San Bruno Shoal (BB15) sampling stations between 1993 and 2001. During that period, the average salinity at the three sampling stations was 23.8 ppt; the minimum observed salinity levels were 12, 11, and 0.5 ppt. Because that salinity was greater than 10 ppt in at least 95 percent of these receiving water samples, the saltwater objectives from the Basin Plan, NTR, and CTR apply to this discharge.

- f. Site-Specific Metals Translators.** Because 40 CFR 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal, and applicable WQOs for metals are typically expressed as dissolved metal, factors or translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators that are used in NPDES permitting activities;

however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon, greatly affect the form of metal (dissolved, filterable, or otherwise) that is present in the water and therefore available to cause toxicity. In general, the dissolved form of the metals is more available and more toxic to aquatic life than the filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective WQOs.

For deep water discharges to the San Francisco Bay Central Basin, the Regional Water Board used a copper AMEL translator of 0.74 and a copper MDEL translator of 0.88,, as established in Regional Water Board Resolution No. R2-2007-0042, Table 7.2.2.

3. Determining the Need for WQBELs

40 CFR 122.44(d)(1)(i) requires permits to include WQBELs for all pollutants “which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any narrative or numeric criteria within a State water quality standard.” Thus, assessing whether a pollutant has “Reasonable Potential” is the fundamental step in determining whether or not a WQBEL is required. For non-priority pollutants, Regional Water Board staff used available monitoring data, the receiving water’s designated beneficial uses, and previous pollutant limitations to determine Reasonable Potential. For priority pollutants, Regional Water Board staff used the methods prescribed in SIP Section 1.3 to determine if the discharge demonstrates Reasonable Potential, as described below in sections a through e.

a. Reasonable Potential Analysis (RPA)

Using the methods prescribed in SIP section 1.3, Regional Water Board staff analyzed the effluent data to determine if the discharge demonstrates Reasonable Potential to cause or contribute to exceedances of applicable WQOs. The RPA considers the maximum effluent concentration (MEC) for each pollutant based on existing data, while accounting for a limited data set and effluent variability. There are three triggers in determining Reasonable Potential.

- (1) The first trigger is activated if the MEC is greater than or equal to the lowest applicable WQO ($MEC \geq WQO$), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has Reasonable Potential and a WQBEL is required.
- (2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO ($B > WQO$) and the pollutant is detected in any of the effluent samples ($MEC > ND$).
- (3) The third trigger 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 WQO. A limitation may be required under certain circumstances to protect beneficial uses.

b. Effluent Data

The Regional Water Board's August 6, 2001, letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (August 6, 2001 Letter – available online; see Standard Language and Other References Available Online, below) to all permittees, formally required the Discharger (pursuant to CWC Section 13267) to initiate or continue monitoring for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed these effluent data and the nature of the Plant to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data the Discharger collected from August 2004 through April 2009. If monthly data were available, the RPA was limited to approximately the last three years to provide the most representative analysis of current discharge conditions. When the frequency of data was less than monthly, all available data provided over the term of the permit were used for the analysis.

c. Ambient Background Data

Ambient background values are used to determine Reasonable Potential and to calculate effluent limitations, when necessary. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for WQOs intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations.

The RMP station at Yerba Buena Island, located in the Central Bay, has been monitored for most of the inorganic (CTR constituent numbers 1–15) and some of the organic (CTR constituent numbers 16–126) priority pollutants, and these data were used as background for the RPA.

The RMP did not include all the constituents listed in the CTR. These data gaps are addressed by the August 6, 2001 Letter. The August 6, 2001 Letter formally required dischargers (pursuant to CWC Section 13267) to conduct ambient background monitoring and effluent monitoring for those constituents not currently monitored by the RMP, and to provide this technical information to the Regional Water Board.

On May 15, 2003, a group of several San Francisco Bay Region dischargers (the Bay Area Clean Water Agencies, or BACWA) 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 the priority pollutants not monitored by the RMP. The RPA was conducted and the WQBELs were calculated using RMP data from 1994 through 2007 for inorganics and organics at the Yerba Buena Island RMP station, and additional data from BACWA's *Ambient Water Monitoring: Final CTR Sampling Update* (2004) for the Yerba Buena Island RMP station.

d. Reasonable Potential Determination

The MECs, most stringent applicable WQOs, and background concentrations used in the RPA are presented in Table F-11, along with the RPA results (Yes, No, or Undetermined) for each pollutant analyzed. Reasonable Potential was not determined for all pollutants because there are not applicable WQOs for all pollutants and monitoring data are not available for others. Based on a review of the effluent data collected during the previous permit term, the pollutants that exhibit Reasonable Potential by Trigger 1 are copper, cyanide, chlorodibromomethane, bis (2-ethylhexyl) phthalate and ammonia. The pollutant that exhibits Reasonable Potential by Trigger 2 is Dioxin TEQ. The Reasonable Potential determination and effluent limitation calculations are discussed further below, in section IV.C.4, WQBEL Calculations.

Table F-9. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	MEC or Minimum DL ^{(a)(b)} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{(a)(b)} (µg/L)	RPA Results ^(c)
1	Antimony	<0.42	4300	Not Available	No
2	Arsenic	4.08	36	2.5	No
3	Beryllium	0.19	No Criteria	Not Available	Ud
4	Cadmium	2.8	9.4	0.13	No
5a	Chromium (III)	NA	No Criteria	Not Available	Ud
5b	Chromium (VI)	NA	50	4.4	Ud
6	Copper	18.163	6.0	2.6	Yes
7	Lead	7.34	8.5	0.8000	No
8	Mercury (303d listed)	0.028	0.51	0.0086	Yes^(d)
9	Nickel	3.16	8	3.7	No
10	Selenium	2.59	5.0	0.39	No
11	Silver	0.39	2.2	0.052	No
12	Thallium	<0.5	6.3	Not Available	No
13	Zinc	74.71	86	5.1	No
14	Cyanide	10.6941	2.9	Non-detect^(e)	Yes
15	Asbestos	NA	No Criteria	Not Available	Ud
16	2,3,7,8-TCDD (303d listed)	<1.34E-07	1.4E-08	Not available	No
	Dioxin TEQ (303d listed)	1.28E-06	1.4E-08	7.1E-08	Yes
17	Acrolein	<0.8	780	Not Available	No
18	Acrylonitrile	<0.5	0.66	Not Available	No
19	Benzene	<0.081	71	Not Available	No
20	Bromoform	257.5	360	Not Available	No
21	Carbon Tetrachloride	<0.20	4.4	Not Available	No
22	Chlorobenzene	<0.067	21000	Not Available	No
23	Chlorodibromomethane	60.898	34	Not Available	Yes
24	Chloroethane	1.035	No Criteria	Not Available	Ud
25	2-Chloroethylvinyl ether	<0.262	No Criteria	Not Available	Ud
26	Chloroform	14.703	No Criteria	Not Available	Ud
27	Dichlorobromomethane	22.58	46	Not Available	No
28	1,1-Dichloroethane	<0.135	No Criteria	Not Available	Ud
29	1,2-Dichloroethane	<0.067	99	Not Available	No
30	1,1-Dichloroethylene	<0.074	3.2	Not Available	No
31	1,2-Dichloropropane	<0.156	39	Not Available	No
32	1,3-Dichloropropylene		1700	Not Available	No
33	Ethylbenzene	<0.148	29000	Not Available	No
34	Methyl Bromide	0.307	4000	Not Available	No
35	Methyl Chloride	<0.207	No Criteria	Not Available	Ud

CTR #	Priority Pollutants	MEC or Minimum DL ^{(a)(b)} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{(a)(b)} (µg/L)	RPA Results ^(c)
36	Methylene Chloride	<0.11	1600	Not Available	No
37	1,1,2,2-Tetrachloroethane	<0.153	11	Not Available	No
38	Tetrachloroethylene	<0.234	8.85	Not Available	No
39	Toluene	1.333	200000	Not Available	No
40	1,2-Trans-Dichloroethylene	<0.111	140000	Not Available	No
41	1,1,1-Trichloroethane	<0.104	No Criteria	Not Available	Ud
42	1,1,2-Trichloroethane	<0.157	42	Not Available	No
43	Trichloroethylene	<0.303	81	Not Available	No
44	Vinyl Chloride	<0.176	530	Not Available	No
45	2-Chlorophenol	<1.27	400	Not Available	No
46	2,4-Dichlorophenol	<0.76	790	Not Available	No
47	2,4-Dimethylphenol	<0.91	2300	Not Available	No
48	2-Methyl- 4,6-Dinitrophenol	<1.08	765	Not Available	No
49	2,4-Dinitrophenol	<1.48	14000	Not Available	No
50	2-Nitrophenol	<0.9	No Criteria	Not Available	Ud
51	4-Nitrophenol	<0.41	No Criteria	Not Available	Ud
52	3-Methyl 4-Chlorophenol	<0.73	No Criteria	Not Available	Ud
53	Pentachlorophenol	<0.64	7.9	Not Available	No
54	Phenol	NA	4600000	Not Available	No
55	2,4,6-Trichlorophenol	<0.87	6.5	Not Available	No
56	Acenaphthene	<0.07	2700	0.0019	No
57	Acenaphthylene	<0.01	No Criteria	0.0013	Ud
58	Anthracene	0.0022	110000	5.9E-04	No
59	Benzidine	<1.49	0.00054	Not Available	No
60	Benzo(a)Anthracene	<0.002	0.049	5.3E-03	No
61	Benzo(a)Pyrene	<0.002	0.049	3.3E-03	No
62	Benzo(b)Fluoranthene	<0.002	0.049	4.6E-03	No
63	Benzo(ghi)Perylene	<0.002	No Criteria	4.5E-03	Ud
64	Benzo(k)Fluoranthene	<0.001	0.049	1.8E-03	No
65	Bis(2-Chloroethoxy)Methane	<0.61	No Criteria	Not Available	Ud
66	Bis(2-Chloroethyl)Ether	<0.44	1.4	Not Available	No
67	Bis(2-Chloroisopropyl)Ether	<0.47	170000	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	7.45	5.9	<0.00015	Yes
69	4-Bromophenyl Phenyl Ether	<0.69	No Criteria	Not Available	Ud
70	Butylbenzyl Phthalate	<0.26	5200	Not Available	No
71	2-Chloronaphthalene	<0.45	4300	Not Available	No
72	4-Chlorophenyl Phenyl Ether	<0.69	No Criteria	Not Available	Ud
73	Chrysene	<0.002	0.049	2.8E-03	No
74	Dibenzo(a,h)Anthracene	<0.001	0.049	6.4E-04	No
75	1,2-Dichlorobenzene	<0.175	17000	Not Available	No
76	1,3-Dichlorobenzene	<0.386	2600	Not Available	No
77	1,4-Dichlorobenzene	<0.18	2600	Not Available	No
78	3,3 Dichlorobenzidine	<0.85	0.077	Not Available	No
79	Diethyl Phthalate	<0.44	120000	Not Available	No
80	Dimethyl Phthalate	<0.45	2900000	Not Available	No
81	Di-n-Butyl Phthalate	<0.39	12000	<0.00012	No
82	2,4-Dinitrotoluene	<0.58	9.1	Not Available	No
83	2,6-Dinitrotoluene	<0.56	No Criteria	Not Available	Ud
84	Di-n-Octyl Phthalate	<0.56	No Criteria	Not Available	Ud
85	1,2-Diphenylhydrazine	<0.72	0.54	Not Available	Ud
86	Fluoranthene	<0.012	370	1.1E-02	No
87	Fluorene	<0.011	14000	2.1E-03	No
88	Hexachlorobenzene	<0.63	0.00077	2.2E-05	No
89	Hexachlorobutadiene	<0.36	50	Not Available	No

CTR #	Priority Pollutants	MEC or Minimum DL ^{(a)(b)} (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL ^{(a)(b)} (µg/L)	RPA Results ^(c)
90	Hexachlorocyclopentadiene	<0.58	17000	Not Available	No
91	Hexachloroethane	<0.35	8.9	Not Available	No
92	Indeno(1,2,3-cd)Pyrene	<0.008	0.049	4.0E-03	No
93	Isophorone	<0.49	600	Not Available	No
94	Naphthalene	<0.033	No Criteria	1.3E-02	Ud
95	Nitrobenzene	<0.51	1900	Not Available	No
96	N-Nitrosodimethylamine	<0.15	8.1	Not Available	No
97	N-Nitrosodi-n-Propylamine	<0.57	1.4	Not Available	No
98	N-Nitrosodiphenylamine	<0.55	16	Not Available	No
99	Phenanthrene	0.0316	No Criteria	9.5E-03	Ud
100	Pyrene	<0.006	11000	1.9E-02	No
101	1,2,4-Trichlorobenzene	<0.38	No Criteria	Not Available	Ud
102	Aldrin	<1.2	0.00014	2.9E-06	No
103	Alpha-BHC	<0.9	0.013	5.0E-04	Ud
104	Beta-BHC	<0.6	0.046	4.12E-04	Ud
105	Gamma-BHC	<0.5	0.063	7.0E-04	Ud
106	Delta-BHC	<0.6	No Criteria	5.3E-05	Ud
107	Chlordane (303d listed)	Not Available	0.00059	1.8E-04	Ud
108	4,4'-DDT (303d listed)	<1	0.00059	1.7E-04	No
109	4,4'-DDE (linked to DDT)	<1	0.00059	6.9E-04	Ud
110	4,4'-DDD	<2.5	0.00084	3.1E-04	No
111	Dieldrin (303d listed)	<0.8	0.00014	2.6E-03	Ud
112	Alpha-Endosulfan	<0.6	0.0087	3.1E-05	Ud
113	beta-Endosulfan	<1.1	0.0087	6.9E-05	Ud
114	Endosulfan Sulfate	<2.8	240	8.2E-05	No
115	Endrin	<1.4	0.0023	4.0E-05	Ud
116	Endrin Aldehyde	<1.2	0.81	Not Available	Ud
117	Heptachlor	<0.9	0.00021	1.9E-05	No
118	Heptachlor Epoxide	<0.5	0.00011	9.4E-05	No
119-125	PCBs sum (303d listed)	<100	0.00017	1.5E-03	No
126	Toxaphene	<31.8	0.0002	Not Available	No
	Tributyltin	Not Available	0.0074	Not Available	Ud
	Total PAHs	Not Available	15	8.4E-02	Ud
	Total Ammonia (mg/L N)	2.9	1.55	0.00043	Yes

Footnotes for Table F-11:

- (a) The Maximum Effluent Concentration (MEC) and maximum background concentration (B) are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum detection level (DL).
- (b) The MEC or B is “Not Available” when there are no monitoring data for the constituent.
- (c) RPA Results = Yes, if MEC > WQO/WQC, B > WQO/WQC and MEC is detected, or Trigger 3;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud), if no objectives have been promulgated or there are insufficient data.
- (d) Discharges of mercury to San Francisco Bay are now regulated by Regional Water Board Order No. R2-2007-0077, which became effective March 1, 2008. Order No. R2-2007-0077 is a Watershed Permit that implements the San Francisco Bay Mercury TMDL and establishes wasteload allocations for industrial and municipal wastewater discharges of this pollutant. The discharge of mercury from the Plant is therefore regulated by another means; therefore this Order does not contain any mercury requirements.
- (e) The receiving water and MDL data for cyanide was not available. Data were reported as non-detect only.

(1) Constituents with limited data. In some cases, Reasonable Potential cannot be determined because effluent data are limited or ambient background concentrations are not available. 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, a further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

- (2) Pollutants with no Reasonable Potential.** WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for these pollutants is still required. If concentrations of these constituents are found to increase significantly, the Discharger is required to investigate the sources of the increases (See Provision VI.C.2.a of the Order). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

The previous Order, No. R2-2004-0036, included WQBELs for lead, silver, zinc, 4,4-DDE, and dieldrin. This Order does not retain effluent limitations for these pollutants because these pollutants do not have Reasonable Potential. Elimination of these effluent limits is consistent with anti-backsliding requirements in accordance with State Water Board Order WQ 2001-16.

4. WQBEL Calculations.

a. Pollutants with Reasonable Potential

WQBELs were developed for the pollutants copper, cyanide, Dioxin-TEQ, chlorodibromomethane, bis(2-ethylhexyl)phthalate, and ammonia, that were determined to have reasonable potential to cause or contribute to exceedances of WQOs. The WQBELs were calculated based on appropriate WQOs and procedures specified in SIP section 1.4. The WQOs used for each pollutant with Reasonable Potential are discussed below.

b. Dilution Studies

The Discharger submitted to the Regional Water Board on September 8, 2009, a draft study, *Dilution Model for the Treasure Island Outfall*, to determine the actual dilution. Dilution factors were calculated using the Visual Plumes UM3 model.

The discharge is pumped to an outfall 300 feet northeast of the Plant through an effluent diffuser submerged 30 feet below mean lower low water. Using the average discharge flow of 0.5 MGD, a 1-hour acute dilution factor of 102 was calculated and a 1-year chronic dilution factor of 854 was calculated.

c. Dilution Credit

The SIP provides the basis for a dilution credit. The discharge flows through a diffuser as it enters Central San Francisco Bay. The outfall is designed to achieve a minimum initial dilution of at least 102:1. Based on review of data from local Central Bay RMP stations, there is variability in receiving water quality, and the hydrology of the receiving water is complex. There is uncertainty therefore regarding the representative nature of ambient background data for effluent limitation calculations. Pursuant to SIP section 1.4.2.1 “dilution credit may be limited or denied on a pollutant-by-pollutant basis....”.

- (1) For certain pollutants, such as Dioxin-TEQ, dilution credits are not included in calculating WQBELs. This decision is based on the concentrations of these pollutants in aquatic organisms, sediment, and the water column. On October 25, 2006, the Regional Water Board updated the CWA 303(d) list. The Regional Water Board placed mercury, PAHs, PCBs, and selenium on the 303(d) list for Central San Francisco Bay. USEPA added chlordanes, DDT, dioxin compounds, furan compounds, and dieldrin to the 303(d) list. The reasoning for these decisions is based on the following factors that suggest there is no more assimilative capacity in the San Francisco Bay for these pollutants.

Samples of tissue 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 Office of Environmental Health and Hazard Assessment (OEHHA) also completed a preliminary review of data in the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay*. The results of the study also showed elevated levels of chemical contaminants in fish tissues. In December 1994, OEHHA issued an interim consumption advisory covering certain fish species in the San Francisco Bay. This advisory is still in effect for exposure to sport fish that are found to be contaminated with dioxins and the pesticides.

Because of the bioaccumulation nature of these pollutants and their presence on the 303(d) list, no dilution credit is warranted.

- (2) For most non-bioaccumulative constituents, a conservative allowance of 10:1 dilution credit has been assigned. The basis for using 10:1 is that it was granted in the previous Order. This dilution credit is also based on SIP section 1.4.2.
 - (a) A far-field background station is appropriate because the receiving water body (San Francisco Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP section 1.4.3). Consistent with the SIP, Regional Water Board staff chose to use a water body-by-water body basis because of the uncertainties inherent in accurately characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.
 - (b) Because of the complex hydrology of San Francisco Bay, a mixing zone has not been established. There are uncertainties in accurately determining the mixing zones for each discharge. Models that have been used to predict dilution have not considered the three-dimensional nature of the currents in the estuary 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 diurnal tidal cycles, generally beneath the warmer fresh water that flows seaward during wet seasons. When these waters mix and interact, complex circulation patterns occur throughout the estuary. The locations of this mixing and interaction change depending on the strength of each tide and the variable rate of delta outflow. Additionally, sediment loads from the Central Valley change on a longer

term basis, affecting the depth of different parts of the San Francisco Bay and resulting in alteration of flow patterns and mixing and dilution achieved at an outfall.

- (c) The SIP allows for limiting the mixing zone and dilution credit for persistent pollutants. The SIP defines persistent pollutants as “substances for which degradation or decomposition in the environment is nonexistent or very slow.” The pollutants at issue here are persistent pollutants (e.g., copper). The dilution studies that estimate initial dilution do not address the effects of these persistent pollutants in the San Francisco Bay environment, such as their long-term effects on sediment concentrations. A conservative dilution credit is appropriate because of the lack of near-field receiving water data for most pollutants though this concern does not apply to non-persistent pollutants like ammonia.
- (3) For ammonia, a non-persistent pollutant, estimated actual initial dilution levels have been used to calculate the effluent limit. This is justified because ammonia disperses and degrades to a non-toxic state very rapidly. To calculate the ammonia WQBEL, the lowest actual dilution factor of 102 ($D=101$) was used.

d. Calculation of Pollutant-Specific WQBELs

WQBELs were developed for the toxic and priority pollutants determined to have reasonable potential to cause or contribute to exceedances of applicable WQOs. The WQBELs were calculated based on appropriate WQOs as discussed below.

(1) Copper

- (a) **Copper WQO.** On June 13, 2007, the Regional Water Board adopted Resolution No. R2-2007-0042, revising the Basin Plan and establishing a site-specific water quality objective for copper in segments of San Francisco Bay (Basin Plan Table 3-3A). The chronic and acute WQOs for copper are 6.0 and 9.4 $\mu\text{g/L}$, respectively, expressed as dissolved metal. Regional Water Board staff converted these WQOs into total recoverable metal using the site-specific translators of 0.73 (chronic) and 0.87 (acute) in the Basin Plan Table 7.2-2. The resulting chronic WQC of 6.9 $\mu\text{g/L}$ and acute WQC of 13 $\mu\text{g/L}$ were used to perform the RPA.
- (b) **RPA Results.** This Order establishes effluent limitations for copper because the MEC of 18 $\mu\text{g/L}$ exceeds the WQC for copper, demonstrating Reasonable Potential by Trigger 1.
- (c) **Copper WQBELs.** WQBELs for copper, calculated according to SIP procedures, using a coefficient of variation (CV) of 0.25 and site-specific WQOs are an AMEL of 33 $\mu\text{g/L}$ and an MDEL of 46 $\mu\text{g/L}$. These limitations are based on a minimum initial dilution of 10:1.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for copper, collected over the period of January 2006 through April 2009, shows that the 95th percentile (15 $\mu\text{g/L}$) is less than the AMEL (33 $\mu\text{g/L}$); the 99th percentile (18

µg/L) is less than the MDEL (46 µg/L); and the mean (10 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (27 µg/L). The Regional Water Board concludes therefore that immediate compliance with these effluent limitations is feasible.

- (e) **Anti-backsliding.** Anti-backsliding requirements are satisfied because the previous Order did not include final effluent limitations for copper.

(2) Cyanide

- (a) **Cyanide WQO.** The most stringent applicable WQO for cyanide is an acute criterion of 2.9 µg/L from Basin Plan Table 3-3C for protection of marine aquatic life in San Francisco Bay.
- (b) **RPA Results.** This Order establishes effluent limitations for cyanide because the MEC of 10.7 µg/L exceeds the governing WQC of 2.9 µg/L, demonstrating Reasonable Potential by Trigger 1.
- (c) **Cyanide WQBELs.** WQBELs for cyanide, calculated according to SIP procedures (using a CV of 1.2), are an AMEL of 20 µg/L and an MDEL of 54 µg/L. These limitations are based on a minimum initial dilution of 10:1.
- (d) **Immediate Compliance Feasible.** Statistical analysis of effluent data for cyanide collected over the period of January 2006 through April 2009, shows that the 95th percentile (8.1 µg/L) is less than the AMEL (20 µg/L); the 99th percentile (20 µg/L) is less than the MDEL (54 µg/L); and the mean (1.9 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (9.1 µg/L). Based on this analysis, the Regional Water Board concludes that immediate compliance with these WQBELs for cyanide is feasible.
- (e) **Anti-backsliding.** Anti-backsliding requirements are satisfied because the previous Order did not include final effluent limitations for cyanide.

(3) Dioxin-TEQ

- (a) **Bioaccumulation WQO.** The Basin Plan narrative WQO for bioaccumulative substances states:

Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the

fatty tissue of fish and other organisms, the Basin Plan's narrative bioaccumulation WQO applies to these pollutants. Elevated levels of dioxins and furans in fish tissue in the San Francisco Bay demonstrate that the narrative bioaccumulation WQO is not being met. USEPA has therefore included Central San Francisco Bay as impaired by dioxin and furan compounds in the current 303(d) list of receiving waters where WQOs are not being met after imposition of applicable technology-based requirements.

The CTR establishes a numeric WQC for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} $\mu\text{g/L}$ 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)] The TEQ scheme developed by the World Health Organization (WHO) in 1998, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. The CTR criterion for 2,3,7,8-TCDD is used as a criterion for dioxin-TEQ.

To determine if the discharge of dioxin or dioxin-like compounds from the Plant has Reasonable Potential to cause or contribute to a violation of the Basin Plan's narrative bioaccumulation WQO, Regional Water Board staff used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as a toxicity-weighted concentration equivalent to 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} $\mu\text{g/L}$) thus translating the narrative bioaccumulation objective into a numeric criterion appropriate for the RPA. Although the 1998 WHO scheme includes TEFs for dioxin-like PCBs, they were not considered in this Order's version of the TEF procedure. The CTR includes a specific WQO for dioxin-like PCBs, and they are considered independently in the analysis of total PCBs.

- (b) **RPA Results.** This Order establishes effluent limitations for dioxin-TEQ because the MEC (1.3×10^{-6} $\mu\text{g/L}$) exceeds the translated Basin Plan narrative objective (the CTR WQC for 2,3,7,8-TCDD, 1.4×10^{-8} $\mu\text{g/L}$). The maximum observed ambient background concentration of dioxin-TEQ in San Francisco Bay (7.1×10^{-8} $\mu\text{g/L}$) also exceeds the CTR WQC for 2,3,7,8-TCDD. Both of these facts are comparable to Trigger 1 and Trigger 2 and thus establish Reasonable Potential.
- (c) **WQBELs.** WQBELs for dioxin-TEQ, calculated using SIP procedures and the CTR WQO for 2,3,7,8-TCDD as guidance (and using a CV of 2.25) are an AMEL of 1.4×10^{-8} $\mu\text{g/L}$ and an MDEL of 4.4×10^{-8} $\mu\text{g/L}$. Because Central San

Francisco Bay is impaired by dioxins and furans, no assimilative capacity exists, and these limitations are calculated without credit for dilution.

- (d) Immediate Compliance Infeasible.** With insufficient effluent data to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with effluent limitations is determined by comparing the MEC (1.3×10^{-6} µg/L) to the AMEL (1.4×10^{-8} µg/L) and the MDEL (4.4×10^{-8} µg/L). Given the uncertainties in dioxin data and analysis, the Discharger, in its *Dioxins Compliance Feasibility Assessment, October 2, 2009*, does not believe that it is possible to comply with the proposed final WQBELs in the future. The Regional Water Board staff concurs with this assertion.
- (e) Need for a Compliance Schedule.** Because the Discharger cannot immediately comply with the WQBELs, this Order includes a compliance schedule. According to State Water Board Resolution No. 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which was approved by USEPA on August 27, 2008, a compliance schedule of up to 10 years is allowed. The Compliance Schedule Policy requires that compliance schedules include interim limits. The interim limit for dioxin –TEQ in this Order is 6.3×10^{-5} µg/L. Since there were no final or interim limits established in the previous Order, the effluent compliance date is calculated 10 years from the effective date of this Order. The final effluent limits will become effective on March 1, 2020. The Regional Water Board may amend these limits based on new information or a TMDL for dioxin-TEQ.
- (f) Anti-backsliding.** Anti-backsliding requirements are satisfied, because the previous Order did not include any effluent limitations for dioxin-TEQ.
- (4) Chlorodibromomethane.**
- (a) Chlorodibromomethane WQO.** The most stringent applicable WQO for chlorodibromomethane is the CTR WQO for protection of human health for the consumption of organisms of 34 µg/L.
- (b) RPA Results.** This Order establishes effluent limitations for chlorodibromomethane because the MEC (61 µg/L) exceeds the most stringent WQO (34 µg/L), demonstrating Reasonable Potential by Trigger 1.
- (c) Chlorodibromomethane WQBELs.** WQBELs for chlorodibromomethane, calculated according to SIP procedures (using a default CV of 0.6), are an AMEL of 340 µg/L and an MDEL of 680 µg/L. These limitations are based on a minimum initial dilution of 10:1.
- (d) Immediate Compliance Feasible.** With insufficient effluent data to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with effluent limitations is determined by comparing the MEC (60 µg/L) to the AMEL (340) and the MDEL (682 µg/L).

Based on this comparison, the Regional Water Board concluded that immediate compliance with these WQBELs is feasible.

- (e) **Anti-backsliding.** Anti-backsliding requirements are satisfied because limitations for chlorodibromomethane were not included in the previous Order.

(5) Bis (2-ethylhexyl) phthalate.

- (a) **Bis (2-ethylhexyl) phthalate WQO.** The most stringent applicable WQC for bis (2-ethylhexyl) phthalate is the CTR criterion for the protection of human health for the consumption of organisms of 5.9 µg/L.
- (b) **RPA Results.** This Order finds Reasonable Potential and thus establishes effluent limitations for bis (2-ethylhexyl) phthalate because the MEC (7.5 µg/L) exceeds the most stringent WQO (5.9 µg/L), demonstrating Reasonable Potential by Trigger 1.
- (c) **Bis (2-ethylhexyl) phthalate WQBELs.** WQBELs for bis (2-ethylhexyl) phthalate, calculated according to SIP procedures (using a default CV of 0.6), are an AMEL of 59 µg/L and an MDEL of 120 µg/L. These limitations are based on a minimum actual dilution of 10:1.
- (d) **Immediate Compliance Feasible.** With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations is determined by comparing the MEC (7.5 µg/L) to the AMEL (59 µg/L) and the MDEL (120 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with these WQBELs is feasible.
- (e) **Anti-backsliding.** Anti-backsliding requirements are satisfied because limitations for bis (2-ethylhexyl) phthalate were not included in the previous Order.

(6) Ammonia.

- (a) **Ammonia WQO.** The Basin Plan contains WQOs for un-ionized ammonia of 0.025 mg/L as an annual median and 0.16 mg/L as a maximum. Regional Water Board staff translated these WQOs for un-ionized ammonia 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, Regional Water Board staff used pH, salinity, and temperature data from 1994 through 2002 from the nearest RMP station to the outfall, the Yerba Buena Island station (BC10). Regional Water Board staff used the following equations to determine the fraction of total ammonia that would exist in the toxic, un-ionized form in the estuarine receiving water (*Ambient*

Water Quality Criteria for Ammonia (saltwater) – 1989, EPA Publication 440/5-88-004, USEPA, 1989):

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

Where:

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

I = the molal ionic strength of saltwater = $19.9273*(\text{S})/(1000-1.005109*\text{S})$

S = Salinity (parts per thousand)

T = Temperature in degrees Kelvin

P = Pressure (one atmosphere)

To convert the Basin Plan's chronic un-ionized ammonia WQO to an equivalent total ammonia concentration, the median un-ionized ammonia fraction at the Yerba Buena Island monitoring station was used. To convert the Basin Plan's acute un-ionized ammonia WQO to an equivalent total ammonia concentration, the 90th percentile un-ionized ammonia fraction at the Yerba Buena Island station was used. Using the 90th percentile and median to express the acute and chronic un-ionized ammonia WQOs as equivalent total ammonia concentrations is consistent with USEPA guidance, as expressed by USEPA in *The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion* (EPA Publication Number 823-B-96-007, 1996). The equivalent total ammonia acute and chronic WQOs are 4.9 mg/L and 1.3 mg/L, respectively.

- (b) **RPA Results.** This Order establishes effluent limitations for total ammonia because the MEC of 2.9 mg/L exceeds the translated chronic WQO calculated above, demonstrating Reasonable Potential by Trigger 1.
- (c) **Ammonia WQBELs.** To establish limitations for toxic pollutants, Basin Plan section 4.5.5.2 indicates that WQBELs are to be calculated according to the SIP. Basin Plan section 3.3.20 refers to ammonia as a toxic pollutant; therefore, it is consistent with the Basin Plan to use the SIP methodology to establish effluent limitations for ammonia. The total ammonia WQBELs are 150 mg/L as an AMEL and 490 mg/L as a MDEL, calculated according to SIP procedures as explained below.

To calculate total ammonia limits, some statistical adjustments were made because the Basin Plan's chronic WQO for un-ionized ammonia is based on an annual median, while chronic criteria are usually based on a 4-day average; also, the SIP assumes a monthly sampling frequency of 4 days per month to calculate effluent limitations based on chronic criteria. To use the SIP methodology to calculate effluent limits for a Basin Plan objective that is based on an annual median, an averaging period of 365 days and a monitoring frequency of 30 days per month (the maximum daily sampling frequency in a month since the averaging period for a chronic criterion 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 as guidance, Regional Water Board staff used the maximum ambient background total ammonia concentration to calculate effluent limitations based on the acute criterion and the median background total ammonia concentration 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.

A dilution ratio of 102:1 was used to calculate the final effluent limitations for ammonia because ammonia, a non-persistent pollutant, is quickly dispersed and degraded to a non-toxic state, and cumulative toxicity effects are unlikely. The final limits (150 mg/L AMEL, 490 mg/L MDEL) were based on chronic criteria because they were lower than those based on the acute criteria.

(d) Immediate Compliance Feasibility. Statistical analysis of effluent data for ammonia collected over the period of January 2006 through December 2008, shows that the 95th percentile (0.4 mg/L) is less than the AMEL (154 mg/L); the 99th percentile (1.4 mg/L) is less than the MDEL (490 mg/L). Based on this analysis, the Regional Water Board concludes that immediate compliance with these WQBELs for ammonia is feasible.

(e) Anti-backsliding. Anti-backsliding requirements are satisfied because the previous Order did not include limitations for ammonia.

e. Effluent Limit Calculations

The following table summarizes the calculation of WQBELs for copper, cyanide, dioxin-TEQ, chlorodibromomethane, bis (2-ethylhexyl) phthalate, and ammonia.

Table F-10. Effluent Limit Calculations

PRIORITY POLLUTANTS	Copper	Cyanide	Dioxin TEQ	Chlorodi-bromomethane	Bis(2-ethylhexyl) phthalate	Ammonia
Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Basis and Criteria type	BP SSO	BP SSO	CTR HH Consumption of Aquatic Life	CTR HH Consumption of Aquatic Life	CTR HH Consumption of Aquatic Life	BP Acute Aquatic Life
Criteria -Acute	-----	-----	-----	-----	-----	-----
Criteria -Chronic	-----	-----	-----	-----	-----	-----
SSO Criteria -Acute	9.4	9.4	-----	-----	-----	-----
SSO Criteria -Chronic	6.0	2.9	-----	-----	-----	-----
Water Effects ratio (WER)	1	1	1	1	1	1
Lowest WQO	6.0	2.9	1.4E-08	34	5.9	4.9
Site Specific Translator - MDEL	0.87	-----	-----	-----	-----	-----
Site Specific Translator - AMEL	0.73	-----	-----	-----	-----	-----
Dilution Factor (D) (if applicable)	9	9	-----	9	9	101

PRIORITY POLLUTANTS	Copper	Cyanide	Dioxin TEQ	Chlorodi-bromomethane	Bis(2-ethylhexyl) phthalate	Ammonia
Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
No. of samples per month	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	N	N	Y
HH criteria analysis required? (Y/N)	N	N	Y	Y	Y	N
Applicable Acute WQO	6.90	9.4	----	----	----	----
Applicable Chronic WQO	13.0	2.9	----	----	----	4.9
HH criteria			1.4E-08	34	5.9	----
Background (Maximum Conc for Aquatic Life calc)	2.5	0	7.1E-08	0	0	0.13
Background (Average Conc for Human Health calc)	----	----	0.00000005	0	0.00015	
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	Y	N	N	N
ECA acute	46	94	----	----	----	490----
ECA chronic	110	29	----	----	----	
ECA HH			1.4E-08	340	58.999	
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	Y	Y	N
Avg of effluent data points	10	1.9	0.00000071	39	2.7	0.42
Std Dev of effluent data points	2.6	2.3	0.00000039	11	1.8	1.1
CV calculated	0.25	1.24	2.3	N/A	N/A	2.5
CV (Selected) - Final	0.25	1.24	2.3	0.6	0.6	2.5
ECA acute mult99	0.58	0.17	----	----	----	0.10
ECA chronic mult99	0.75	0.31	----	----	----	----
LTA acute	27	15.91	----	----	----	5
LTA chronic	80	9.08	----	----	----	----
minimum of LTAs	27	9.08	----	----	----	5
AMEL mult95	1.2	2.2	1.6	1.6	1.6	3.1
MDEL mult99	1.7	5.9	3.1	3.1	3.1	9.8
AMEL (aq life)	33	20	----	----	----	150
MDEL(aq life)	46	54	----	----	----	490
MDEL/AMEL Multiplier	1.4	2.7	3.1	2.0	2.0	3.2
AMEL (human hlth)	----	----	1.4E-08	340	59	----
MDEL (human hlth)	----	----	4.4E-08	680	120	----
minimum of AMEL for Aq. life vs HH	33	20	1.4E-08	340	59.00	150
minimum of MDEL for Aq. Life vs HH	46	54	4.4E-08	680	120	490
Current limit in permit (30-day average)	----	----	----	----	----	----
Current limit in permit (daily)	25 (Interim)	10 (Interim)	----	----	----	----
Final limit - AMEL	33	20	1.4E-08	340	59	150
Final limit - MDEL	46	54	4.4E-08	680	120	490
Max Effl Conc (MEC)	18	11	1.3E-06	61	7.5	2.9

5. Whole Effluent Acute Toxicity

- a. *Permit Requirements.* This Order includes effluent limits that are unchanged from the previous Order and are based on Basin Plan section 4.5.5. All bioassays shall be performed according to the USEPA approved method in 40 CFR Part 136, currently “Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition.” Compliance evaluation is based on 96-hour static-renewal bioassays.
- b. *Ammonia Toxicity.* If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this must be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and that the discharge complies with the ammonia effluent limits, then such toxicity does not constitute a violation of this effluent limit. If ammonia toxicity is verified in the TIE, the Discharger may use an adjustment protocol approved by the Executive Officer for routine bioassay testing.

6. Whole Effluent Chronic Toxicity

- a. *Permit Requirements.* This Order includes requirements for chronic toxicity monitoring in accordance with USEPA and State Water Board guidance. This Order implements the Basin Plan narrative toxicity objective via monitoring with numeric values as “triggers” to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The requirements for chronic toxicity are also consistent with CTR and SIP requirements.
- b. *Chronic Toxicity Triggers.* This Order includes chronic toxicity triggers of 10 chronic toxicity units (TUC¹) for a three-sample median and 20 TUC for a single sample maximum, consistent with Basin Plan Table 4-5.
- c. *Monitoring History.* The Discharger has not previously been monitoring chronic toxicity.
- d. *Screening Phase Study.* The Discharger is required to conduct a chronic toxicity screening study as described in Appendix E-1 of the Monitoring and Reporting Program (Attachment E).
- e. *Permit Re-opener.* The Regional Water Board may consider amending this Order to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its TRE workplan following detection of consistent significant non-artifactual toxicity.

¹ A TUC equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. The Executive Officer may modify monitoring and TRE requirements in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct required toxicity tests or a TRE will result in the establishment of effluent limits for chronic toxicity.

D. Anti-backsliding and Antidegradation

1. **Effluent Limitations Retained from Previous Order.** Limitations for the following parameters are unchanged.

- Oil and grease
- pH
- BOD₅ and TSS
- Total residual chlorine
- 85% removal requirement for BOD₅ and TSS
- Total coliform bacteria
- Acute toxicity

Retaining effluent limitations for these parameters ensures that these limitations are at least as stringent as those in the previous Order, meeting CWA anti-backsliding requirements. Retaining effluent limitations for these parameters also ensures that the existing receiving water quality will not be degraded in terms of these parameters thus meeting antidegradation requirements.

2. **New Effluent Limitations.** This Order establishes new final WQBELs for the following parameters not limited by the previous Order.

- Dioxin-TEQ
- Chlorodibromomethane
- Bis (2-ethylhexyl) phthalate
- Ammonia

The establishment of effluent limitations for these pollutants effectively creates limitations that are more stringent than in Order No. R2-2004-0036, therefore meeting applicable anti-backsliding requirements and ensuring that the existing quality of the receiving water will not be degraded meeting anti-degradation requirements.

3. **More Stringent Effluent Limitations.** This Order does not contain any limitations more stringent than those in the previous Order.

4. **Effluent Limitations Not Retained from the previous Order.** This Order does not retain limitations for the following parameters that were in the previous Order.

- Lead
- Mercury
- Silver
- Zinc
- 4,4'-DDE
- Dieldrin

The previous Order included an interim effluent limitation for mercury, which is not retained, because, effective March 1, 2008, Regional Water Board Order No. R2-2007-0077 now

regulates San Francisco Bay mercury discharges. Order No. R2-2007-0077 was established consistent with anti-backsliding and antidegradation requirements.

The previous Order included effluent limitations for lead, silver, zinc, 4,4'-DDE, and dieldrin; however, because the RPA showed that Plant discharges no longer demonstrate reasonable potential for these pollutants, this Order does not retain these limitations. Elimination of WQBELs is consistent with anti-backsliding and antidegradation policies as discussed in State Water Board Order WQ 2001-16.

- 5. Effluent Limitations Higher Than in Previous Order.** Limitations for copper and cyanide are higher than in the previous Order.

The final effluent limits for copper are higher than the previous interim effluent limits. This Order establishes less stringent final limitations for copper based on new site-specific water quality objectives. The Regional Water Board has determined that implementation of the newly established site-specific water quality objectives is consistent with applicable antidegradation requirements. This conclusion is based, in part, on assumed implementation of a copper action plan (see Order section VI.C.9). Backsliding requirements are satisfied because the previous Order did not include final effluent limitations for copper.

The final effluent limits for cyanide are higher than the previous interim effluent limits. This Order establishes less stringent final limitations for cyanide based on new site-specific water quality objectives. The Regional Water Board has determined that implementation of the newly established site-specific water quality objectives is consistent with applicable antidegradation requirements. This conclusion is based, in part, on assumed implementation of a cyanide action plan (see Order section VI.C.10). Backsliding requirements are satisfied because the previous Order did not include final effluent limitations for cyanide.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations are retained from the previous Order and reflect applicable Basin Plan Chapter 3 WQOs.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a Monitoring and Reporting Plan by a discharger are to:

- Document compliance with WDRs 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 to
- Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and

analytical protocols, and sets out requirements for reporting spills, violations, and routine monitoring data in accordance with NPDES regulations, the CWC, 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 RPAs.

The following provides the rationale for the monitoring and reporting requirements contained in the MRP (Attachment E).

A. Influent Monitoring

Influent monitoring requirements for flow, BOD₅, and TSS allow determination of compliance with this Order's 85 percent removal requirement. Influent monitoring for cyanide is required under the Basin Plan cyanide SSO.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous Order. Significant changes in effluent monitoring are summarized as follows:

- Monitoring for lead, silver, zinc, 4,4'-DDE and dieldrin is no longer required because these pollutants no longer demonstrate Reasonable Potential. Monthly monitoring for mercury is no longer required because Regional Water Board Order No. R2-2007-0077 now regulates mercury discharges from the Plant.

Routine effluent monitoring for copper, cyanide, chlorodibromomethane, bis (2-ethylhexyl) phthalate, dioxin-TEQ and ammonia is established to determine the Discharger's compliance with this Order's effluent limitations. Monitoring for all other priority toxic pollutants is to be conducted in accordance with the frequency and methods described in the MRP (Attachment E) and the Regional Standard Provisions (Attachment G).

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program for San Francisco Bay. Subsequent to a public hearing and various meetings, Regional Water Board staff requested under authority of CWC section 13267 that major permit holders in the San Francisco Bay region report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort through the RMP. This Order specifies that the Discharger shall continue to

participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment, and biota in the receiving water.

E. Other Monitoring Requirements

Monitoring of sludge generated by the plant is required by 40 CFR Part 503.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D of this Order. 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. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions (Attachment G) supplant the Federal Standard Provisions. In accordance with 40 CFR 123.25, this Order also omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. Monitoring and Reporting Requirements (Provision VI.B)

The Discharger is required to monitor the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (Attachment E) and the Regional Standard Provisions (Attachment G). This provision requires compliance with these documents and is based on 40 CFR 122.63 and CWC section 13267.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR Part 123 and allow modification of this Order and its effluent limitations as necessary in response to updated information.

2. Special Studies and Additional Monitoring Requirements

- a. **Effluent Characterization Study**. 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 as specified in the MRP (Attachment E). If concentrations of these constituents increase significantly, the Discharger is required to investigate the source of the increases and establish remedial measures if the increases result in reasonable potential to cause or contribute to an excursion above the applicable WQOs. This provision is based on the SIP and is retained from the previous Order.

- b. **Ambient Background Receiving Water Study.** This provision is based on the Basin Plan, the SIP, and the Regional Standard Provisions (Attachment G). As indicated in this Order, this requirement may be met by participating in a collaborative BACWA study.
- c. **Optional Mass Offset Plan:** This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to Central San Francisco Bay. If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d)-listed pollutants to the same receiving water needs to be submitted for Regional Water Board approval. The Regional Water Board may consider any proposed mass offset plan and may amend this Order accordingly.

3. Best Management Practices and Pollution Minimization Program

This provision is based on Basin Plan Chapter 4 (section 4.13.2) and SIP Section 2.4.5.

4. Special Provisions for POTWs

- a. **Sludge Management Practices Requirements:** This provision is based on the Basin Plan (Chapter 4), and 40 CFR Parts 257 and 503, and is retained from the previous Order (No. R2-2004-0036).
- b. **Sanitary Sewer Overflows and Sewer System Management Plan.** This provision is to explain the Order's requirements as they relate to the Discharger's collection system, and to promote consistency with the State Water Board-adopted General Collection System WDRs (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 (SSMPs) and report all sanitary sewer overflows, among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system subject to this Order, certain standard provisions apply. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the Plant were required to obtain enrollment for regulation 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 sanitary sewer overflows. The Regional Water Board issued a CWC Section 13267 letter on May 1, 2008, requiring dischargers to comply with the new notification requirements for sanitary sewer overflows, and to comply with similar notification and reporting requirements for spills from wastewater treatment facilities. These requirements have now been replaced by requirements in Attachment G of this Order.

5. Copper Action Plan

This Order requires the Discharger to implement monitoring and surveillance, pretreatment, source control, and pollution prevention for copper in accordance with the Basin Plan. The Basin Plan contains site-specific water quality objectives for copper in all San Francisco Bay segments. The Basin Plan includes an implementation plan that requires a Copper Action Plan to ensure no degradation of water quality.

6. Cyanide Action Plan

This Order requires the Discharger to implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the Basin Plan. The Basin Plan contains site-specific water quality objectives for cyanide in all San Francisco Bay segments. The Basin Plan includes an implementation plan that requires a Cyanide Action Plan to ensure no degradation of water quality.

7. Dioxin-TEQ Compliance Schedule

The Dioxin-TEQ compliance schedule and the requirement to submit reports on further measures to reduce concentrations to ensure compliance with final limits are based on the Basin Plan section 4.7.6 and the State Water Board's Compliance Schedule Policy. The maximum compliance schedule is appropriate because of the considerable uncertainty in determining effective measures (e.g., pollution prevention, treatment upgrades) that should be implemented to ensure compliance with final limits. The previous Order (No. R2-2004-0036 Findings 40 and 52) did not include interim or final dioxin effluent limits, and so a compliance schedule of 10 years from the effective date of this Order is warranted. It is appropriate to allow the Discharger time to explore source control measures before requiring it to propose further actions, such as treatment Plant upgrades, that are likely to be much more costly. This approach is supported by Basin Plan (section 4.13), which states, "In general, it is often more economical to reduce overall pollutant loading into treatment systems than to install complex and expensive technology at the Plant."

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Plant's discharge. As a step in the WDR adoption process, the Regional Water Board developed tentative WDRs. The Regional Water Board encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the The Recorder during the week of October 26, 2009.

B. Written Comments

Staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the attention of Derek Whitworth at the Regional Water Board at the address on the cover page of this Order.

To receive full consideration and a response from Regional Water Board staff, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **November 30, 2009**.

C. Public Hearing

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

Date: **January 13, 2010**
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Derek Whitworth, (510) 622-2349, email DWhitworth@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Dates and venues may change. The Regional Water Board Web address is <http://www.waterboards.ca.gov/sanfranciscobay> where one can 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 WDRs. 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 8:30 a.m. and 4:45 p.m., except from noon to 1:00 p.m., Monday

through Friday. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Derek Whitworth at (510) 622-2349 (e-mail at DWhitworth@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

July 2009

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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 those cited analytical methods for compliance determination provided the ML is below the effluent limitation and the water quality objective. If no ML value is below the effluent limitation and water quality objective, then the Regional Water Board will assign the lowest ML value indicated in Table C, and its associated analytical method for inclusion in the MRP. For effluent monitoring, this alternate method shall also be U.S. EPA-approved (such as the 1600 series) or one of those listed 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

- i. 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.
- ii. 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.

- iii. 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).
- iv. 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 permits limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.
 - 1) 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
 - 2) 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

- i. 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 shows that the parameter is in compliance with the monthly average limit.
- ii. 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.
- iii. 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).
- iv. 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.
- v. When any type of bypass occurs, the Discharger shall collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass, unless otherwise stipulated by 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:

- i. 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.
- ii. 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.

- iii. 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.
- iv. 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.
- v. 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.

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

- ii. 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.
- iii. 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, chromium, 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 unit (e.g., grit, skimmings, undigested biosolids) 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), and the method detection limit, and the measured concentration. Estimated concentrations shall be reported for individual congeners, but shall be set equal to zero in determining the dioxin-TEQ value. The Discharger shall multiply each measured or estimated congener concentration by its respective toxicity equivalency factor (TEF) shown in Table A and report the sum of these values.

Table A: Toxic Equivalency Factors for 2,3,7,8-TCDD Equivalents

Congener	TEF
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

- 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 and copies of reports signed by the laboratory director of that laboratory shall not be submitted but retained onsite;
 - (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 Plants¹

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 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.

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

b. 24-hour Certification

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.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISIONS – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

Table B

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

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	State Office of Emergency Services (OES)	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 OES)
	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.

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

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

1. Arithmetic Calculations

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

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

or

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

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

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

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

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

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

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

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

- c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the

formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.

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

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

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.
3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.
4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.
5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.
6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.
7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.
8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.
9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.
11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.
12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.
14. Untreated waste is raw wastewater.
15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C
List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method 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
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) ³												
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) ⁴	0100.2 ⁵												
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										

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., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

³ 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 µg/l).

⁴ MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

⁵ *Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters*, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method ¹	Minimum Levels ² (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
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									

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
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
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) ⁶	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											

⁶ 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
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											