

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

STAFF SUMMARY REPORT (James Parrish)
MEETING DATE: January 21, 2015

ITEM **6B**

SUBJECT: **U.S. Department of Navy, Treasure Island Wastewater Treatment Plant, Treasure Island, San Francisco County — Reissuance of NPDES Permit**

CHRONOLOGY: January 2010 - Permit reissued

DISCUSSION: The Revised Tentative Order (Appendix A) would reissue the NPDES permit for the Treasure Island Wastewater Treatment Plant and collection system. These facilities collect and treat sanitary and commercial wastewaters from Treasure Island and Yerba Buena Island. The San Francisco Public Utilities Commission operates the plant for the U.S. Navy under a 1977 agreement.

The plant has a design capacity of 2 million gallons per day (MGD) for average dry weather operations. Over the recent permit term, the plant operated at no more than 0.55 MGD. It currently serves a population of approximately 2,900, and the City of San Francisco plans to develop housing for a significantly increased population as noted in the Executive Officer's Report in December 2014. The increased population could be accommodated within the existing permitted plant capacity; however, replacement of the plant and collection system are planned to go along with the proposed development.

The Navy submitted comments (Appendix B) on a tentative order circulated for public review. We prepared a Response to Comments (Appendix C) and revised the tentative order where appropriate. Although the Navy prefers that the permit not contain ammonia limits, we propose retaining them because the plant treats sewage, which contains ammonia, and has low ammonia levels now only because flows are well below capacity. If population growth occurs ahead of schedule or the next permit reissuance is significantly delayed, the absence of water quality-based ammonia limits would make this permit not protective.

The Revised Tentative Order would also update all discharge limits, such as for copper and cyanide, and summarize available information regarding collection system performance, which the Board has directed staff to include in permits. We expect this item to remain uncontested.

**RECOMMEN-
DATION:** Adoption of the Revised Tentative Order

CIWQS: Place 266328, Regulatory Measure 371821

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

A. Revised Tentative Order

San Francisco Bay Regional Water Quality Control Board

**REVISED TENTATIVE ORDER No. R2-2015-00XX
NPDES No. CA0110116**

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

Table 1. Discharger Information

Discharger	U.S. Department of Navy
Facility Name	Treasure Island Wastewater Treatment Plant and its collection system
Facility Address	1220 Avenue M San Francisco, CA 94130 San Francisco County
CIWQS Place Number	266328

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary Treated Municipal Wastewater	37.832778	-122.369444	Central San Francisco Bay

Table 3. Administrative Information

This Order was adopted on:	DATE
This Order shall become effective on:	April 1, 2015
This Order shall expire on:	March 31, 2020
CIWQS Regulatory Measure Number	TBD
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with California Code of Regulations, title 23, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	July 1, 2019
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Major

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

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

Information describing the Treasure Island Wastewater Treatment Plant and its collection system (the Facility) is summarized in Table 1 and in Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

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

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through E, and G are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** No provisions and requirements in this Order are included to implement State law only.
- D. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2010-0001 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** Discharge at Discharge Point No. 001 is prohibited when treated wastewater does not receive an initial dilution of at least 103:1 (as modeled). Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or part) is in good

working order and is consistent with or can achieve better mixing than that described in Fact Sheet section IV.C.4.a. The Discharger shall address measures taken to ensure this in its application for permit reissuance.

- C. The bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D sections I.G.2 and I.G.3 of this Order.
- D. Average dry weather effluent flow in excess of 2.0 MGD is prohibited at Discharge Point No. 001. Average dry weather effluent flow shall be determined from three consecutive dry weather months each year, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP).
- E. Any sanitary sewer overflow that results in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

- A. The Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP.

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	30	45	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH ^[1]	standard units	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0 ^[2]
Copper	µg/L	33	---	46	---	---
Cyanide	µg/L	20	---	44	---	---
Chlorodibromomethane	µg/L	340	---	545	---	---
Bis(2-Ethylhexyl)Phthalate	µg/L	53	---	120	---	---
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	2.8 x 10 ⁻⁸	---	---
Total Ammonia	mg/L as N	130	---	330	---	---

Unit Abbreviations:

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

Footnotes:

- ^[1] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.
- ^[2] The Discharger may elect to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove that anomalous residual chlorine exceedances measured by on-line chlorine analyzers are false positives because it is chemically improbable to have chlorine present in the presence of sodium bisulfite. If Regional Water Board staff finds convincing evidence that chlorine residual exceedances are false positives, the exceedances are not violations of this Order's total chlorine residual limit.

- B. Percent Removal.** The average monthly percent removal of biochemical oxygen demand (BOD₅) and total suspended solids (TSS) at Discharge Point No. 001 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD₅ and TSS, by concentration, for effluent samples collected at Monitoring Location EFF-001 as described in the MRP, shall not exceed 15 percent of the arithmetic mean of the BOD₅ and TSS, by concentration, for influent samples collected at Monitoring Location INF-001 as described in the MRP at approximately the same times during the same period).
- C. Enterococcus.** Discharges at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, shall meet the following enterococcus limitation. The geometric mean enterococcus bacteria concentration of all samples in a calendar month shall not exceed 35 most probable number per 100 milliliters (MPN/100 mL).
- D. Total Coliform.** Discharges at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, shall meet the following total coliform limitation. The moving median value for the Most Probable Number (MPN) of total bacteria in five consecutive samples shall not exceed 240 MPN/100 mL in any calendar month. Any single sample shall not exceed 10,000 MPN/100 mL.
- E. Whole Effluent Acute Toxicity.** Discharges at Discharge Point No. 001 shall comply with the following limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:
1. A 3-sample median value of not less than 90 percent survival; and
 2. A single-sample maximum value of not less than 70 percent survival.

The 3-sample median limitation is defined as follows: a bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one or more of the past two or fewer bioassay tests also show less than 90 percent survival.

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

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

- F. Whole Effluent Chronic Toxicity.** Discharges at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, shall not contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, or any other relevant measure of the health of an organism population or community. Compliance with this limit shall be determined by analysis of indicator organisms and toxicity tests as described in the MRP.

V. RECEIVING WATER LIMITATIONS

- A. The discharge shall not cause the following conditions to exist in receiving waters at any place outside the near-field mixing zone (as determined by the 2009 mixing zone study):
1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
 2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses, or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
 3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
 4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 5. Alteration of temperature beyond present natural background levels;
 6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units;
 7. Coloration that causes nuisance or adversely affects beneficial uses;
 8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
 9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
- B. The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:
1. Dissolved Oxygen 5.0 mg/L, minimum
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 2. Dissolved Sulfide Natural background levels
 3. pH The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.

- 4. Nutrients** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

- C.** The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Board as required by the CWA and regulations adopted thereunder outside the near-field mixing zone (as determined by the 2009 mixing zone study). If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

VI. PROVISIONS

A. Standard Provisions

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

B. Monitoring and Reporting

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

C. Special Provisions

1. Reopener Provisions

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

- a.** If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to, or will cease to have, adverse impacts on water quality or beneficial uses of the receiving waters.
- b.** If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c.** If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- d.** If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.

- e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Permit No. CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a storm water pollutant control strategy.
- g. Or as otherwise authorized by law.

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

2. Effluent Characterization Study and Report

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

<u>Discharge Point</u>	<u>Monitoring Location</u>	<u>Minimum Frequency</u>
001	EFF-001	Once every two calendar years

The samples shall be analyzed for the pollutants listed in Attachment G, Table C, except for those pollutants with effluent limitations where the MRP already requires more frequent monitoring, and except for those pollutants for which there are no water quality criteria (see Fact Sheet Table F-5). Compliance with this requirement shall be achieved in accordance with the specifications of Attachment G sections III.A.1 and III.A.2.

The Discharger shall evaluate on a biennial basis if concentrations of any of these pollutants significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an excursion above applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision VI.C.3.

b. Reporting Requirements

- i. **Routine Reporting.** The Discharger shall, within 45 days of receipt of analytical results, report the following in the transmittal letter for the appropriate self-monitoring report:
 - (a) Indication that a sample for this characterization study was collected; and

(b) Identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-5 for the criteria) and the detected concentrations of those pollutants.

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

iii. **Final Report.** The Discharger shall submit a final report that presents all these data with the application for permit reissuance.

3. Pollutant Minimization Program

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

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

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

ii. **Discussion of current pollutants of concern.** Periodically, the Discharger shall analyze its circumstances to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.

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

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

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

vi. **Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating

new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

- vii. Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions VI.C.3.b.iii, iv, v, and vi.
 - viii. Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
 - ix. Evaluation of Pollutant Minimization Program and task effectiveness.** This Discharger shall use the criteria established in Provision VI.C.3.b.vii to evaluate the program and task effectiveness.
 - x. Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the Facility, and subsequently in its effluent.
- c.** The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) and either:
 - i.** A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
 - ii.** A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.
 - d.** If triggered by the reasons set forth in Provision VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:
 - i.** Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;
 - ii.** Quarterly monitoring for the reportable priority pollutants in the influent to the Facility. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;

- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
- v. Inclusion of the following specific items within the annual report required by Provision VI.C.3.b above:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) List of potential sources of the reportable priority pollutants;
 - (c) Summary of all actions undertaken pursuant to the control strategy; and
 - (d) Description of actions to be taken in the following year.

4. Special Provisions for Municipal Facilities

a. Sludge and Biosolids Management

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

The *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), State Water Board Order No. 2006-0003 DWQ as amended by State Water Board Order No. WQ 2013-0058-EXEC, has requirements for operation and maintenance of separate sanitary sewer collection systems and for reporting and mitigating sanitary sewer overflows from the separate sanitary sewer portion of the Discharger’s collection system. While the Discharger must comply with both the General Collection System WDRs and this Order, the General Collection System WDRs more clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDRs for proper operation and maintenance and mitigation of sanitary sewer overflows will satisfy the corresponding federal NPDES requirements specified in Attachment D (as supplemented by Attachment G). Following the notification and reporting requirements in the General Collection System WDRs will satisfy NPDES the corresponding reporting requirements specified in Attachment D (as supplemented by Attachment G) for sanitary sewer overflows from the separate sanitary sewer portion of the collection 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 5. 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><i>Completed June 1, 2010</i></p>
<p>2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper sources identified in Task 1. The plan shall consist, 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; and c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges. 	<p><i>Completed February 28, 2011, with 2010 Pollution Prevention Report. Plan implementation shall be ongoing.</i></p>
<p>3. Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration in Central San Francisco Bay exceeds 2.2 µg/L, then within 90 days of the notification, the Discharger shall evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. The Discharger shall report on the progress and effectiveness of actions taken and provide a schedule for actions to be taken in the next 12 months.</p>	<p>With next annual pollution prevention report due February 28 (at least 90 days following notification)</p>

Task	Compliance Date
<p>4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties. The Discharger shall submit an updated study plan and schedule to conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and to investigate sub-lethal effects on salmonids. Specifically, the Discharger shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, the Discharger may collaborate and conduct these studies as a group.</p>	<p><i>Bay Area Clean Water Agencies submitted study plan January 6, 2011</i></p>
<p>5. Report Status of Copper Control Program. The Discharger shall submit an annual report documenting copper control program implementation and addressing the effectiveness of the actions taken, including any additional copper controls required by Task 3 above, and provide a schedule for actions to be taken in the next 12 months. Additionally, the Discharger shall report the findings and results of the studies completed, planned, or in progress under Task 4. Regarding Task 4 studies, dischargers may collaborate and provide this information in a single report to satisfy this requirement for an entire group.</p>	<p>With annual pollution prevention report due February 28 each year</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 6. Cyanide Action Plan

Task	Compliance Date
<p>1. Review Potential Cyanide Sources The Discharger shall submit an inventory of potential cyanide sources to the treatment plant. If no cyanide sources are identified, tasks 2 and 3 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. If so, the Discharger shall notify the Executive Officer and implement tasks 2 and 3.</p>	<p><i>Completed June 1, 2010</i></p>
<p>2. Implement Cyanide Control Program The Discharger shall continue to implement its program to minimize cyanide discharges consisting, at a minimum, of the following elements:</p> <ol style="list-style-type: none"> Inspect each potential source to assess the need to include that source in the control program. Inspect contributing sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as <i>Industrial User Inspection and Sampling Manual for POTWs</i> (EPA 831-B-94-01). Develop and distribute educational materials to sources and potential sources regarding the need to prevent cyanide discharges. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. <p>For purposes of this Order, a “significant cyanide discharge” is occurring if the Plant’s influent cyanide concentration exceeds 10 µg/L.</p>	<p>With annual Pollution Prevention Report due February 28 each year. Plan implementation shall be ongoing.</p>
<p>3. Implement Additional Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, and shall report on the progress and effectiveness of actions taken and provide a schedule for actions to be taken in the next 12 months.</p>	<p>If required, with next annual pollution prevention report due February 28 following 90 days after notification</p>
<p>4. Report Status of Cyanide Control Program The Discharger shall submit an annual report documenting cyanide control</p>	<p>With annual pollution prevention report</p>

Task	Compliance Date
program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3 above and provide a schedule for actions to be taken in the next 12 months.	due February 28 each year

6. Standard Operating Procedures for Resource Recovery

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

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

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

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

Average Monthly Effluent Limitation (AMEL)

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

Average Weekly Effluent Limitation (AWEL)

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

Bioaccumulative

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

Carcinogenic

Known to cause cancer in living organisms.

Coefficient of Variation

Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

Sample result less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

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

Effluent Concentration Allowance (ECA)

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

Enclosed Bay

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

Estimated Chemical Concentration

Concentration that results from the confirmed detection of the substance below the ML value by the analytical method.

Estuaries

Waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars are considered estuaries. Estuarine waters are considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

Highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation

Lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)

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

Median

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

Method Detection Limit (MDL)

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

Minimum Level (ML)

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

Mixing Zone

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

Not Detected (ND)

Sample results less than the laboratory's MDL.

Persistent Pollutants

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

Pollutant Minimization Program

Program of waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the Pollutant Minimization Program is to reduce all potential sources of a priority pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill Pollutant Minimization Program requirements.

Pollution Prevention

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

Reporting Level (RL)

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

Source of Drinking Water

Any water designated as having a municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)

Measure of variability calculated as follows:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

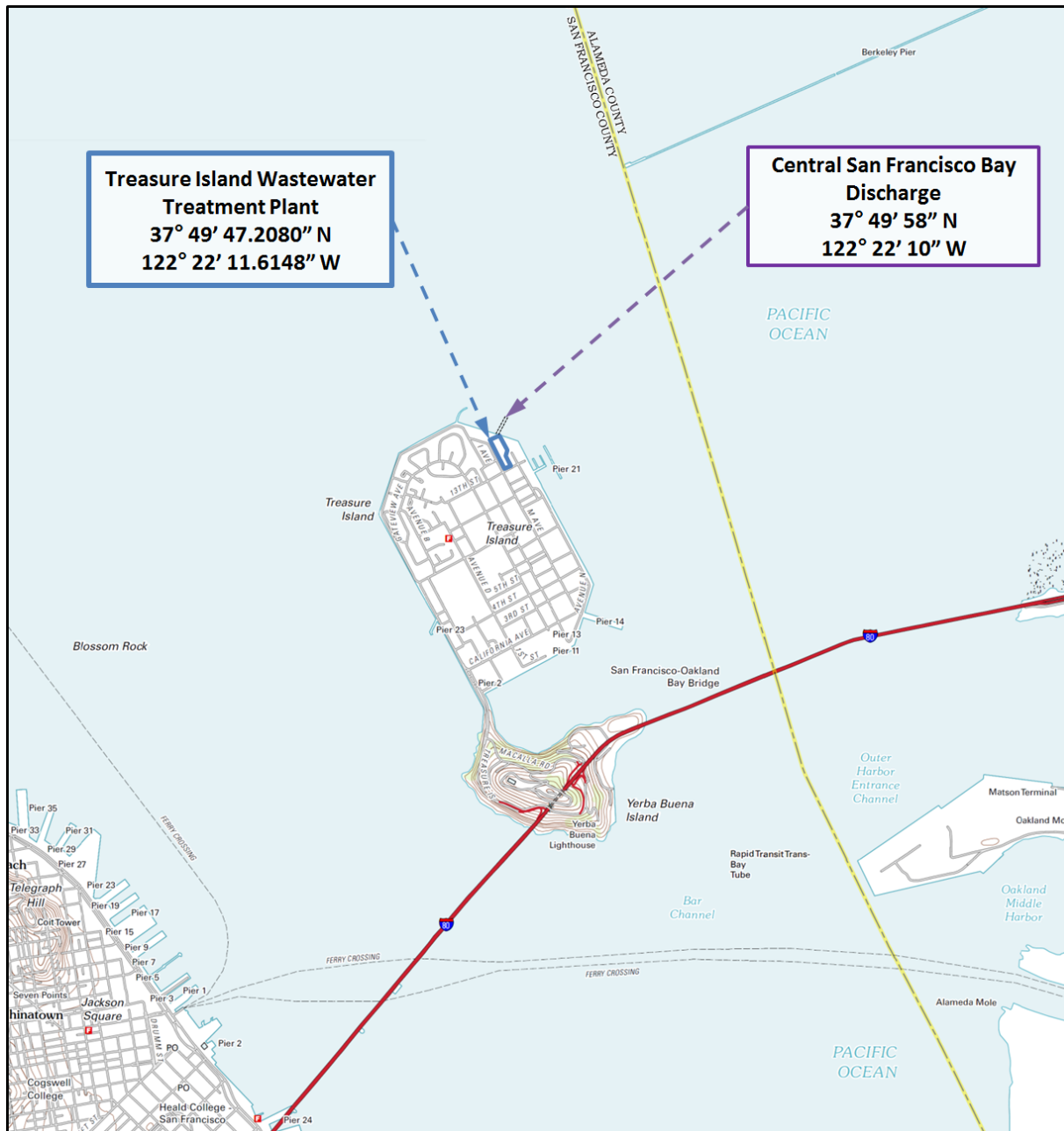
n is the number of samples.

Toxicity Reduction Evaluation (TRE)

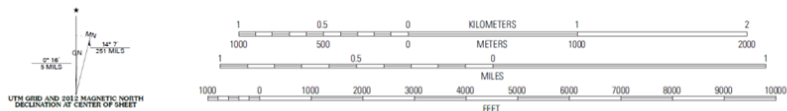
Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of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

ATTACHMENT B – FACILITY MAP



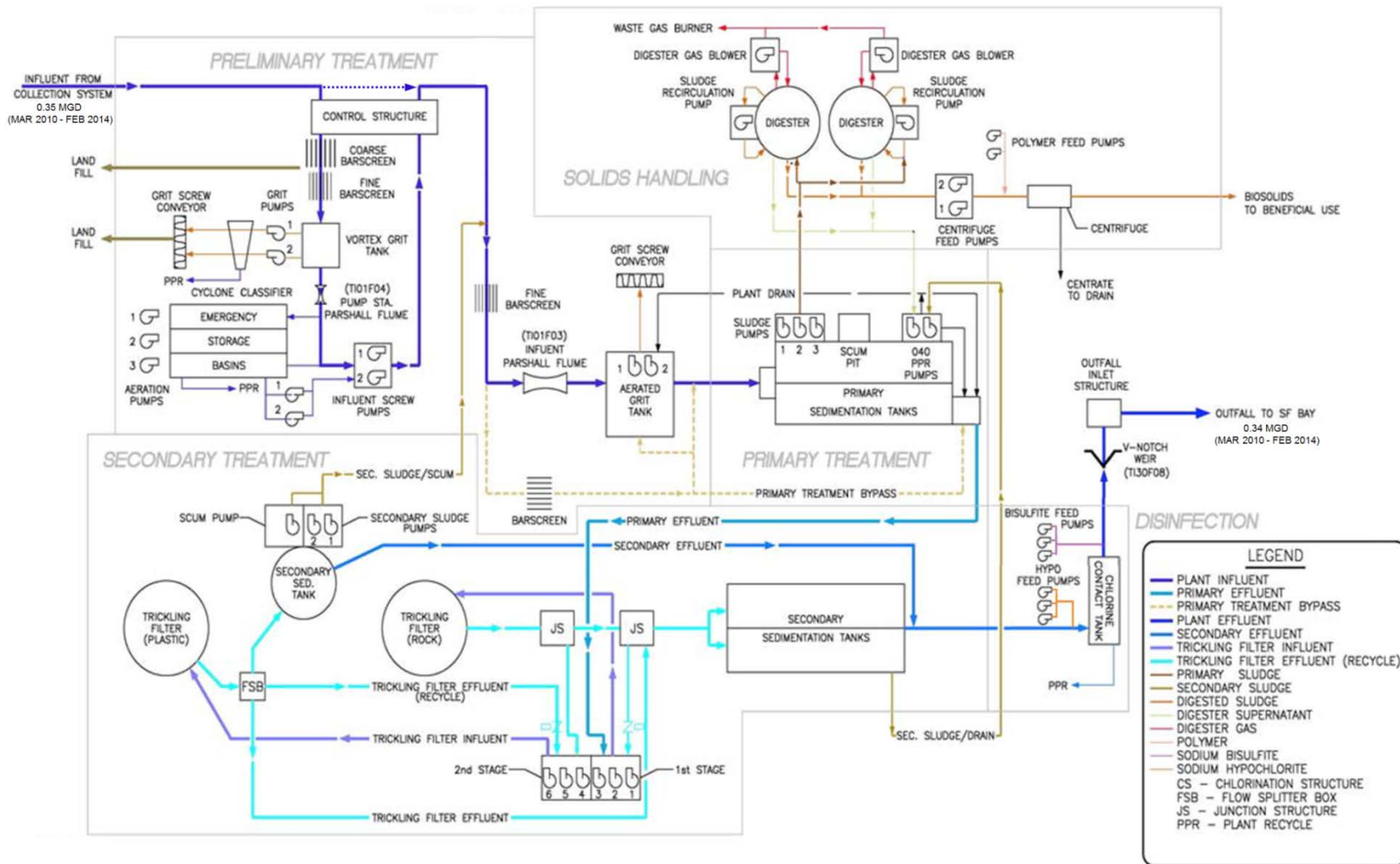


Contour interval: 20 feet. North American Vertical Datum of 1988.





ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants and with standards for sewage sludge use or disposal established under CWA section 405(d) within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2)); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

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

2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. **Prohibition of bypass.** Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

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

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. §§ 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS—RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years

from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include the following:

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

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS—REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions

taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

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

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

- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a.** The authorization is made in writing by a person described in Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b.** The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 4.** If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
- 5.** Any person signing a document under Standard Provisions—Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are

significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (Alternatively, for an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1).) (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions—Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision—Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 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 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the “Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits” (Attachment G), this MRP shall prevail.
- B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description ^[1]
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 ensured and a representative sample of the final effluent can be obtained. <i>Discharge Point: Latitude 37.832778 Longitude -122.369444</i>

Footnote:

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

III. INFLUENT MONITORING REQUIREMENTS

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

Table E-2. Influent Monitoring

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

Abbreviations:

MGD = million gallons per day

mg/L = milligrams per liter
 µg/L = micrograms per liter
 Continuous = measured continuously
 C-24 = 24-hour composite sample
 Grab = grab sample
 Continuous/D = measured continuously, and recorded and reported daily
 1/Week = once per week
 1/Year = once per year

Footnote:

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

IV. EFFLUENT MONITORING REQUIREMENTS

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

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

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MGD	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD ₅)	mg/L	C-24	1/Week
Total Suspended Solids (TSS)	mg/L	C-24	1/Week
Oil and Grease ^[2]	mg/L	Grab	1/Quarter
pH ^[3]	standard units	Grab	2/Week
Temperature	°C	Grab	1/Week
Total Coliform Bacteria ^[4]	MPN/100 mL	Grab	2/Week
Enterococcus ^[4]	MPN/100 mL	Grab	5/Month ^[8]
Acute Toxicity ^[5]	% Survival	C-24	1/Year
Chronic Toxicity ^[6]	TUc	C-24	1/2 Years
Chlorine Residual ^[7]	mg/L	Continuous or Grab	Continuous/2H
Ammonia, Total	mg/L as N	C-24	1/Month
Copper, Total	µg/L	C-24	1/Month
Cyanide, Total	µg/L	Grab	1/Month
Chlorodibromomethane	µg/L	Grab	1/Month
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab	1/Month ^[9]
Dioxin-TEQ	µg/L	Grab	1/Year

Unit Abbreviations:

MGD = million gallons per day
 mg/L = milligrams per liter
 µg/L = micrograms per liter
 mg/L as N = milligrams per liter as nitrogen
 °C = degrees Celsius
 % survival = percent survival
 MPN/100 mL = most probable number per 100 milliliters
 TUc = chronic toxicity units, equal to 100/NOEL, where NOEL = IC₂₅, EC₂₅, or NOEC

Sampling Types and Frequencies:

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

Continuous/2H= measured continuously or, if infeasible, at least every 2 hours

1/Week = once per week
2/Week = twice per week
1/Month = once per month
5/Month = five times per month
1/Quarter = once per quarter
1/Year = once per year
1/2 Years = once every other year

Footnotes:

- [1] Flow shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
 - Monthly average flow (MGD)
 - Total monthly flow volume (MG)
 - Maximum and minimum daily average flow rates (MGD)
- [2] Each oil and grease sampling and analysis event shall be conducted in accordance with U.S. EPA Method 1664A.
- [3] If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in self-monitoring reports.
- [4] Results may be reported as Colony Forming Units/100 milliliters (CFU/100 mL) if the laboratory method used provides results in CFU/100 mL.
- [5] Acute bioassay tests shall be performed in accordance with MRP section V.A.
- [6] Chronic bioassay tests shall be performed in accordance with MRP section V.B.
- [7] Effluent residual chlorine concentrations shall be monitored continuously or, at a minimum, every two hours. The Discharger shall describe all excursions of the chlorine limit in the transmittal letter of self-monitoring reports as required by Attachment G section V.C.1.a. If monitoring continuously, the Discharger shall report through data upload to CIWQS, from discrete readings of the continuous monitoring every hour on the hour, the maximum for each day and any other discrete hourly reading that exceed the effluent limit, and, for the purpose of mandatory minimum penalties required by Water Code section 13385(i), compliance shall be based only on these discrete readings. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all continuous monitoring data for discretionary enforcement.
- [8] If after three months the Discharger has demonstrated full compliance with the enterococcus effluent limitation, the minimum monitoring frequency shall be reduced to four times per year. The four samples shall be collected in different calendar months during the higher recreational water contact season (June to October). If the enterococcus effluent limitation is later exceeded, the Discharger shall conduct accelerated sampling five times per month for at least three consecutive months. If full compliance is demonstrated at the end of the three month period, the Discharger may return to sampling just four times per year.
- [9] If after six months the Discharger has demonstrated full compliance with the bis(2-ethylhexyl)phthalate effluent limitation, the minimum monitoring frequency shall be reduced to twice per year. If the bis(2-ethylhexyl)phthalate effluent limitation is later exceeded, the Discharger shall return to sampling once per month for at least six consecutive months. If full compliance is demonstrated at the end of the six-month period, the Discharger may return to sampling just twice per year.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations at Discharge Point No. 001 shall be evaluated at Monitoring Location EFF-001 by measuring survival of test organisms exposed to 96-hour static renewal bioassays.
2. Test organisms shall be rainbow trout (*Onchorhynchus mykiss*). Alternatively, the Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.
3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012).
4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute

toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference.

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

B. Whole Effluent Chronic Toxicity

1. Monitoring Requirements

- a. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 for critical life stage toxicity tests as indicated below.
- b. **Test Species.** The test species shall be purple sea urchin (*Strongylocentrotus purpuratus*) or, if gravid purple sea urchin are unavailable, sand dollar (*Dendraster excentricus*), unless a more sensitive species is identified.

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

- c. **Frequency.** Chronic toxicity monitoring shall be as specified below:
 - i. The Discharger shall monitor routinely once every two years.
 - ii. The Discharger shall accelerate monitoring to monthly after either exceeding a three-sample median of 10 TUc or a single-sample maximum of 20 TUc. Based on the TUc results, the Executive Officer may specify a different frequency for accelerated monitoring to ensure that accelerated monitoring provides useful information.
 - iii. The Discharger shall return to routine monitoring if accelerated monitoring does not exceed the trigger in ii, above.

- iv. If accelerated monitoring confirms consistent toxicity in excess of the trigger in ii, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section V.B.3, below.
- v. The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below the trigger in ii, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

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

- d. **Methodology.** Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. 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 West Coast Marine and Estuarine Organisms*, currently first edition (EPA/600/R-95-136). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment.
- e. **Dilution Series.** The Discharger shall conduct tests at 20%, 15%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged. Test sample pH may be controlled to the level of the effluent sample as received prior to being salted up.

2. Reporting Requirements

- a. The Discharger shall provide toxicity test results for the current reporting period in the self-monitoring report and shall include the following, at a minimum, for each test:
 - i. Sample date
 - ii. Test initiation date
 - iii. Test species
 - iv. End point values for each dilution (e.g., number of young, growth rate, percent survival)
 - v. No Observable Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC₂₅ or EC₂₅ (see MRP Appendix E-1). If the IC₂₅ or EC₂₅ cannot be statistically determined, the NOEL shall equal to the No Observable Effect

Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test.

- vi. IC₁₅, IC₂₅, IC₄₀, and IC₅₀ values (or EC₁₅, EC₂₅, EC₄₀, and EC₅₀) as percent effluent
 - vii. TUc values (100/NOEL, where NOEL = IC₂₅, EC₂₅, or NOEC)
 - viii. Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable)
 - ix. IC₅₀ or EC₅₀ values for reference toxicant tests
 - x. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, and ammonia)
- b. The Discharger shall provide the results of the most recent three chronic toxicity tests and the three-sample median in the self-monitoring report as TUc's.

3. Toxicity Reduction Evaluation (TRE)

- a. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the work plan as necessary so that it remains current and applicable to the discharge and discharge facilities.
- b. Within 30 days of exceeding the chronic toxicity trigger in section V.B.1.c.ii, above, the Discharger shall submit a TRE work plan, which shall be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.
- c. Within 30 days of completing an accelerated monitoring test observed to exceed the trigger in section V.B.1.c.ii, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.
- d. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including U.S. EPA guidance materials. The Discharger shall conduct the TRE as a tiered evaluation as summarized below:
 - i. Tier 1 shall consist of basic data collection (routine and accelerated monitoring).
 - ii. Tier 2 shall consist of evaluation of treatment process optimization, including operational practices and in-plant process chemicals.
 - iii. Tier 3 shall consist of a toxicity identification evaluation (TIE).
 - iv. Tier 4 shall consist of evaluation of options for additional effluent treatment processes.
 - v. Tier 5 shall consist of evaluation of options for modifications of in-plant treatment processes.

- vi. Tier 6 shall consist of implementation of selected toxicity control measures and followup monitoring and confirmation of implementation success.
- e. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with Effluent Limitation IV.E of the Order).
- f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. The Discharger shall employ all reasonable efforts using currently available TIE methodologies.
- g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the toxic substances from the discharge. The Discharger shall take all reasonable steps to reduce toxicity to levels below the chronic toxicity limit.
- h. Many recommended TRE elements parallel required or recommended efforts related to source control, pollution prevention, and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to demonstrate compliance with TRE requirements.
- i. Chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful. Regional Water Board enforcement considerations will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. RECEIVING WATER MONITORING REQUIREMENTS

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

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.
2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:

- a. **Monthly SMRs** — Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with monthly SMRs.

Monthly SMRs shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

- b. **Annual SMR** — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in sections V.C.1.f of Attachment G. See also Provisions VI.C.2 (Effluent Characterization Study and Report) and VI.C.4.b (Sludge and Biosolids Management) of the Order for requirements to submit reports with the annual SMR.

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

Table E-4. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	
Dissolved Oxygen Temperature	Required for monthly maximum and minimum results only ^[1]	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver Zinc Dioxins & Furans (by U.S. EPA Method 1613)	Required for all results ^[2]	
Antimony Beryllium Thallium Other Pollutants (by U.S. EPA methods 601, 602, 608, 610, 614, 624, and 625)	Not required (unless identified in influent, effluent, or receiving water monitoring tables), but encouraged ^[1]	Discharger may use this method to submit results with application for permit reissuance, unless data are uploaded by CDF/EDF
Volume and Duration of Blended Discharge ^[3]	Required for all blended effluent discharges	
Analytical Method	Not required (Discharger may select “data unavailable”) ^[1]	

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
Collection Time Analysis Time	Not required (Discharger may select "0:00") ^[1]	

Footnotes:

- ^[1] The Discharger shall continue to monitor at the minimum frequency specified in this MRP, keep records of the measurements, and make the records available upon request.
- ^[2] These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).
- ^[3] The requirement for volume and duration of blended discharge applies only if this Order authorizes the Discharger to discharge blended effluent.

The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations. The Discharger is not required to duplicate the submittal of data entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format, the Discharger shall electronically submit the data in a tabular format as an attachment.

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

Table E-5. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Order effective date	All times
1/2 Hours	Order effective date	Every two-hour period, beginning at midnight (e.g., 12:00 a.m. through 1:59 a.m.)
1/Week or 2/Week	Sunday following Order effective date or on Order effective date if on Sunday	Sunday through Saturday
1/Month or 5/Month	First day of calendar month following Order effective date or on Order effective date if on first day of month	First day of calendar month through last day of calendar month
1/Quarter	Closest January 1, April 1, July 1, or October 1 following (or on) Order effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2/Year	Closest January 1 or July 1 before or after Order effective date ^[1]	January 1 through June 30 July 1 through December 31
1/Year or 1/2 Years	Closest January 1 before or after Order effective date ^[1]	January 1 through December 31

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

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

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected”, or ND.
- d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A, D, and G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level.

C. Discharge Monitoring Reports (DMRs)

- 1. At any time during the term of this Order, the State Water Board or Regional Water Board may notify the Discharger to electronically submit DMRs. Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
- 2. Once notified by the State Water Board or Regional Water Board, the Discharger shall submit a paper DMR. The Discharger shall sign and certify a DMR as Attachment D requires. The Discharger shall submit the DMR to one of the addresses listed below:

Standard Mail	FedEx/UPS/Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

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

VIII. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

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

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

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

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

- f. Annual self-monitoring report requirements

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

- 1) Annual compliance summary table of treatment plant performance, including documentation of any blending events (this summary table is not required if the Discharger has submitted the year's monitoring results to CIWQS in electronic reporting format by EDF/CDF upload or manual entry);
- 2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);
- 3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater (this item is not

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

- 4) List of approved analyses, including the following:
 - (i) List of analyses for which the Discharger is certified;
 - (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and
 - (iii) List of "waived" analyses, as approved;
- 5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;
- 6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all stormwater to the headworks of its wastewater treatment plant); and
- 7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

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

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

h. Reporting data in electronic format – *Deleted*

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

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants¹

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.

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

a. Two (2)-Hour Notification

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

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

b. 24-hour Certification – *Deleted*

c. 5-day Written Report

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

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

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

**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 U.S. EPA's Bootstrap Procedure.
- D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

- A. The Discharger shall perform screening phase monitoring:
 - 1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or
 - 2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
 - 1. Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables.

- 2.** Two stages:
 - a.** Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Appendix E-2 (attached).
 - b.** Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.
 - 3.** Appropriate controls.
 - 4.** Concurrent reference toxicant tests.
 - 5.** Dilution series of 100%, 50%, 25%, 12.5%, 6.25%, and 0%, where “%” is percent effluent as discharged, or as otherwise approved by the Executive Officer if different dilution ratios are needed to reflect discharge conditions.
- C.** The Discharger shall submit a screening phase proposal. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

**APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS**

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

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

Toxicity Test References:

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

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

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

Toxicity Test Reference:

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

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

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

Footnotes:

- ^[1] (a) Marine refers to receiving water salinities greater than 1 part per thousand (ppt) at least 95 percent of the time during a normal water year.
(b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.
(c) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.
- ^[2] The freshwater species may be substituted with marine species if:
 - (a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or
 - (b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

ATTACHMENT F - FACT SHEET

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ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	2 386013001
CIWQS Place ID	266328
Discharger	U.S. Department of Navy
Facility Name	Treasure Island Wastewater Treatment Plant and its collection system
Facility Address	1220 Avenue M San Francisco, CA 94130 San Francisco County
Facility Contact, Title, Phone	Patricia McFadden Base Operations Manager, San Francisco Bay Area (415)743-4720
Authorized Person to Sign and Submit Reports	Same as facility contact
Mailing Address	1 Avenue of the Palms, Suite 161 San Francisco, CA 94130
Billing Address	Same as mailing address
Facility Type	Publicly-Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	Not Applicable
Mercury and PCBs Requirements	NPDES Permit No. CA0038849
Nutrients Requirements	NPDES Permit No. CA0038873
Permitted Flow	2.0 million gallons per day (MGD) – average daily dry weather design flow
Design Flow	4.4 MGD – wet weather secondary treatment
Watershed	San Francisco Bay
Receiving Water	San Francisco Bay Central Basin
Receiving Water Type	Marine

- A. The U.S. Navy (the Discharger) owns the Treasure Island Wastewater Treatment Plant, which discharges to Central San Francisco Bay through a submerged deep-water diffuser. The Treasure Island Development Authority operates and maintains the plant and its associated collection system (collectively, the Facility) under the Base Caretaker Cooperative Agreement (Cooperative Agreement) between the Discharger and the City and County of San Francisco. Pursuant to the Cooperative Agreement, the San Francisco Public Utilities Commission operates and maintains the utility systems at Treasure Island, including the Facility, pursuant to a Memorandum of Understanding with the Treasure Island Development Authority, while the Discharger retains

ownership of all the utility systems until a transfer of ownership to the Treasure Island Development Authority (see section II.E).

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

- B.** The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0110116. The Discharger was previously subject to Order No. R2-2010-0001 (previous order), which was adopted on January 13, 2010, and expires on February 28, 2015, but has been administratively extended by operation of law. The Facility discharges wastewater to Central San Francisco Bay, a water of the United States within the San Francisco Bay watershed. Attachment B provides maps of the area around the Facility. Attachment C provides a plant flow schematic.

When applicable, State law requires dischargers to file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce such requirements under Water Code 1211. This is not an NPDES permit requirement.

- C.** The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on August 29, 2014.
- D.** The discharge is also regulated under NPDES Permit Nos. CA0038849 and CA0038873, which establish requirements on mercury, polychlorinated biphenyls (PCBs), and nutrients from wastewater discharges to San Francisco Bay. This Order does not affect those permits.

II. FACILITY DESCRIPTION

A. Wastewater and Biosolids Treatment

- 1. Location and Service Area.** The plant is located at 1220 Avenue M on Treasure Island in San Francisco. It 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 2,900. There are a few commercial facilities within the plant’s service area, including two restaurants, a grocery store, a convenience store, a few wine makers, and a culinary academy, but no manufacturing industries.
- 2. Collection System.** The collection system is a separate sewer system with approximately 16 miles of pipes ranging in diameter from 4 to 36 inches. Pipeline materials include cast iron, plastic, vitrified clay, and asbestos cement. In addition to gravity sewers, the system also includes 28 pump stations, 2 of which are on Yerba Buena Island. Wastewater from the eastern portion of Yerba Buena Island flows to Treasure Island through a 6-inch submarine force main. Wastewater from the western portion of Yerba Buena Island flows to Treasure Island through a 6-inch gravity sewer.

3. Wastewater Treatment. The plant was initially constructed in 1961 to provide primary treatment and was upgraded to provide secondary treatment and disinfection. It is designed to provide secondary treatment for an average of 2.0 million gallons per day (MGD) and, as indicated in the study “Improving Process Reliability and Performance Through Flow Equalization” (Nolte & Associates, April 1991), under wet weather conditions the plant can provide secondary treatment for up to 4.4 MGD. Daily influent flows measured from March 2010 through February 2014 ranged between 0.20 and 0.55 MGD. Higher flows up to 0.94 MGD occurred during wet weather.

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; disinfection with sodium hypochlorite; and dechlorination with sodium bisulfite.

4. Biosolids Management. Sludge from the sedimentation tanks is anaerobically digested and mechanically dewatered. The resulting biosolids are shipped offsite for landfill.

5. Stormwater. All stormwater from within the plant boundary is processed through the treatment plant. All other stormwater on the island flows through stormwater infrastructure and is covered under the Statewide Industrial Storm Water Permit (NPDES General Permit No. CAS000001).

B. Discharge Point and Receiving Waters

The effluent is discharged into Central San Francisco Bay through a deep water outfall (Discharge Point No. 001) approximately 460 feet offshore at a depth of 30 feet below mean lower low water (latitude 37.832778, longitude -122.369444). The outfall is a single port “duckbill” valve, angled 45 degrees up from horizontal, which expands with increasing flow. Its effective diameter ranges from about 6.2 inches to about 7.6 inches.

C. Summary of Existing Requirements and Monitoring Data

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

Table F-2. Historic Effluent Limitations and Monitoring Data from Discharge Point No. 001

Parameter	Units	Effluent Limitations					Monitoring Data (01/10–04/14)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	30	45	---	---	---	15 ^[1]
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	22 ^[1]
Oil and Grease	mg/L	10	---	20	---	---	13

Parameter	Units	Effluent Limitations					Monitoring Data (01/10–04/14)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Highest Daily Discharge
pH	standard units	---	---	---	6.0	9.0	6.0 – 8.0 ^[2]
Total Residual Chlorine	mg/L	---	---	---	---	0.0	0.0
Copper	µg/L	33	---	46	---	---	16
Cyanide	µg/L	20	---	54	---	---	6.3
Bis(2-Ethylhexyl) Phthalate	µg/L	59	---	120	---	---	32
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	4.4 x 10 ⁻⁸	---	---	4.4 x 10 ⁻¹⁰
Ammonia, as N	mg/L as N	150	---	490	---	---	1.18
Acute Toxicity	% Survival	Not less than 90% (11-Sample Median)					100
		Not less than 70% (11-Sample 90 th Percentile)					100

Unit Abbreviations:

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

Footnotes:

- ^[1] Maximum weekly average
^[2] Range of highest and lowest pH values.

D. Compliance Summary

- 1. Treatment Plant.** There is no record of the Discharger violating the effluent limitations of the previous order.
- 2. Collection System.** To the extent that some sanitary sewer overflows (SSOs) reached waters of the U.S., the Discharger would have violated Prohibition III.D. The table below shows the Discharger’s SSO rates (total SSOs per 100 miles of collection system) and other information together with those for the county and region:

Table F-3. Collection System and SSO Rates (SSO/100 miles)
(values based on CIWQS data analysis completed in June 2014)

	Length (miles)	Average Age (years)	2011	2012	2013
U.S. Department of Navy	20	67	30.6	30.6	76.5
San Francisco County median of 3small systems (10-99 miles)	13	56	0.0	35.1	76.5
San Francisco Bay Region median of 49 small systems (10-99 miles)	38	45	5.9	9.3	9.1
San Francisco Bay Region median of all 132 systems	41	45	4.0	4.6	4.5

Regional Water Board staff plans to evaluate in 2015 the adequacy of the Discharger’s collection system capital improvement plan and preventative maintenance and, if warranted, may bring this matter for Regional Water Board consideration. The average age of the Discharger’s collection system is over 67 years. While the Discharger has indicated it plans

to replace existing sanitary sewers as part of island redevelopment (see section II.E, below), the Discharger has reported zero budget for capital improvements for 2013, and a definitive redevelopment schedule has not been set. Also, the Discharger's SSO rate (76.5 SSOs per 100 miles of collection system) is high compared to the San Francisco Bay Region median for small collection systems (9.1 SSOs per 100 miles of sewer pipe).

E. Planned Changes

The Discharger plans to complete the following projects during this permit term. These changes are for informational purposes only and are not requirements of this Order, except to the extent that they pertain to increasing or ensuring reliability of treatment or wastewater collection systems. Their inclusion here does not imply Regional Water Board authorization. The Discharger must obtain any necessary permits or permit modifications to implement the changes.

Treasure Island is in the midst of comprehensive redevelopment. The Discharger will transfer more than half of the former naval base to the Treasure Island Development Authority soon after the end of 2014, and new building and infrastructure construction will likely begin in 2017. The transfer of the remainder of the former naval base to the Treasure Island Development Authority will continue in phases with the full transfer expected to be completed in 2022. The development of the island is projected to continue through 2031. As part of the redevelopment, a new wastewater treatment plant is planned. Additionally, much of the existing utility infrastructure, including the sanitary sewers and storm drains, will be replaced or rehabilitated. The construction schedule has not been established.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

B. California Environmental Quality Act

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

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plan. The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions,

should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on San Francisco Bay, total dissolved solids levels exceed 3,000 mg/L; therefore, San Francisco Bay meets an exception to State Water Board Resolution No. 88-63. Beneficial uses applicable to Central San Francisco Bay are as follows:

Table F-4. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Central San Francisco Bay	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. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. This Order implements the sediment quality objectives of this plan.
3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.
4. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
5. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy through State Water

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

- 6. Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Waters on CWA 303(d) List

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

San Francisco Bay is listed as impaired by chlordane, DDT, dieldrin, dioxin compounds, invasive species, furan compounds, mercury, PCBs, dioxin-like PCBs, and selenium. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The TMDLs for mercury and PCBs apply to this discharge and are regulated under NPDES Permit No. CA0038849. Also, as shown in Fact Sheet section IV.C.3, the discharge is not a significant source of chlordane, DDT, diazinon, or dieldrin because these pollutants have not been detected in the discharge. The discharge is not a source of invasive species because it is disinfected. Likewise, it is an insignificant source of nickel and selenium because discharge concentrations of these pollutants are consistently below water quality objectives.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

- 1. Discharge Prohibition III.A (No discharge other than as described in this Order):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which

require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B (Minimum initial dilution ratio of 103:1):** This Order is based on a dilution ratio of 103:1 for the calculation of one or more effluent limitations reflecting available information regarding the instantaneous dilution achieved at Discharge Point No. 001. Therefore, this prohibition is necessary to ensure that the assumptions used to derive the dilution credit remain substantially the same so the limitations remain protective of water quality.
3. **Discharge Prohibition III.C (No bypass or overflow, except as provided for in Attachment D):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G).
4. **Discharge Prohibition III.D (Average dry weather effluent flow not to exceed dry weather design capacity):** This Order prohibits an average dry weather effluent flow greater than 2.0 MGD. This prohibition is based on the plant’s design treatment capacity (i.e., the historic and tested reliability of the treatment plant). Exceeding the average dry weather flow design capacity could result in lowering the reliability of achieving compliance with water quality requirements.
5. **Discharge Prohibition III.E (No sewer overflows):** Basin Plan Table 4-1, Discharge Prohibition 15, and the CWA prohibit the discharge of wastewater to surface waters, except as authorized under an NPDES permit. Publicly-owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards (33 U.S.C. § 1311[b][1][B and C]). A sanitary sewer overflow that results in the discharge of raw sewage or wastewater not meeting this Order’s effluent limitations to surface waters is therefore prohibited under the CWA and the Basin Plan.

B. Conventional and Non-Conventional Pollutant Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. In addition, the 30-day average percent removal for biochemical oxygen demand (BOD₅) (or carbonaceous biochemical oxygen demand, CBOD₅) and total suspended solids (TSS), by concentration, is not to be less than 85 percent. The Basin Plan contains additional requirements for certain pollutants.

Table F-5. Secondary Treatment Requirements

Parameter	Monthly Average	Weekly Average
BOD ₅ ^[1]	30 mg/L	45 mg/L
CBOD ₅ ^[1]	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnote:

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

2. Effluent Limitations

- a. **BOD₅ and TSS.** The BOD₅ and TSS effluent limitations, including the 85 percent removal requirements, are based on the Secondary Treatment Standards and Basin Plan Table 4-2.
- b. **Oil and Grease.** The oil and grease effluent limitations are based on Basin Plan Table 4-2.
- c. **pH.** The pH effluent limitations are based on the Secondary Treatment Standards and Basin Plan Table 4-2.
- d. **Total Residual Chlorine.** The total residual chlorine effluent limitation is based on Basin Plan Table 4-2. The allowance for determining false positives when using continuous devices is based on the fact that continuous instruments occasionally have anomalous spikes, and it is chemically improbable to have free chlorine present in the presence of sodium bisulfite. The allowance for using only on-the-hour measurements for mandatory minimum penalty assessment purposes under Water Code section 13385.1 is based on a 2004 strategy developed between the Regional Water Board and the Bay Area Clean Water Agencies to encourage continuous monitoring.
- e. **Enterococcus.** The enterococcus effluent limitation is based on Basin Plan Table 4-2A, which requires this limitation for discharges to receiving waters with the water contact recreation beneficial use.
- f. **Total Coliform.** The total coliform effluent limitations are based on Basin Plan Table 4-2A, which requires these limitations for discharges to receiving waters with the shellfish harvesting beneficial use.

C. Toxic Pollutant Effluent Limitations

1. Scope and Authority

For toxic pollutants, this Order contains water quality-based effluent limitations (WQBELs) that implement water quality objectives that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective, WQBELs must be established using (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable

water quality objectives and criteria and protect designated uses of receiving waters as specified in the Basin Plan. This Order imposes numeric effluent limitations for toxic pollutants with reasonable potential to cause or contribute to exceedances of water quality standards.

2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point No. 001 discharges to Central San Francisco Bay. Section III.C.1, above, identifies the beneficial uses of Central San Francisco Bay. Water quality criteria and objectives to protect these beneficial uses are described below.

- a. **Basin Plan Objectives.** The Basin Plan specifies numeric water quality objectives for 10 priority pollutants and narrative water quality objectives for toxicity and bioaccumulation. The narrative toxicity objective states, “All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.” The narrative bioaccumulation objective states, “Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.”
- b. **CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” The criteria applicable to “organisms only” apply to Central San Francisco Bay because it is not a source of drinking water.
- c. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Central San Francisco Bay.
- d. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains a narrative water quality objective: “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California.” This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.
- e. **Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the water quality objectives

are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Central San Francisco Bay is a saltwater environment based on salinity data generated through the Regional Monitoring Program (RMP). Salinity data were collected at the Yerba Buena (BC10) sampling location between 1993 and 2013. During that period, the average salinity was 25 ppt, with a range from 12 to 33 ppt. Because the salinity was greater than 10 ppt in 100 percent of the samples, Central San Francisco Bay is classified as saltwater, and the reasonable potential analysis and WQBELs are based on saltwater water quality criteria and objectives.

- f. Site-Specific Metals Translators.** Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives. For copper, Basin Plan Table 7.2.1-2 contains site-specific translators for deep-water discharges to Central San Francisco Bay: 0.73 and 0.87 (monthly and daily). For nickel, this Order uses site-specific translators the Clean Estuary Partnership developed, as set forth in *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* report (March 2005): 0.65 and 0.85 (monthly and daily). For zinc, this Order uses a site-specific translator based on RMP data collected from 1993 through 2013 at the Yerba Buena Island RMP sampling station (BC10): 0.37 (monthly) and 0.51 (daily).

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

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

- a. Methodology.** SIP section 1.3 sets forth the methodology used for this Order for assessing whether a pollutant has reasonable potential to exceed a water quality objective. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:
- i. Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ($MEC \geq$ water quality objective).
 - ii. Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective ($B >$ water quality objective) *and* the pollutant is detected in any effluent sample.

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

b. **Effluent Data.** The reasonable potential analysis for this Order is based on effluent monitoring data the Discharger collected from January 2010 through April 2014. Additional ammonia data were collected July 2012 through June 2013 as a result of a Water Code section 13267 order dated March 2012 requiring nutrients information.

c. **Ambient Background Data.** The reasonable potential analysis for this Order is based on RMP data collected at the Yerba Buena Island station (BC10) from 1993 through 2013, and additional Bay Area Clean Water Agencies' data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004). These reports contain monitoring results from 2002 and 2003 for priority pollutants the RMP did not monitor at the time.

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. RMP monitoring station BC10, relative to other RMP stations, fits SIP guidance for establishing background conditions.

d. **Reasonable Potential Analysis for Toxic Pollutants.** The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not water quality objectives for all pollutants, and monitoring data are unavailable for others.

Bis(2-ethylhexyl)phthalate, chlorodibromomethane, copper, and cyanide exhibit reasonable potential by Trigger 1. Dioxin-TEQ exhibits reasonable potential by Trigger 2. Basin Plan section 7.2.1.2 also requires copper WQBELs for all municipal and industrial wastewater treatment facilities discharging into San Francisco Bay. Likewise, Basin Plan section 4.7.2.2 requires cyanide WQBELs for municipal wastewater treatment facilities discharging into San Francisco Bay. Ammonia exhibits reasonable potential by Trigger 3 because human waste is a significant source of ammonia and ammonia precursors to the plant.

Table F-6. Reasonable Potential Analysis

CTR #	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL ^{[1][2]} (µg/L)	B or Minimum DL ^{[1][2]} (µg/L)	Results ^[3]
1	Antimony	4,300	18.1	1.8	No
2	Arsenic	36	2.29	2.8	No
3	Beryllium	No Criteria	0.0526	0.22	U
4	Cadmium	9.36	8.3	0.13	No
5a	Chromium (III)	No Criteria	1.554	4.4	No
5b	Chromium (VI)	50	1.554	4.4	No
6	Copper	8.2	15.9	2.5	Yes
7	Lead	8.5	3.05	0.8	No
8	Mercury (303(d) listed) ^[4]	---	0.143	---	---
9	Nickel	13	5.262	3.7	No
10	Selenium	5	0.43	0.39	No
11	Silver	2.2	0.26	0.052	No
12	Thallium	6.3	0.1533	0.21	No

CTR #	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL ^{[1][2]} (µg/L)	B or Minimum DL ^{[1][2]} (µg/L)	Results ^[3]
13	Zinc	176	114.88	5.1	No
14	Cyanide	2.9	6.3	< 0.4	Yes
15	Asbestos	No Criteria	Unavailable	Unavailable	U
16	2,3,7,8-TCDD (303(d) listed)	1.40x10 ⁻⁸	<0.7	8.2 x 10 ⁻⁹	No
	Dioxin-TEQ (303(d) listed)	1.40x10⁻⁸	4.43E-10	5.3 x 10⁻⁸	Yes
17	Acrolein	780	<0.76	<0.5	No
18	Acrylonitrile	0.66	<0.19	0.03	No
19	Benzene	71	<0.051	<0.05	No
20	Bromoform	360	<1.56	<0.5	No
21	Carbon Tetrachloride	4.4	<0.068	0.06	No
22	Chlorobenzene	21,000	<0.052	<0.5	No
23	Chlorodibromomethane	34	40.84	<0.05	Yes
24	Chloroethane	No Criteria	<0.326	<0.5	U
25	2-Chloroethylvinyl ether	No Criteria	<0.095	<0.5	U
26	Chloroform	No Criteria	18.67	<0.5	U
27	Dichlorobromomethane	46	25.023	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.047	<0.05	U
29	1,2-Dichloroethane	99	<0.052	0.04	No
30	1,1-Dichloroethylene	3.2	<0.038	<0.5	No
31	1,2-Dichloropropane	39	<0.038	<0.05	No
32	1,3-Dichloropropylene	1,700	Unavailable	<0.5	No
33	Ethylbenzene	29,000	<0.041	<0.5	No
34	Methyl Bromide	4,000	<0.067	<0.5	No
35	Methyl Chloride	No Criteria	<0.0291	<0.5	U
36	Methylene Chloride	1,600	<0.032	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.676	<0.05	No
38	Tetrachloroethylene	8.85	<0.087	<0.05	No
39	Toluene	200,000	2.054	<0.3	No
40	1,2-Trans-Dichloroethylene	140,000	<0.062	<0.5	No
41	1,1,1-Trichloroethane	No Criteria	<0.064	<0.5	U
42	1,1,2-Trichloroethane	42	<0.053	<0.05	No
43	Trichloroethylene	81	Unavailable	<0.5	No
44	Vinyl Chloride	525	<0.446	<0.5	No
45	2-Chlorophenol	400	<0.15	<1.2	No
46	2,4-Dichlorophenol	790	<0.23	<1.3	No
47	2,4-Dimethylphenol	2,300	<0.22	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.33	<1.2	No
49	2,4-Dinitrophenol	14,000	<0.23	<0.7	No
50	2-Nitrophenol	No Criteria	<0.2	<1.3	U
51	4-Nitrophenol	No Criteria	<0.51	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.28	<1.1	U
53	Pentachlorophenol	7.9	<0.23	<1	No
54	Phenol	4,600,000	<0.22	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<0.22	<1.3	No
56	Acenaphthene	2,700	<0.018	0.0019	No
57	Acenaphthylene	No Criteria	<0.03	0.0013	U
58	Anthracene	110,000	<0.001	0.0006	No
59	Benzidine	0.00054	<0.52	<0.0015	No
60	Benzo(a)Anthracene	0.049	<0.0005	0.0053	No
61	Benzo(a)Pyrene	0.049	<0.002	0.0033	No
62	Benzo(b)Fluoranthene	0.049	<0.002	0.0046	No
63	Benzo(ghi)Perylene	No Criteria	<0.002	0.0045	U
64	Benzo(k)Fluoranthene	0.049	<0.007	0.0018	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.24	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.19	<0.00015	No

CTR #	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL ^{[1][2]} (µg/L)	B or Minimum DL ^{[1][2]} (µg/L)	Results ^[3]
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.19	Unavailable	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	32	< 0.7	Yes
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.12	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.56	0.0056	No
71	2-Chloronaphthalene	4,300	<0.2	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.28	<0.3	U
73	Chrysene	0.049	<0.001	0.0028	No
74	Dibenzo(a,h)Anthracene	0.049	<0.001	0.00064	No
75	1,2-Dichlorobenzene	17,000	<0.045	<0.3	No
76	1,3-Dichlorobenzene	2,600	<0.054	<0.3	No
77	1,4-Dichlorobenzene	2,600	<0.09	<0.3	No
78	3,3 Dichlorobenzidine	0.077	<0.41	<0.001	No
79	Diethyl Phthalate	120,000	<0.07	<0.21	No
80	Dimethyl Phthalate	2,900,000	<0.29	<0.21	No
81	Di-n-Butyl Phthalate	12,000	<0.42	0.016	No
82	2,4-Dinitrotoluene	9.1	<0.23	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.16	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.36	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.11	0.0037	No
86	Fluoranthene	370	<0.016	0.011	No
87	Fluorene	14,000	<0.003	0.0021	No
88	Hexachlorobenzene	0.00077	<0.15	0.000022	No
89	Hexachlorobutadiene	50	<0.15	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<0.11	<0.31	No
91	Hexachloroethane	8.9	<0.13	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.002	0.004	No
93	Isophorone	600	<0.27	<0.3	No
94	Naphthalene	No Criteria	<0.017	0.013	U
95	Nitrobenzene	1,900	<0.2	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.06	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.21	<0.001	No
98	N-Nitrosodiphenylamine	16	<0.09	<0.001	No
99	Phenanthrene	No Criteria	<0.002	0.0095	U
100	Pyrene	11,000	<0.005	0.019	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.2	<0.3	U
102	Aldrin	0.00014	<0.00038	0.000028	No
103	Alpha-BHC	0.013	<0.00049	0.0005	No
104	Beta-BHC	0.046	<0.0004	0.00041	No
105	Gamma-BHC	0.063	<0.00043	0.0007	No
106	Delta-BHC	No Criteria	<0.00034	0.000053	U
107	Chlordane (303(d) listed)	0.00059	<0.018	0.00018	No
108	4,4'-DDT (303(d) listed)	0.00059	<0.00093	0.00017	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.00038	0.00069	No
110	4,4'-DDD	0.00084	<0.00208	0.00031	No
111	Dieldrin (303d listed)	0.00014	<0.00056	0.00026	No
112	Alpha-Endosulfan	0.0087	<0.00048	0.000031	No
113	beta-Endosulfan	0.0087	<0.00071	0.000069	No
114	Endosulfan Sulfate	240	<0.00284	0.000082	No
115	Endrin	0.0023	<0.00091	0.00004	No
116	Endrin Aldehyde	0.81	<0.00051	Unavailable	No
117	Heptachlor	0.00021	<0.00104	0.000019	No
118	Heptachlor Epoxide	0.00011	<0.00055	0.000094	No
119-125	PCBs sum (303(d) listed) ^[4]	---	Unavailable	---	---
126	Toxaphene	0.0002	<0.025	Unavailable	No
	Total Ammonia ^[5]	1.27	1.18	0.14	Yes

Footnotes:

- [1] The maximum effluent concentration and ambient background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum detection level (DL).
- [2] The maximum effluent concentration or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- [3] RPA Results = Yes, if $MEC \geq WQC$, $B > WQC$ and MEC is detected, or Trigger 3
= No, if MEC and B are $< WQC$ or all effluent data are undetected
= Unknown, cannot determine (U), if no criteria have been promulgated or data are insufficient.
- [4] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.
- [5] Units for total ammonia are milligrams per liter as nitrogen.

e. Reasonable Potential Analysis for Dioxin-TEQ

- i. Water Quality Objective.** The Basin Plan narrative water quality objective for bioaccumulative substances states, “Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.”

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan’s narrative bioaccumulation water quality objective applies to these pollutants. Elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. U.S. EPA has therefore placed Central San Francisco Bay on its 303(d)-list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

When the CTR was promulgated, U.S. EPA stated its support of the regulation of dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs). U.S. EPA stated, “For California waters, if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric WQBELs for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme” (65 Fed. Reg. 31695-31696, May 18, 2000). This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization developed in 1998, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes region (40 C.F.R. part 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). Although the 1998 World Health Organization scheme includes TEFs for dioxin-like PCBs, they are not included in this Order’s TEQ scheme. The CTR has established a specific water quality criterion for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

The CTR establishes a numeric water quality objective for 2,3,7,8-TCDD of 1.4×10^{-8} $\mu\text{g/L}$ for the protection of human health when aquatic organisms are consumed. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-

TEQ represents a toxicity weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion.

- ii. **Reasonable Potential Analysis.** TEFs and BEFs were used to express measured concentrations of 16 dioxin congeners in effluent and background samples as equivalent 2,3,7,8-TCDD concentrations. For each sample, the sum of these equivalent concentrations is the dioxin-TEQ concentration. This Order establishes dioxin-TEQ WQBELs because the ambient background receiving water dioxin-TEQ concentration (5.3×10^{-8} µg/L) exceeds the CTR numeric criterion for 2,3,7,8-TCDD (1.4×10^{-8} µg/L) and dioxin-TEQ was detected in the effluent, demonstrating reasonable potential by Trigger 2.

f. Reasonable Potential Analysis for Ammonia

- i. **Water Quality Objectives.** For Central San Francisco Bay waters, Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L as an annual median and 0.16 mg/L as a maximum. These objectives were translated from un-ionized ammonia concentrations to equivalent total ammonia concentrations (as nitrogen) since (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on the pH, salinity, and temperature of the receiving water.

To translate the un-ionized ammonia objectives, pH, salinity, and temperature data were obtained from the RMP station nearest to the outfall (Yerba Buena station, BC10). The un-ionized fraction of total ammonia was calculated as follows:

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

Where:

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

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

S = Salinity (parts per thousand)

T = Temperature (degrees Kelvin)

P = Pressure (one atmosphere)

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

The equivalent total ammonia chronic and acute criteria are 1.27 mg/L and 5.07 mg/L as nitrogen.

- ii. Reasonable Potential Analysis.** There is reasonable potential for ammonia and this Order contains newly calculated ammonia WQBELs because human waste is a significant source of ammonia and compounds that breakdown into ammonia. The Discharger was successful in the previous permit term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, there is a reasonable possibility that this high level of treatment can change during the permit term as a result of higher occupancy on the islands. Therefore, WQBELs are necessary to protect against potential toxic impacts from the discharge.
- iii. Potential Changes to Ammonia Analysis as an Outgrowth of Nutrients Regulation.** The Regional Water Board has issued a watershed permit (NPDES Permit No. CA0038873) for all municipal wastewater dischargers to San Francisco Bay, including the Discharger, as an element of its San Francisco Bay Nutrient Management Strategy. This strategy addresses growing concerns about nutrients in the San Francisco Bay estuary. The strategy's goal is nutrient numeric endpoints that will inform WQBELs that the Regional Water Board may impose through NPDES Permit No. CA0038873.
- g. Reasonable Potential Analysis for Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. Efforts are underway to identify stressors causing such conditions. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the RMP, which monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality. Thus far, the monitoring has provided only limited information about potential stressors and sediment transport. The Regional Water Board is exploring options for obtaining additional information that may inform future analyses.
- h. Constituents with limited data.** In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. Provision VI.C.2 of the Order requires the Discharger to continue monitoring for these constituents in its effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.
- i. Pollutants with No Reasonable Potential.** This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision VI.C.2 of the Order still requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 of the Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

4. Water Quality-Based Effluent Limitations (WQBELs)

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

- a. **Dilution Credits.** SIP section 1.4.2 allows dilution credits for completely-mixed discharges and, under certain circumstances, incompletely-mixed discharges. On September 8, 2009, the Discharger submitted 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. Using the average discharge flow of 0.5 MGD, a one-hour acute dilution factor of 103:1 (102 parts San Francisco Bay water for each part effluent) was calculated.
 - i. **Bioaccumulative Pollutants.** For certain bioaccumulative pollutants, dilution credit is significantly restricted or denied. Specifically, these pollutants include dioxin and furan compounds, which appear on the CWA section 303(d) list for Central San Francisco Bay because, based on available data on the concentrations of these pollutants in aquatic organisms, sediment, and the water column, they impair San Francisco Bay beneficial uses. The following factors suggest insufficient assimilative capacity in San Francisco Bay for these pollutants.

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

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

- (a) San Francisco Bay is a complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. A water body-by-water body

approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.

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

For non-bioaccumulative pollutants, the Yerba Buena Island RMP monitoring station (BC10), relative to other RMP stations, fits SIP guidance for establishing background conditions. SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. Because the WQBELs for non-bioaccumulative pollutants are based on a restricted dilution credit, water quality data from the Yerba Buena Island monitoring station best represents the water that will mix with the discharge.

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

Table F-7. WQBEL Calculations

PRIORITY POLLUTANTS	Bis(2-Ethylhexyl) Phthalate	Copper	Chlorodi-bromomethane	Cyanide	Dioxin-TEQ	Total Ammonia
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	CTR HH	Basin Plan SSO	CTR HH	Basin Plan SSO	Basin Plan Narrative	Basin Plan Aquatic Life
Criteria -Acute	-----	-----	-----	-----	-----	-----
Criteria -Chronic	-----	-----	-----	-----	-----	1.27
Site-Specific Objective-Acute	-----	3.9	-----	9.4	-----	-----
Site-Specific Objective-Chronic	-----	2.5	-----	2.9	-----	-----
Water Effects ratio (WER)	1	2.5	1	1	1	1
Lowest WQO	5.9	8.2	34	2.9	1.40E-08	1.27
Site Specific Translator - MDEL	-----	0.87	-----	-----	-----	-----
Site Specific Translator - AMEL	-----	0.73	-----	-----	-----	-----
Dilution Factor (D) (if applicable)	9	9	9	9	0	102
No. of samples per month	4	4	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	N	Y	N	Y	N	Y

HH criteria analysis required? (Y/N)	Y	N	Y	Y	Y	N
Applicable Acute WQO	-----	10.8	-----	9.4	-----	-----
Applicable Chronic WQO	-----	8.2	-----	2.9	-----	1.27
HH criteria	5.9	-----	34	220,000	1.40E-08	-----
Background (Maximum Conc for Aquatic Life calc)	0.7	2.55	0.05	0.4	5.32E-08	0.144
Background (Average Conc for Human Health calc)	7.00E-01	-----	0.05	0.4	5.32E-08	-----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N	Y	N
ECA acute		85.10		90.4		-----
ECA chronic		59.25		25.4		116.1
ECA HH	52.7		3.40E+02	2.20E+06	1.40E-08	-----
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	Y	Y
Average of effluent data points	6.2	7.9	25.3	2.8	1.18E-10	0.56
Std. Dev. of effluent data points	5.9	2.3	9.09	2.0	2.17E-10	0.32
CV calculated	1.0	0.3	0.36	0.7	N/A	0.58
CV (Selected) - Final	1.0	0.3	0.36	0.7	0.6	0.58
ECA acute mult99	-----	0.5	-----	0.3		0.3
ECA chronic mult99	-----	0.7	-----	0.5		0.9
LTA acute	-----	45.7	-----	25.2		
LTA chronic	-----	42.8	-----	12.1		108.2
Minimum of LTAs	-----	42.8	-----	12.1		108.2
AMEL mult95	1.90	1.3	1.3	1.7	1.6	1.2
MDEL mult99	4.70	1.9	2.1	3.6	3.1	3.0
AMEL (aquatic life)	-----	54	-----	20.1		130
MDEL (aquatic life)	-----	80	-----	43.5		330
MDEL/AMEL Multiplier	2.5	1.5	1.6	2.2	2.0	2.6
AMEL (human health)	52.7	-----	340	2.20E+06	1.40E-08	
MDEL (human health)	130	-----	545	4.76E+06	2.81E-08	
Min. of AMEL for Aq. life vs HH	53	54	340	20	0	130
Min. of MDEL for Aq. Life vs HH	130	80	550	44	0	330
Previous order limit (30-day average)	59	33	340	20	1.40E-08	150
Previous order limit (daily)	120	46	680	54	4.40E-08	490
Final limit - AMEL	53	33	340	20	1.40E-08	130
Final limit - MDEL	120	46	550	44	2.80E-08	330

5. Whole Effluent Acute Toxicity

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

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

6. Whole Effluent Chronic Toxicity

- a. **Water Quality Objective.** Basin Plan section 3.3.18 states, “There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.”
- b. **Reasonable Potential Analysis.** The Discharger conducted chronic toxicity tests every other year during the previous order term using the purple sea urchin (*Strongylocentrotus purpuratus*) in the echinoderm larval development test. The previous order contained a chronic toxicity trigger (three-sample median of 10 TUc and single-sample maximum of 20 TUc) for accelerated chronic toxicity testing. The maximum single-sample chronic toxicity result during the previous order term was 5 TUc in 2014. The relatively low toxicity indicates low reasonable potential for chronic toxicity in the receiving water, particularly considering the 103:1 dilution that occurs at the outfall, so this Order contains only a narrative chronic toxicity limit. A numeric limit is unwarranted.
- c. **Requirements.** The Order contains a narrative chronic toxicity effluent limitation based on the Basin Plan’s narrative toxicity water quality objective. The MRP includes a requirement for chronic toxicity monitoring to ensure attainment of the narrative toxicity objective and a monitoring “trigger” for initiation of accelerated monitoring requirements when exceeded. The accelerated monitoring trigger is based on Basin Plan Table 4-5. The Discharger is required to implement a chronic toxicity reduction evaluation in some circumstances. These requirements are consistent with CTR and SIP requirements.
- d. **Screening Phase Study.** The MRP requires the Discharger to conduct a chronic toxicity screening phase study, as described in MRP Appendix E-1, prior to permit reissuance. The Discharger’s November 2011 final chronic toxicity screening report did not indicate the presence of effluent toxicity for any test species examined. Therefore, the Discharger will continue to use the echinoderm larval development test (using the purple sea urchin [*Strongylocentrotus purpuratus*] or, if gravid sea urchin are unavailable, the sand dollar [*Dendraster excentricus*]).

D. Effluent Limitation Considerations

1. **Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The requirements of this Order are at least as stringent as those in the previous order.
2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. It continues the status quo with

respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increase in flow, a reduced level of treatment, or less stringent effluent limitations relative to those in the previous order.

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

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

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Monitoring and Reporting

Pursuant to 40 C.F.R. section 122.48, NPDES permits must specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383, and 40 C.F.R. sections 122.41(h) and (j), authorize the Regional Water Board to require technical and monitoring reports. This Order establishes monitoring and reporting requirements, contained in the Monitoring and Reporting Program (Attachment E), that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VII.

C. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R. sections 122.62 and 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

2. Effluent Characterization Study and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the MRP and Attachment G. Monitoring data are necessary to verify that the “no” and “unknown” reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to CWC section 13267, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

3. Pollutant Minimization Program

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

4. Special Provisions for Municipal Facilities

a. Sludge and Biosolids Management. This provision is based on Basin Plan section 4.17 and 40 C.F.R. parts 257 and 503. “Sludge” refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. “Biosolids” refers to sludge that has been treated and may be beneficially reused.

b. Collection System Management. The Discharger’s collection system is part of the Facility regulated through this Order. This provision explains this Order’s requirements as they relate to the Discharger’s collection system and promotes consistency with the State Water Board’s *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), Order 2006-0003-DWQ, as amended by WQ 2013-0058-EXEC. The General Collection System WDRs contain requirements for collection system operation and maintenance, and for reporting and mitigating

sanitary sewer overflows. They also require agencies to develop sanitary sewer management plans and report all sanitary sewer overflows. The Discharger must comply with both the General Collection System WDRs and this Order.

5. Other Special Provisions

- a. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2. It is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. Data the San Francisco Estuary Institute compiled for 2009-2011 indicate no degradation of San Francisco Bay water quality with respect to copper (<http://www.sfei.org/content/copper-site-specific-objective-3-year-rolling-averages>).
- b. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2. It is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible “significant cyanide discharge” in the Discharger’s service area is set at 10.0 µg/L. This concentration is twice the minimum level of the required analytical method for cyanide (5.0 µg/L) listed in Attachment G Table C. Because the Discharger has not observed multiple influent cyanide concentrations greater than 5.0 µg/L during the previous order term, if influent concentrations twice this level were observed, there could be a significant cyanide source.
- c. **Standard Operating Procedures Requirement for Resource Recovery.** Standard Operating Procedures are required for dischargers that accept hauled waste fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt operations from separate and redundant permitting programs. If the Discharger does not accept fats, oil, and grease for resource recovery purposes, it is not required to develop and implement Standard Operating Procedures.

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (Attachment E) of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. The following provides the rationale for the MRP requirements:

A. MRP Requirements Rationale

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

- 2. Effluent Monitoring.** Effluent flow monitoring is necessary to evaluate compliance with Prohibition III.D (average dry weather flow) and to understand Facility operations. Monitoring for the other parameters in MRP Table E-3 is necessary to evaluate compliance with this Order’s effluent limitations.
- 3. Whole Effluent Toxicity Testing.** Acute and chronic whole effluent toxicity tests are necessary to evaluate compliance with the acute and chronic toxicity effluent limitations. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity triggers the need for a TRE.
- 4. Receiving Water Monitoring.** The Discharger is required to continue participating in the RMP, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. This monitoring is necessary to characterize the receiving water and the effects of the discharges this Order authorizes.

B. Monitoring Requirements Summary. The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order.

Table F-8. Monitoring Requirements Summary

Parameter	Influent INF-001	Effluent EFF-001	Receiving Water
Flow	Continuous	Continuous/D	Support RMP
Biochemical Oxygen Demand, 5-day @ 20°C BOD ₅	1/Week	1/Week	
Total Suspended Solids	1/Week	1/Week	
Oil and Grease		1/Quarter	
pH		2/Week	
Temperature		1/Week	
Total Coliform Bacteria		2/Week	
Enterococcus		5/Month ^[1]	
Acute Toxicity		1/Year	
Chronic Toxicity		1/2 Years	
Chlorine Residual		Continuous/2H	
Ammonia, Total		1/Month	
Copper, Total		1/Month	
Cyanide, Total	1/Year	1/Month	
Chlorodibromomethane		1/Month	
Bis(2-Ethylhexyl)Phthalate		1/Month ^[2]	
Dioxin-TEQ		1/Year	
Other priority pollutants ^[3]		1/2 Years	

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily
Continuous/2H= measured continuously or, if infeasible, at least every 2 hours

Footnotes:

- ^[1] The monitoring frequency may be reduced to four times per year if the Discharger demonstrates full compliance with the enterococcus effluent limitation.
- ^[2] The monitoring frequency may be reduced to twice per year if the Discharger demonstrates full compliance with the bis(2-ethylhexyl)phthalate effluent limitations.
- ^[3] This monitoring is required by Provision VI.C.2 of the Order.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through *The Recorder* in San Francisco. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at <http://www.waterboards.ca.gov/sanfranciscobay>.

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of James Parrish.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on December 3, 2014.

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

Date: **January 21, 2015**
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: James Parrish, (510) 622-2381, James.Parrish@waterboards.ca.gov

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

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

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

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

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

- E. Information and Copying.** The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.
- F. Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.
- G. Additional Information.** Requests for additional information or questions regarding this Order should be directed to James Parrish, at (510) 622-2381 or James.Parrish@waterboards.ca.gov.

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

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

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

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

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

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

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

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

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

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

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

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

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

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

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

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

1. **Operation and Maintenance (O&M) Manual** - The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.
2. **Wastewater Facilities Status Report** - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

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

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

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

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

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

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

1. Storm Water Pollution Prevention Plan (SWPP Plan)

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

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

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

2. Source Identification

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

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

3. Storm Water Management Controls

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

a. Storm water pollution prevention personnel

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

b. Good housekeeping

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

c. Spill prevention and response

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

d. Source control

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

e. Storm water management practices

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

f. Sediment and erosion control

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

g. Employee training

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

h. Inspections

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

i. Records

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

4. Annual Verification of SWPP Plan

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

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

1. Use of Certified Laboratories

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

2. Use of Appropriate Minimum Levels

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

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

3. Frequency of Monitoring

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

a. Timing of Sample Collection

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

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

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

b. Conditions Triggering Accelerated Monitoring

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

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

c. Storm Water Monitoring

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

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

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

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

d. Receiving Water Monitoring

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

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

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

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

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

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

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

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

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

1. Receiving Water Observations

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

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

2. Wastewater Effluent Observations

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

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

3. Beach and Shoreline Observations

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

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

4. Land Retention or Disposal Area Observations

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

- a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.
- b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

- c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.
- d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

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

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

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

IV. STANDARD PROVISIONS – RECORDS

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

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

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

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

1. Analytical Information

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

2. Flow Monitoring Data

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

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

3. Wastewater Treatment Process Solids

- a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
 - 1) Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and
 - 2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:
 - 1) Total volume or mass of dewatered biosolids for each calendar month;
 - 2) Solids content of the dewatered biosolids; and
 - 3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

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

- a. For bacteriological analyses:
 - 1) Wastewater flow rate at the time of sample collection; and
 - 2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).
- b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:
 - 1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);
 - 2) Chlorine dosage (kg/day); and
 - 3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

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

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

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

6. Treatment Facility Overflows

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

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

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

1. Self Monitoring Reports

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

a. Transmittal letter

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

- 1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;
- 2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;
- 3) Causes of violations;
- 4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);
- 5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results, etc.], and discussion of the

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

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

b. Compliance evaluation summary

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

c. Results of analyses and observations

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

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

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

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

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

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

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

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

f. Annual self monitoring report requirements

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

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

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board

San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

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

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

D. Compliance Schedules – Not supplemented

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

1. Spill of Oil or Other Hazardous Material Reports

- a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.
- b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.
- c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:
 - 1) Date and time of spill, and duration if known;

- 2) Location of spill (street address or description of location);
- 3) Nature of material spilled;
- 4) Quantity of material involved;
- 5) Receiving water body affected, if any;
- 6) Cause of spill;
- 7) Estimated size of affected area;
- 8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
- 9) Corrective actions taken to contain, minimize, or clean up the spill;
- 10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and
- 11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment 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) Incident description and cause;
- 2) Location of threatened or involved waterway(s) or storm drains;
- 3) Date and time the unauthorized discharge started;
- 4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

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

- 5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and
- 6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

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

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

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

d. Communication Protocol

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

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

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

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

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

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

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

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

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

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

1. Arithmetic Calculations

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

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

or

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

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

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

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

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

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

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

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

- c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.
- d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

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

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

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

Table C
List of Monitoring Parameters and Analytical Methods

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

⁶ The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

⁷ Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

⁸ Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).

⁹ The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

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

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

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVA	DCP
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichloromethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note) ¹²	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											

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

CTR No.	Pollutant/Parameter	Analytical Method ⁶	Minimum Levels ⁷ (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

B. Comments

**Comments Regarding Tentative Order for Renewal of the NPDES Permit for the
Treasure Island Wastewater Treatment Plant - NPDES No. CA0110116
December 2, 2014**

The Navy appreciates the opportunity to submit the following comments on the Tentative Order (TO) reissuing the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of treated wastewater to Central San Francisco Bay. The Navy would also like to commend Regional Water Board staff for their diligence and care in preparing this document.

In order to assist Regional Water Board staff in locating the sections of the Tentative Order being commented on, the page numbers are provided prior to the requested permit language change. Due to variations in formatting, page numbers listed are approximate. The sequence of issues raised in these comments follows the organization of the Tentative Order and does not reflect an order of importance.

1. Consistent with the Basin Plan, “San Francisco Bay Central” should be stated as the receiving water.

The first page of the tentative order permit states that the receiving water is the "Central Basin". The “Central Basin” water body is shown in June 2013 *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) Figure 2-6a as a water body off the bayside shore of San Francisco several miles away from the Treasure Island Wastewater Treatment Plant (Plant) and its discharge point. This water body is unrelated to this NPDES permit. The name of the receiving water should be changed to be more specific and consistent with the Basin Plan Table 2-1: "San Francisco Bay Central".

Proposed change (Page 1):

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary Treated Municipal Wastewater	37.832778	-122.369444	San Francisco Bay Central Basin

2. A change to the copper effluent limit is appropriate because there was a technical error that contributed to the calculation of the copper effluent limit in the current NPDES permit.

The tentative order permit retains the copper effluent limitations from the current 2010 permit to avoid backsliding. However, a technical error was made in the calculation of the 2010 permit’s copper effluent limits. Clean Water Act (CWA) sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) anti-backsliding provisions require that effluent limitations in a reissued NPDES permit be as stringent as those in the previous permit. These provisions apply to both technology-based effluent limitations as well to water quality-based effluent limitations (WQBELs). However, exceptions to backsliding exist under which effluent limitations may be relaxed.

Per CWA 402(o)(2)(B)(ii), a permit may be reissued with a less stringent effluent limitation if it is determined that technical mistakes were made in issuing the permit under CWA 402(a)(1)(B). CWA 402(a)(1)(B) allows the Regional Water Board to implement necessary actions to carry out the NPDES provisions in CWA, including WQBELs. Thus, it is appropriate for the Regional Water Board to allow an exception to anti-backsliding for WQBELs.

Additionally, the USEPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD) (page 113) states that the relaxation of water quality-based limits is permissible if either the requirements of U.S. Code sections 402(o)(2) and 303(d)(4) are met. This information in the TSD is also supported by State Water Board Order WQ 2001-16 (pages 18-19).

There are multiple examples of currently effective NPDES permits with exceptions to anti-backsliding for WQBELs including:

- City of Palo Alto Regional Water Quality Control Plant (Order No. R2-2014-0024)
- Fairfield-Suisun Sewer District Wastewater Treatment Plant (Order R2-2009-0039 as amended by Order No. R2-2013-0007)
- East Bay Municipal Utility District Orinda Water Treatment Plant (Order R2-2009-0067 as amended by Order No. R2-2013-0003)

In the current 2010 permit and the tentative order permit, the Basin Plan's site-specific translators for copper are used to convert criteria for dissolved copper to water quality objectives (WQOs) for total copper. When calculating the applicable copper WQOs, the acute criterion for dissolved copper (9.4 µg/L) ought to be divided by the acute translator (0.87), and the chronic criterion (6.0 µg/L) ought to be divided by the chronic translator (0.73). However, Table F-10 in the current permit indicates that the calculations switched the two criteria values; that is, the chronic criterion for dissolved copper was divided by the acute translator, and the acute criterion for dissolved copper was divided by the chronic translator. Thus, a technical error occurred with the two criteria values were switched.

It is appropriate for the copper effluent limits in Table F-7 to be based on the Plant's recent effluent data and the correct calculation method. Our calculations indicate that this would result in an AMEL of 54 µg/L and a MDEL of 80 µg/L.

Specific language revisions requested above in Comment No. 2 are shown after Comment No. 5.

- 3. The water quality-based effluent limitations for bis(2-ethylhexyl)phthalate should be treated as a pair. The pair of limits should be retained from the previous permit.**

When following the procedures for calculating WQBELs in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (also known as the State Implementation Policy, or SIP), the maximum daily effluent limitation (MDEL) and average monthly effluent limitation (AMEL) are treated as a pair of limits. These procedures are based on the EPA's *Technical Support Document For Water Quality-based Toxics Control* (the TSD, EPA/505/2-90-001, 1991, Section 5.4.4) and supported by EPA's 2010 NPDES Permit Writers' Manual (EPA-833-K-10-001, Section 6.4.2).

When developing WQBELs based on human health criteria (as applicable for bis(2-ethylhexyl)phthalate), the AMEL is calculated as equal to the effluent concentration allowance (ECA). The MDEL is calculated as the product of the AMEL and an MDEL/AMEL multiplier value, which is calculated as function of variability of the effluent data set. How the multiplier affects the AMEL and MDEL is shown below as excerpts of the WQBEL Calculation tables from the current permit and the tentative order permit:

Comparison of WQBEL Calculations for Bis(2-Ethylhexyl) Phthalate

	<i>Excerpt of Table F-10 in 2010 Current Permit</i>	<i>Excerpt of Table F-7 in 2014 Tentative Order Permit</i>
AMEL 95 th Percentile Multiplier	1.6	1.90
MDEL 99 th Percentile Multiplier	3.1	4.70
MDEL/AMEL Multiplier	2.0	2.5
AMEL (based on human health)	59	52.7
MDEL (based on human health)	120	130
Final Limit - AMEL	59	53
Final Limit - MDEL	120	130

As shown in the above table, the MDEL value is calculated based on the AMEL value and the MDEL/AMEL multiplier. Therefore, the AMEL and MDEL should be treated as a pair of limits that represents one set of permit limits for bis(2-ethylhexyl)phthalate, not as two separate permit limits. When determining new WQBELs for a pollutant, a consistent pair of permit limits should be chosen based on the paired approach for calculating AMEL and MDEL. This approach has been used for multiple NPDES permits that are currently effective, including:

- City of Livermore Water Reclamation Plant - Effluent Limitations for Copper (Order No. R2-2012-0006)
- Sewerage Agency of Southern Marin Wastewater Treatment Plant – Effluent Limitations for Copper and Cyanide (Order R2-2012-0094)
- West County Agency Common Outfall - Effluent Limitations for Copper and Cyanide (Order No. R2-2013-0016)

The current permit limits for bis(2-ethylhexyl)phthalate should be retained. It is noted that the current MDEL (120 µg/L MDEL) is more stringent than MDEL computed with recent data (130 µg/L MDEL).

Specific language revisions requested above in Comment No. 3 are shown after Comment No. 5.

4. The ammonia limit ought to be removed because effluent ammonia did not exhibit reasonable potential to cause or contribute to an excursion of a water quality objective.

Currently, the tentative order permit states that the ammonia exhibits reasonable potential by Trigger 3 so a WQBEL is warranted. The effluent data for ammonia do not indicate that the ammonia exhibits reasonable potential. As shown in the tentative order, effluent ammonia concentrations were below the governing water quality criterion (1.27 µg/L) throughout the current permit term. It is noted that at these levels, the ammonia effluent concentrations are significantly below either the existing or the proposed effluent limitations for ammonia which consider the 103:1 minimum dilution.

As defined in the SIP, Trigger 3 for reasonable potential is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses. The SIP indicates that the following information that may be used to aid in determining if a WQBEL is required: “the facility type, the discharge type, solids loading analysis,

lack of dilution, history of compliance problems, potential toxic impact of discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, the presence of endangered or threatened species or critical habitat". None of these are issues for the Plant.

There is also no indication that reasonable potential for ammonia would exist in the future. The tentative order states that there is reasonable potential for ammonia by Trigger 3 because there is a possibility that Plant's level of treatment can change due to higher occupancy on Treasure Island. This reasoning is unfounded. It is not expected that the population will increase significantly in the next five years from the redevelopment. The next five years of improvements focus mainly on utility infrastructure, not residential development, and the addition of any industry with high strength ammonia waste is not expected. Furthermore, the existing treatment plant was designed for significantly more flow than currently comes into the plant and the plant can easily accommodate the minor increases in flow that could occur in advance of the planned redevelopment of Treasure Island.

During the last permit term, the Plant treated approximately 0.34 million gallons per day. The permitted design flow rate of the plant is 2.0 MGD. As redevelopment progresses on Treasure Island, a new wastewater treatment plant will be built to suit the wastewater treatment needs of the redeveloped area and to provide recycled water for non-potable uses.

Several edits need be made to the final order to reflect the lack of reasonable potential for ammonia and the need to remove the ammonia WQBEL.

Specific language revisions requested above in Comment No. 4 are shown after Comment No. 5.

5. It is requested that the chlorine residual monitoring language in a Table E-3 footnote also be included in a footnote to Table 4.

In the tentative order permit, footnote [7] to Table E-3 (Effluent Monitoring) appropriately provides detailed information about continuous chlorine monitoring. It also contains detailed information regarding compliance with the effluent limit for total residual chlorine. The language in footnote [7] of Table E-3 ought to be included with footnote [2] to Table 4 (Effluent Limitations) in the main body of the permit.

The content of the footnote in the Table 4 as proposed below is consistent with the footnotes in the equivalent tables in two recently adopted permits for the San José-Santa Clara Regional Wastewater Facility (Order No. R2-2014-0034) and the Sunnyvale Water Pollution Control Plant (Order No. R2-2014-0035).

Requested language changes for Comment Nos. 2-5:

(Page 4)

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	30	45	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH ^[1]	standard units	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0 ^[2]
Copper	µg/L	33 54	---	46 80	---	---
Cyanide	µg/L	20	---	44	---	---
Chlorodibromomethane	µg/L	340	---	545	---	---
Bis(2-Ethylhexyl)Phthalate	µg/L	53 59	---	120	---	---
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	2.8 x 10 ⁻⁸	---	---
Total Ammonia	mg/L as N	130	---	330	---	---

Unit Abbreviations:

mg/L = milligrams per liter

µg/L = micrograms per liter

Footnotes:

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

^[2] [Effluent residual chlorine concentrations shall be monitored continuously or, at a minimum, every two hours. The Discharger shall describe all excursions of the chlorine limit in the transmittal letter of self-monitoring reports as required by Attachment G section V.C.1.a. If monitoring continuously, the Discharger shall report through data upload to CIWQS, from discrete readings of the continuous monitoring every hour on the hour, the maximum for each day and any other discrete hourly reading that exceed the effluent limit, and, for the purpose of mandatory minimum penalties required by Water Code section 13385\(i\), compliance shall be based only on these discrete readings. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all continuous monitoring data for discretionary enforcement.](#)

The Discharger may elect to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove that anomalous residual chlorine exceedances measured by on-line chlorine analyzers are false positives because it is chemically improbable to have chlorine present in the presence of sodium bisulfite. If Regional Water Board staff finds convincing evidence that chlorine residual exceedances are false positives, the exceedances are not violations of this Order's total chlorine residual limit.

(Page F-13)

d. Reasonable Potential Analysis for Toxic Pollutants. The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not water quality objectives for all pollutants, and monitoring data are unavailable for others.

Bis(2-ethylhexyl)phthalate, chlorodibromomethane, copper, ~~and cyanide, and zinc~~ exhibit reasonable potential by Trigger 1. Dioxin-TEQ exhibits reasonable potential by Trigger 2. Basin Plan section 7.2.1.2 also requires copper WQBELs for all municipal and industrial wastewater treatment facilities discharging into San Francisco Bay. Likewise, Basin Plan section 4.7.2.2 requires cyanide WQBELs for municipal wastewater treatment facilities discharging into San Francisco Bay. ~~Ammonia exhibits reasonable potential by Trigger 3 because human waste is a significant source of ammonia and ammonia precursors to the plant.~~

(Page F-15)

Table F-6. Reasonable Potential Analysis

CTR #	Priority Pollutants	Governing criterion or objective (µg/L)	MEC or Minimum DL ^{[1][2]} (µg/L)	B or Minimum DL ^{[1][2]} (µg/L)	Results ^[3]
:					
	Total Ammonia ^[5]	1.27	1.18	0.14	<u>Yes No</u>

(Page F-18)

ii. **Reasonable Potential Analysis.** ~~There is reasonable potential for ammonia and this Order contains newly calculated ammonia WQBELs because human waste is a significant source of ammonia and compounds that breakdown into ammonia. The Discharger was successful in the previous permit term at operating the plant to treat ammonia concentrations to below Basin Plan objectives. However, there is a reasonable possibility that this high level of treatment can change during the permit term as a result of higher occupancy on the islands. Therefore, WQBELs are necessary to protect against potential toxic impacts from the discharge. This Order does not establish ammonia WQBELs because the ammonia MEC of 1.18 mg/L is less than the chronic ammonia criterion of 1.27 mg/L, and the maximum background concentration of 0.43 mg/L does not exceed the chronic ammonia water quality criterion. Therefore, there does not appear to be reasonable potential for ammonia to cause or contribute to an exceedance of the applicable water quality objectives.~~

(Pages F-20 through F-21)

Table F-7. WQBEL Calculations

PRIORITY POLLUTANTS	Bis(2-Ethylhexyl) Phthalate	Copper	Chlorodi-bromomethane	Cyanide	Dioxin-TEQ	Total Ammonia
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria type	CTR HH	Basin Plan <u>SSO Site Specific Objective</u>	CTR HH	Basin Plan <u>SSO Site Specific Objective</u>	Basin Plan Narrative	<u>Basin Plan Aquatic Life</u>
Criteria -Acute	-----	-----	-----	-----	-----	-----
Criteria -Chronic	-----	-----	-----	-----	-----	1.27
<u>SSO-Criteria Site Specific Objective - Acute</u>	-----	10.8	-----	9.4	-----	-----
<u>SSO-Criteria Site Specific Objective - Chronic</u>	-----	8.2	-----	2.9	-----	-----

PRIORITY POLLUTANTS	Bis(2-Ethylhexyl) Phthalate	Copper	Chlorodi- bromomethane	Cyanide	Dioxin-TEQ	Total Ammonia
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Water Effects ratio (WER)	1	1	1	1	1	1
Lowest WQO	5.9	8.2	34	2.9	1.40E-08	1.27
Site Specific Translator - MDEL	-----	-----	-----	-----	-----	-----
Site Specific Translator - AMEL	-----	-----	-----	-----	-----	-----
Dilution Factor (D) (if applicable)	9	9	9	9	0	102
No. of samples per month	4	4	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	N	Y	N	Y	N	Y
HH criteria analysis required? (Y/N)	Y	N	Y	Y	Y	N
Applicable Acute WQO	-----	10.8	-----	9.4	-----	-----
Applicable Chronic WQO	-----	8.2	-----	2.9	-----	1.27
HH criteria	5.9	-----	34	220,000	1.40E-08	-----
Background (Maximum Conc for Aquatic Life calc)	0.7	2.55	0.05	0.4	5.32E-08	0.144
Background (Average Conc for Human Health calc)	7.00E-01	-----	0.05	0.4	5.32E-08	-----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N	Y	N
ECA acute		85.10		90.4		-----
ECA chronic		59.25		25.4		116.1
ECA HH	52.7		3.40E+02	2.20E+06	1.40E-08	-----
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	Y	Y
Average of effluent data points	6.2	7.9	25.3	2.8	1.18E-10	0.56
Std. Dev. of effluent data points	5.9	2.3	9.09	2.0	2.17E-10	0.32
CV calculated	1.0	0.3	0.36	0.7	N/A	0.58
CV (Selected) - Final	1.0	0.3	0.36	0.7	0.6	0.58
ECA acute mult99	-----	0.5	-----	0.3		0.3
ECA chronic mult99	-----	0.7	-----	0.5		0.9
LTA acute	-----	45.7	-----	25.2		
LTA chronic	-----	42.8	-----	12.1		108.2
Minimum of LTAs	-----	42.8	-----	12.1		108.2
AMEL mult95	1.90	1.3	1.3	1.7	1.6	1.2
MDEL mult99	4.70	1.9	2.1	3.6	3.1	3.0
AMEL (aquatic life)	-----	54	-----	20.1		130
MDEL(aquatic life)	-----	80	-----	43.5		330
MDEL/AMEL Multiplier	2.5	1.5	1.6	2.2	2.0	2.6
AMEL (human health)	52.7	-----	340	2.20E+06	1.40E-08	
MDEL (human health)	130	-----	545	4.76E+06	2.81E-08	
Min. of AMEL for Aq. life vs HH	53	54	340	20	0	130
Min. of MDEL for Aq. Life vs HH	130	80	550	44	0	330
Previous order limit (30-day average)	59	33	340	20	1.40E-08	150
Previous order limit (daily)	120	46	680	54	4.40E-08	490

PRIORITY POLLUTANTS	Bis(2-Ethylhexyl) Phthalate	Copper	Chlorodi-bromomethane	Cyanide	Dioxin-TEQ	Total Ammonia
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Final limit - AMEL	53 59	33 54	340	20	1.40E-08	130
Final limit - MDEL	120	46 80	550	44	2.80E-08	330

(Page F-22)

D. Effluent Limitation Considerations

1. Anti-backsliding. This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The requirements of this Order are at least as stringent as those in the previous order, with the exception of ammonia. Although the previous order included a total ammonia WQBEL, this Order does not because there is no longer reasonable potential. Elimination of effluent limits when there is no longer reasonable potential is consistent with anti-backsliding requirements in accordance with State Water Board Order WQ 2001-16.

In addition, this Order establishes less stringent copper effluent limitations than those in the previous order, which is consistent with the exception to the Clean Water Act’s backsliding provisions, expressed at CWA 402(o)(2)(B)(ii) for technical mistakes. CWA section 402(o)(2)(B)(ii) allows less stringent effluent limitations if it has been determined that technical mistakes or mistaken interpretations of law were made in issuing the permit. There was a technical error that contributed to the calculation of the effluent limitations in the previous permit. This Order establishes new, calculated copper effluent limits based on representative monitoring data collected during the previous permit term.

2. Antidegradation. This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. It continues the status quo with respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increase in flow, a reduced level of treatment, or less stringent effluent limitations relative to those in the previous order with the exception of copper. As stated in Fact Sheet Section IV.D.1. above, the recalculated effluent limits for copper complies with anti-backsliding requirements and is not expected to cause degradation of water quality because the Discharger will maintain its treatment at current levels.

6. It is requested that the frequency for acute toxicity monitoring be changed to once per year due excellent past monitoring results.

The Monitoring and Reporting Program section of the tentative order permit specifies monthly acute toxicity monitoring. Over the past 18 years, Plant staff has conducted 327 monthly acute toxicity tests, including concurrent tests on multiple fish species. The Plant has consistently achieved excellent results for acute toxicity

throughout this period, with no effluent limit exceedances and an average percent survival greater than 99% for the past 18 years, as shown in the following table.

Summary of Acute Toxicity Testing Results, June 1996 – June 2014

Test Species	Date Range	Total Number of Tests	Result (96-hour % Survival)					Average % Survival
			100%	95%	90%	85%	80%	
Rainbow trout	June 1996 - June 2014	217	207	8	1	1	0	99.7%
Fathead minnow	March 2004 - February 2005	12	12	0	0	0	0	100%
Stickleback	June 1996 - July 2004	98	72	17	5	3	1	98.0%

In addition, discharge flows from the Plant are significantly smaller compared to those from most other publicly-owned treatment works (POTWs) in the San Francisco Bay Area. It is estimated that, out of the total Bay Area POTW discharge flow in 2013, the Plant contributed less than 0.07% (approximately 0.31 MGD).

Furthermore, as stated in the tentative order permit, there are no manufacturing industries within the plant’s service areas and few commercial facilities. New industrial facilities are not planned nor expected for the service area. The makeup of the wastewater is (and will continue to be) primarily domestic wastewater and is unlikely to cause any issues with acute toxicity.

Thus, a reduction in acute toxicity monitoring to annual monitoring is requested due to excellent past monitoring results, the small discharge flow rate relative to other POTWs, and the lack of industrial users.

It is understood that, according to Basin Plan Table 4-3, the effluent limits for acute toxicity will be more stringent with reduced monitoring. The change shown below is requested. This language is consistent with language in the current NPDES permit for the Paradise Cove Treatment Plant (Order No. R2-2011-0016).

Proposed changes:
(Page 5):

E. Whole Effluent Acute Toxicity. Discharges at Discharge Point No. 001 shall comply with the following limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

1. An ~~11~~ three-sample median value of not less than 90 percent survival; and
2. ~~An 11-sample 90th percentile value~~ Any single sample of not less than 70 percent survival.

These acute toxicity limitations are defined as follows:

- ~~113~~-sample median. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if ~~five~~ one or more of the past ~~ten~~ two or fewer bioassay tests also show less than 90 percent survival.

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

(Page E-3):

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

Parameter	Units	Sample Type	Minimum Sampling Frequency
⋮			
Acute Toxicity ^[5]	% Survival	C-24	1/Month 1/Year
⋮			

7. A minor language change related to the whole effluent chronic toxicity monitoring is needed for clarification.

The proposed change below is requested to clarify that pH adjustments to the original effluent pH are acceptable after the adjusting sample salinity.

Proposed change (Page E-6):

- e. **Dilution Series.** The Discharger shall conduct tests at 20%, 15%, 10%, 5%, and 2.5%. The “%” represents percent effluent as discharged. ~~Test sample pH may be controlled to the level of the effluent sample as received prior to being salted up. After performing a salinity increase on the sample to levels appropriate for the test species, the Discharger may adjust the test sample pH back to the effluent sample pH observed prior to the salinity increase.~~

8. The descriptions for three monitoring periods should be changed to be legally appropriate for the NPDES permit.

For the sampling frequencies of 2/Year, 1/Year, and 1/ 2 Years, the tentative order permit defines the monitoring periods as starting on a day of the calendar year occurring *before or after* the permit effective date. These definitions imply that the monitoring period for this permit begins *before* the effective date of the permit, which is not legally appropriate for the NPDES permit.

It is understood that the Regional Water Board may have added this language to ensure that dischargers do not inadvertently miss any required monitoring events. For instance, take the case of annual effluent monitoring for dioxin-TEQ. If the final order becomes effective on April 1, 2015 and the monitoring is not been performed during January-March 2015, it is understood that the monitoring is still required during the April-December time frame (even if the permit does not explicitly indicate this). In another case, if the final order becomes effective on April 1, 2015 and monitoring is performed during January-March 2015, it is understood that that Jan-Mar monitoring event satisfies the annually required monitoring for the year 2015. That is, if applicable, monitoring performed during the current order term may be used to satisfy monitoring requirements for this upcoming permit term.

The proposed change to Table E-5 shown below is requested. This language is consistent with language in the current NPDES permit for the Southeast Water Pollution Control Plant (Order No. R2-2013-0029). A footnote to the table has been added for clarity.

Proposed change (Page E-10):

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

Table E-5. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
⋮		
2/Year ^[1]	Closest January 1 or July 1 before or after <u>following (or on)</u> Order effective date	January 1 through June 30 July 1 through December 31
1/Year or 1/2 Years ^[1]	Closest January 1 before or after <u>following (or on)</u> Order effective date	January 1 through December 31

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

9. The dilution series under “Chronic Toxicity Screening Phase Requirements” in the MRP should be corrected.

The dilution series for whole effluent chronic toxicity shown on page E-6 of the tentative order permit is correct: 20%, 15%, 10%, 5%, and 2.5%. As shown below, the reference to this same dilution series on page E-17 should be corrected to match that on page E-6 and as shown below. It is especially important to remove the 100% as it is impossible to conduct a marine chronic test on 100% effluent.

Proposed change (Page E-22):

5. Dilution series of ~~100%, 50%, 25%, 12.5%, 6.25%, and 0%~~ 20%, 15%, 10%, 5%, and 2.5%., where “%” is percent effluent as discharged, or as otherwise approved by the Executive Officer if different dilution ratios are needed to reflect discharge conditions.

Alternatively, the references to the dilution series could be changed to match the following language in the current permit for the Oceanside Water Pollution Control Plant (Order No. R2-2009-0062):

- “The Discharger shall conduct tests at the in-stream waste concentration (IWC), four concentrations bracketing the IWC, and a control.” (Order No. R2-2009-0062, page E-7)
- “Dilution series should include the IWC, and four concentrations that bracket the IWC, or other concentrations approved by the Executive Officer.” (Order No. R2-2009-0062, page E-20)

10. The language to clarify the respective test durations for the two echinoderm toxicity tests is requested.

Additional language is needed to clarify that the test duration of the echinoderm fertilization test is 1 hour and the test duration of the echinoderm development test is 72 hours. This language is consistent with language in the current NPDES permit for the Southeast Water Pollution Control Plant (Order No. R2-2013-0029).

Proposed change (Page E-18):

Table AE-1. Critical Life Stage Toxicity Tests for Estuarine Waters (excerpt)

Species	(Scientific Name)	Effect	Test Duration	Reference
:				
Echinoderms - Urchins Sand dollar	<i>(Strongylocentrotus purpuratus, S. franciscanus)</i> <i>(Dendraster excentricus)</i>	Percent fertilization or larval development	1 hour (fertilization) or 72 hours (development)	2
:				

11. A slight change in the language describing wastewater collection from Yerba Buena Island is needed for accuracy.

The tentative order permit provides a description of the collection system on page F-3. For accuracy, the proposed language shown below is requested.

Proposed change (Page F-3):

- 2. Collection System.** The collection system is a separate sewer system with approximately 16 miles of pipes ranging in diameter from 4 to 36 inches. Pipeline materials include cast iron, plastic, vitrified clay, and asbestos cement. In addition to gravity sewers, the system also includes 28 pump stations, 2 of which are on Yerba Buena Island. As part of the collection system, a 6-inch submarine force main pumps wastewater from Yerba Buena Island. Wastewater from the eastern portion Yerba Buena Island flows to Treasure Island through a 6-inch submarine force main. Wastewater from the western portion Yerba Buena Island flows to Treasure Island through a 6-inch gravity sewer.

12. The historic effluent limitation presented in Table F-2 for ammonia should be corrected.

Table F-2 of the tentative order permit provides effluent limitation information from the current 2010 permit. The ammonia limit in the current permit is 150 mg/L as N and 490 mg/L as N. However, the values presented for the historic effluent limits for ammonia in Table F-2 are inconsistent. The proposed language change is shown below.

Proposed change (Page F-4 through F-5):

**Table F-2. Historic Effluent Limitations and Monitoring Data from Discharge Point No. 001
(excerpt)**

Parameter	Units	Effluent Limitations				
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum
⋮						
Ammonia, as N	mg/L as N	130 150	---	330 490	---	---
⋮						

13. The information and data related to sanitary sewer overflows (SSOs) should be removed from the Fact Sheet.

The tentative order permit presents collection system information and a table of SSO rates from the years 2011 - 2013 comparing SSO rates, collection system size, and average age with median values for other systems in the Fact Sheet. The section related to SSOs is requested to be removed for a number of reasons.

Regulatory Authority. The State Water Resources Control Board’s general Waste Discharge Requirements (WDR) for sanitary sewer systems (Order No. 2006-0003-DWQ) is the main regulatory mechanism for sanitary sewer systems. The general WDR establishes specific requirements for collections systems statewide, including the Treasure Island collection system. The general WDR is appropriately referenced in the Provision section of the tentative order. Including Table F-3 and the discussion of SSOs in this permit’s Fact Sheet is confusing and potentially contradictory with the general WDR. Additionally, the SSO rates in Table F-3 are calculated from the total number of SSOs, regardless of whether or not the SSOs reached surface waters. SSOs that do not reach surface waters are explicitly outside the scope of this NPDES permit.

SSO Rates Not Representative. Table F-3 presents SSO rates for the Treasure Island collection system. However, these SSO rates are not representative of the condition of the collection system nor of the water quality impacts from the SSOs. Neither Table F-3 nor the surrounding text gives any indication of the volume of the SSOs. The volumes of the SSOs that occurred from 2011 through 2013 ranged from 1 gallon to 675 gallons with an average of just 120 gallons per SSO. All of the SSOs that occurred fit in the smallest spill class size of 0 to 999 gallons studied in the State Water Board’s recent Sanitary Sewer Overflow Reduction Program Annual Compliance Reports. In addition, only 5.4% of the total SSO volume spilled during these incidents reached surface waters. This percentage is very low compared to the corresponding percentages for the San Francisco Bay region (62%) and throughout the state (66%) for fiscal year 2012-2013 (*Sanitary Sewer Overflow Reduction Program: Annual Compliance Report, fiscal year 2012-2013*). This percentage is significantly low when compared to the percentages for fiscal year 2011-2012 (90% for San Francisco Bay region, 77% statewide) (*Sanitary Sewer Overflow Reduction Program: Annual Compliance Report, fiscal year 2011-2012*). The data provided in Table F-3 gives an incomplete characterization of SSOs on Treasure Island.

Comparison Not Appropriate. In addition, the comparison made between the SSO rates for the Treasure Island collection system and the median data for three San Francisco small systems is inappropriate. Using the interactive public reports software on the State Water Resources Control Board’s website, there are five systems in San Francisco County that have obtained coverage under the general WDR, and only three of these systems

have experienced SSOs in the recent past: the National Park Service (for the Golden Gate National Recreation Area), the Port of San Francisco, and the Treasure Island collection system. After evaluating data in Table F-3, it appears that Regional Water Board staff compared data for the Treasure Island collection system to a data set that included data for the Treasure Island collection system. In essence, the data for the Treasure Island collection system was being compared to itself. This data comparison is inappropriate.

In addition, it is also inappropriate to calculate median values for the aforementioned three small San Francisco County systems that have recently experienced SSOs. A median calculated from a sample size of three is not statistically sound nor statistically meaningful. This further supports to the need to remove the content in Table F-3.

Capital Improvements. The tentative order permit indicates a reported “zero budget” for capital improvements for 2013 for the Navy. Capital improvements by the Navy are prohibited by BRAC regulations; however, the redevelopment plans significant capital improvements. There is sufficient yearly budget for repair and operations of the treatment plant during the interim time. As acknowledged in the tentative order, the sanitary sewer systems and storm drains will be replaced or rehabilitated as part of redevelopment in the next 15 years.

In summary, the Fact Sheet section describing the collection system should be removed. The information presented is not representative of collection system and inappropriate for this NPDES permit. The State Water Board’s general WDR is the appropriate regulatory mechanism for SSOs.

Proposed change (Pages F-5 through F-6):

D. Compliance Summary

1. ~~Treatment Plant.~~ There is no record of the Discharger violating the effluent limitations of the previous order.

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

~~Table F-3. Collection System and SSO Rates (SSO/100 miles)
(values based on CIWQS data analysis completed in June 2014)~~

	Length (miles)	Average Age (years)	2011	2012	2013
U.S. Department of Navy	20	67	30.6	30.6	76.5
San Francisco County median of 3 small systems (10-99 miles)	13	56	0.0	35.1	76.5
San Francisco Bay Region median of 49 small systems (10-99 miles)	38	45	5.9	9.3	9.1
San Francisco Bay Region median of all 132 systems	41	45	4.0	4.6	4.5

~~Regional Water Board staff plans to evaluate in 2015 the adequacy of the Discharger’s collection system capital improvement plan and preventative maintenance and, if warranted, may bring this matter for Regional Water Board consideration. The average age of the~~

~~Discharger's collection system is over 67 years, and the Discharger reported zero budget for capital improvements for 2013. Also, the Discharger's SSO rate (76.5 SSOs per 100 miles of collection system) is high compared to the San Francisco Bay Region median for small (10-99 miles) collection systems (9.1 SSOs per 100 miles of sewer pipe).~~

14. Slight changes in the Fact Sheet language discussing the Cyanide Action Plan are needed for accuracy and clarity.

The tentative order permit contains information describing past influent data for cyanide, indicating that the plant has not experienced influent cyanide concentration above the minimum level (ML), which is a property associated with the required analytical method for cyanide. In fact, the plant has observed a single instance of the influent concentration exceeding the ML. The proposed language shown below is requested for accuracy and clarity.

Proposed change (Page F-25):

b. Cyanide Action Plan. This provision is based on Basin Plan section 4.7.2.2. It is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible "significant cyanide discharge" in the Discharger's service area is set at 10.0 µg/L. This concentration is twice the minimum level of the required analytical method for cyanide (5.0 µg/L) that is listed in Table C of Attachment G and was applicable to influent cyanide concentrations observed found in the Facility's influent near the end of the previous order's term. Because the Discharger has not observed multiple influent cyanide concentrations greater than 5.0 µg/L during the previous permit term, if influent concentrations twice this level were observed, there could be a significant cyanide source.

15. It is requested that Regional Water Board staff add text describing the development of the water quality-based effluent limitations.

Table F-7 (WQBEL Limitations) of the tentative order permit contains the specific numbers that support the final WQBELs and the Navy appreciates the time that Regional Water Board staff dedicated to the preparation of Table F-7. All other NPDES permits prepared in the San Francisco Bay region also include text associated with the WQBEL Limitation table that describes the development of the WQBELs.

The WQBEL Development text section provides valuable information about the calculation of the WQBELs. For instance, without the section, the specific sources of the water quality objectives for some pollutants such as ammonia, copper and cyanide is not provided. Also, if adopted without this section, the permit will no longer discuss the triggers by which the different pollutants exhibit reasonable potential. This section on WQBEL development is also useful because it presents information on compliance feasibility and whether or not anti-backsliding concerns were involved in the determination of the WQBEL. The absence of this section means that the permittee and public are unaware and must speculate on the regulatory rationale for developing these effluent limits.

It is requested that The Navy requests Regional Water Board staff add text describing the development of the water quality-based effluent limitations.

The five following comments pertain to typographical errors and inconsistencies contained in the Tentative Order and indicate requested corrections.

16. Revision to page 13:

Table 6. Cyanide Action Plan (excerpt)

Task	Compliance Date
:	
<p>2. Implement Cyanide Control Program</p> <p>The Discharger shall continue to implement its program to minimize cyanide discharges consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> a. Inspect each potential source to assess the need to include that source in the control program. b. Inspect 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 sources and potential 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. <p>For purposes of this Order, a “significant cyanide discharge” is occurring if the Plant’s influent cyanide concentration exceeds 10.0 µg/L.</p>	<p>With annual Pollution Prevention Report due February 28 <u>each year</u>. Plan implementation shall be ongoing.</p>
:	

17. Revision to page E-5

- b. Test Species.** The test species shall be purple sea urchin (*Strongylocentrotus purpuratus*) or, if gravid purple sea urchin are unavailable, sand dollar (*Dendraster excentricus*), unless a more sensitive species is identified.

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

18. Revision to pages F-2 through F-3

- A.** The U.S. Navy (the Discharger) owns the Treasure Island Wastewater Treatment Plant, which discharges to Central San Francisco Bay through a submerged deep-water diffuser. The Treasure Island Development Authority operates and maintains the plant and its associated collection system (collectively, the Facility) under the Base Caretaker Cooperative Agreement (Cooperative Agreement) between the Discharger and the City and County of San Francisco. Pursuant to the Cooperative Agreement, the San Francisco Public Utilities Commission operates and maintains the

utility systems at Treasure Island, including the Facility, pursuant to a Memorandum of Understanding with the Treasure Island Development Authority, while the Discharger retains ownership of all the utility systems until a transfer of ownership to the Treasure Island Development Authority (see section II.E).

19. Revision to page F-4

- 3. Wastewater Treatment.** The plant was initially constructed in 1961 to provide primary treatment and was upgraded to provide secondary treatment and disinfection. It is designed to provide secondary treatment for ~~an~~ an average of 2.0 million gallons per day (MGD) and, as indicated in the study “Improving Process Reliability and Performance Through Flow Equalization” (Nolte & Associates, April 1991), under wet weather conditions the plant can provide secondary treatment for up to 4.4 MGD. Daily influent flows measured from March 2010 through February 2014 ranged between 0.20 and 0.55 MGD. Higher flows up to 0.94 MGD occurred during wet weather.

20. Revision for to page F-13

The tentative order permit mistakenly states that zinc exhibits reasonable potential. The proposed language with corrected language is provided after Comment No. 5.

21. Revision for to page F-20

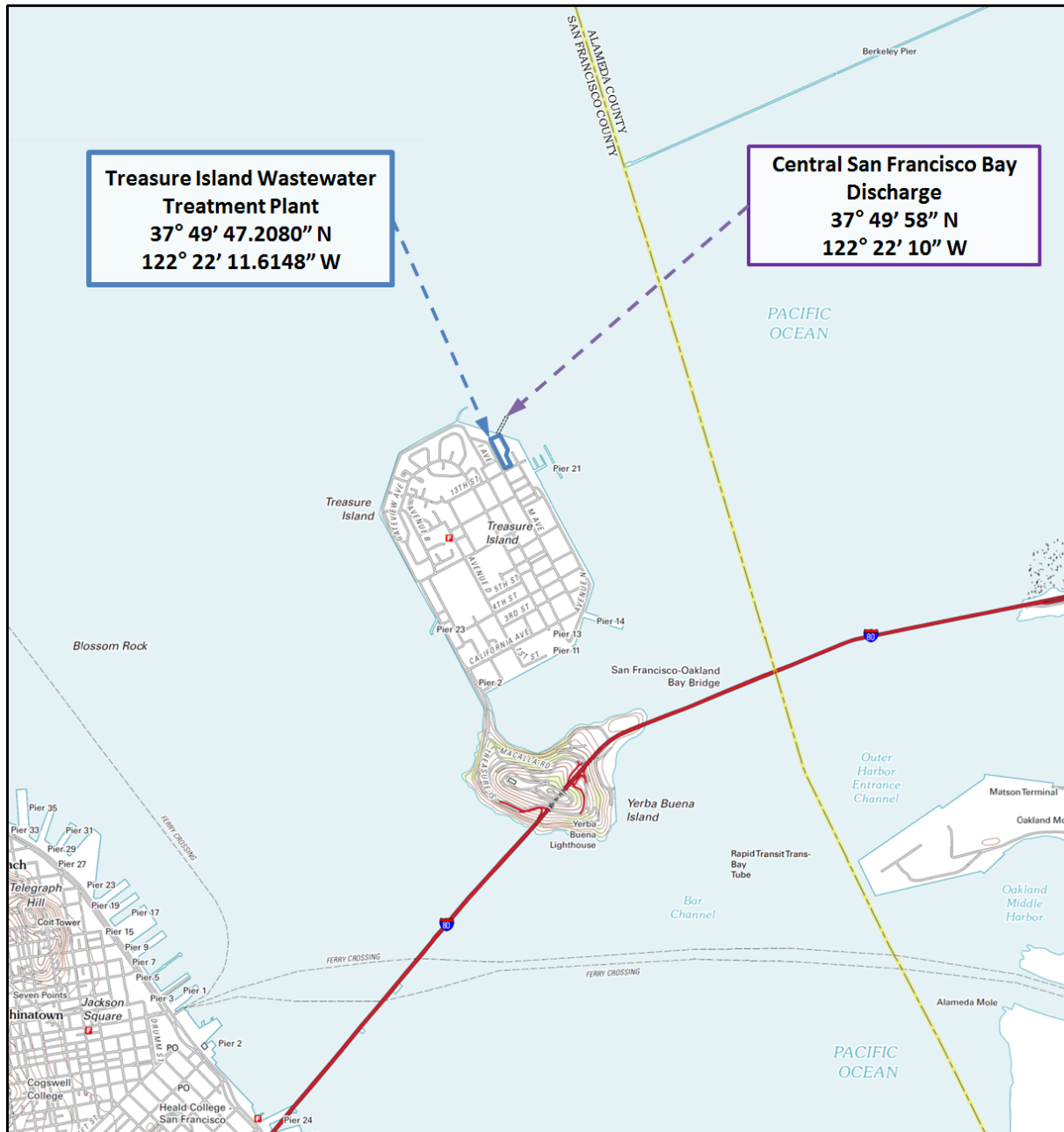
The tentative order permit uses the initialism “SSO” to represent two terms: sanitary sewer overflow and site-specific objective. Reducing the number of initialisms in the final order is preferable for clarity and it is requested that “site-specific objectives” be spelled out in Table F-7. The proposed language with corrected language is provided after Comment No. 5.

The following images on the following three pages are provided for inclusion in Attachment B – Facility Map and Attachment C – Process Flow Diagram. They have higher resolution than the images in the Tentative Order permit.

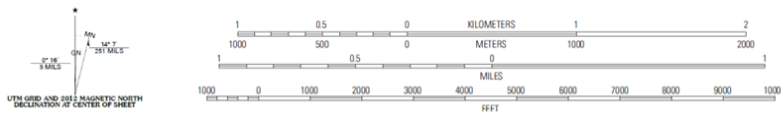
Aerial Map:



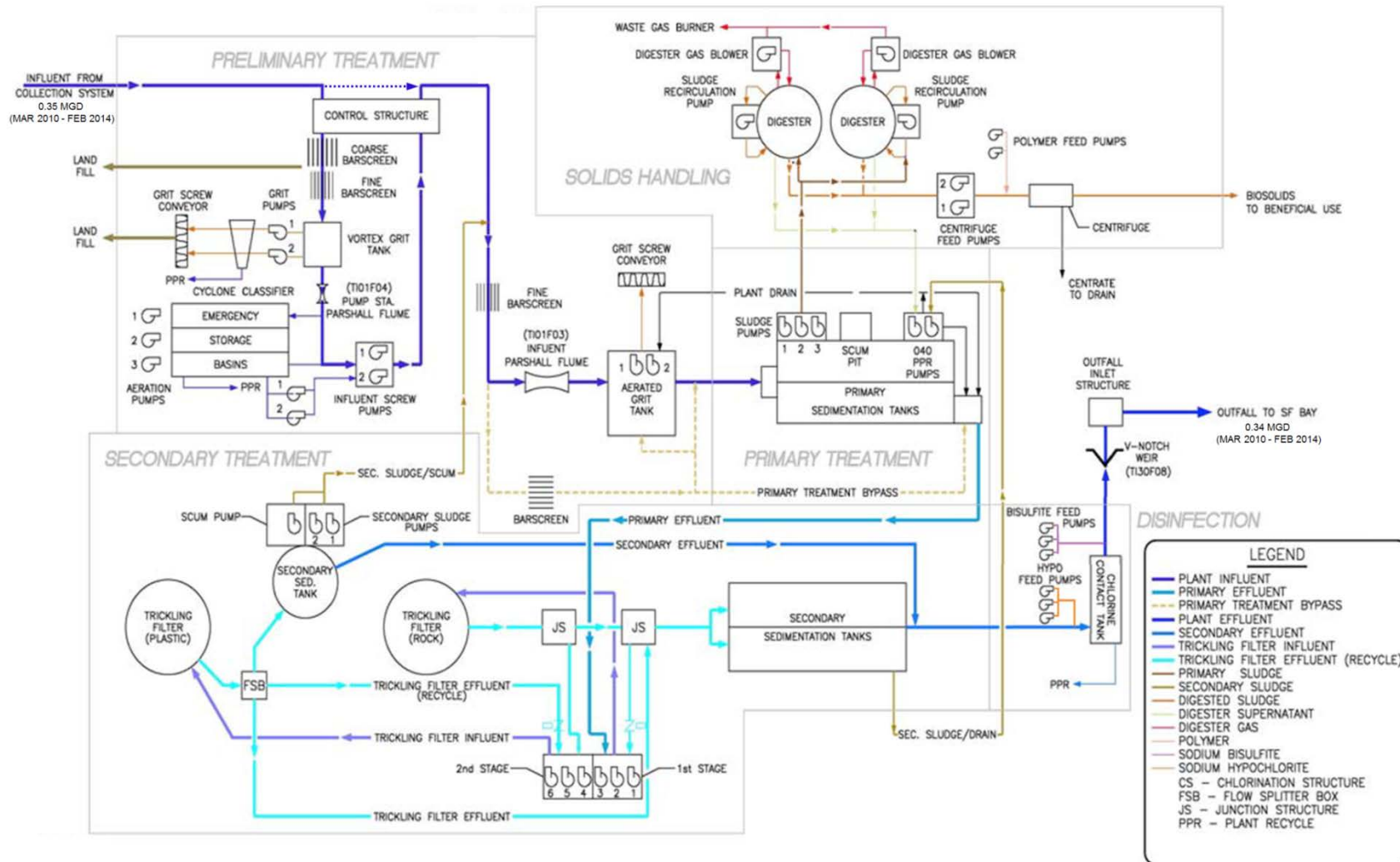
Facility Map:



Contour interval: 20 feet. North American Vertical Datum of 1988.



Process Flow Diagram:



C. Responses to Comments

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

RESPONSE TO WRITTEN COMMENTS

on Tentative Order for
U.S. Department of Navy, Treasure Island Wastewater Treatment Plant
San Francisco County

The Regional Water Board received written comments on a tentative order distributed on November 3, 2014, for public comment from the U.S. Department of Navy (December 2, 2014).

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

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

U.S. Department of Navy

Navy Comment 1: *The Navy suggests changing the receiving water name to be more consistent with the Basin Plan.*

Response to Navy Comment 1: We agree. We revised Table 2 of the Tentative Order as follows:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary Treated Municipal Wastewater	37.832778	-122.369444	Central <u>San Francisco Bay</u> Basin

Navy Comment 2: *The Navy asks for less stringent copper effluent limits to correct a technical error made when adopting the previous order. It claims Clean Water Act section 402(o)(2)(B)(ii) allows backsliding to correct technical mistakes.*

Response to Navy Comment 2: We disagree. The Clean Water Act generally prohibits backsliding because a goal of the Act is to eliminate all pollutant discharges. In this case, backsliding is unnecessary because the Navy can readily comply with the existing limits. More to the point, Clean Water Act section 402(o)(2)(B)(ii) (last paragraph) specifically precludes backsliding to correct technical mistakes made when calculating water quality-based effluent limits. U.S. EPA confirms this in *Technical Support Document for Water Quality-based Toxics Control* (section 5.7.7) and *NPDES Permit Writers' Manual* (section 7.2.1.3). The copper effluent limitations in the Tentative Order are water quality-based.

Navy Comment 3: *The Navy states that, when considering backsliding, average monthly effluent limits and daily maximum effluent limits should be treated as pairs, thus both bis(2-ethylhexyl)phthalate limits in the previous order should be retained.*

Response to Navy Comment 3: We disagree. In the Regional Water Board proceedings for the City of San Mateo Wastewater Treatment Plant permit (Order No. R2-2013-0006, NPDES No. CA0037541), U.S. EPA commented that it interprets Clean Water Act anti-backsliding requirements as dictating direct comparisons between newly calculated individual limitations and the corresponding individual limitations in the previous order. The most stringent individual limitations are to be selected. Since that time, we have consistently followed U.S. EPA's guidance.

Navy Comment 4: *The Navy asserts that the ammonia limit should be removed because ammonia does not exhibit reasonable potential to cause or contribute to an excursion beyond a water quality objective.*

Response to Navy Comment 4: We disagree. A water quality-based effluent limit is appropriate because the plant treats wastewater containing human waste, which is a significant ammonia source. In coming to this conclusion, we relied on the State Implementation Policy as guidance. It supports a finding of reasonable potential based on "Trigger 3" because available information regarding the facility type (a municipal wastewater treatment plant), discharge type (treated sewage), and potential toxic impact of discharge (un-ionized ammonia is toxic) indicate that a water quality-based effluent limitation may be needed to protect beneficial uses.

The Regional Water Board is addressing growing concerns about nutrients in San Francisco Bay. The Board issued a watershed permit for nutrients (NPDES Permit No. CA0038873) for all municipal wastewater dischargers to San Francisco Bay as part of the San Francisco Bay Nutrient Management Strategy. Limiting potentially toxic ammonia discharges through individual permits is consistent with the strategy in that it ensures that some regulatory restrictions on nutrients remain in place while studies are conducted pursuant to the watershed permit. Some recent municipal wastewater treatment plant permits do not contain water quality-based effluent limits. However, in these cases, the permits contain performance-based effluent limits. Imposing performance-based limits on this facility would result in far more stringent limits.

Navy Comment 5: *The Navy asks that chlorine residual monitoring language in Monitoring and Reporting Program Table E-3 (footnote 7) be repeated in Table 4 of the Tentative Order.*

Response to Navy Comment 5: We disagree. The footnote deals primarily with chlorine residual monitoring and reporting so it is more appropriate for the Monitoring and Reporting Program. We prefer to not to repeat language in different parts of the permit because doing so can result in confusion and inconsistency.

Navy Comment 6: *The Navy requests that the acute toxicity monitoring frequency be reduced from monthly to annually because it has consistently complied with acute toxicity limits. The Navy understands that this change will result in more stringent effluent limitations pursuant to Basin Plan Table 4-3.*

Response to Navy Comment 6: We agree. We revised the Tentative Order as follows to reduce the monitoring frequency from monthly to annually, and we revised the effluent limits accordingly.

We revised Tentative Order section IV.E as follows:

E. Whole Effluent Acute Toxicity. Discharges at Discharge Point No. 001 shall comply with the following limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

1. ~~An 11~~ 3-sample median value of not less than 90 percent survival; and
2. ~~An 11~~ single-sample maximum 90th percentile value of not less than 70 percent survival.

The 3-sample median ~~se acute toxicity~~ limitations are is defined as follows: a bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one or more of the past two or fewer bioassay tests also show less than 90 percent survival.

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

We revised Monitoring and Reporting Program Table E-3 as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency
⋮			
Enterococcus ^[4]	MPN/100 mL	Grab	5/Month ^[8]
Acute Toxicity ^[5]	% Survival	C-24	1/Month <u>1/Year</u>
Chronic Toxicity ^[6]	TUc	C-24	1/2 Years
⋮			

⋮
Sampling Types and Frequencies:
 ⋮
 1/Quarter = once per quarter
 1/Year = once per year
 1/2 Years = once every other year
 ⋮

We revised Fact Sheet Table F-8 as follows:

Table F-8. Monitoring Requirements Summary

Parameter	Influent INF-001	Effluent EFF-001	Receiving Water
⋮			
Enterococcus		5/Month ^[1]	Support RMP
Acute Toxicity		1/Month <u>1/Year</u>	
Chronic Toxicity		1/2 Years	
⋮			

Navy Comment 7: *The Navy suggests changing language related to whole effluent chronic toxicity monitoring to clarify that, after performing a salinity increase on the sample to levels appropriate for*

the test species, the Navy may adjust the test sample pH back to the effluent sample pH observed prior to the salinity increase.

Response to Navy Comment 7: We did not revise the Tentative Order because the existing language of Monitoring and Reporting Program section V.B.1.e is sufficiently clear, more concise, and consistent with essentially all other individual NPDES permits issued in this Region:

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

Navy Comment 8: *The Navy objects to Monitoring and Reporting Program Table E-5 commencing certain monitoring periods (1/Year, 2/Year, and 1/2 Years) “before or after” the Tentative Order effective date. It prefers that these monitoring periods begin “following (or on)” the closest January 1 or July 1 to the Order effective date. The Navy understands that the proposed wording ensures no monitoring event is inadvertently missed and proposes a footnote indicating that monitoring performed during the previous order term may be used to satisfy Tentative Order requirements.*

Response to Navy Comment 8: The Navy is correct that the wording in Monitoring and Reporting Program Table E-5 is intended to ensure that no monitoring event is missed. We did not change the wording in the table, but we added a clarifying footnote as follows:

Table E-5. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
⋮		
1/Quarter	Closest January 1, April 1, July 1, or October 1 following (or on) Order effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2/Year	Closest January 1 or July 1 before or after Order effective date ^[1]	January 1 through June 30 July 1 through December 31
1/Year or 1/2 Years	Closest January 1 before or after Order effective date ^[1]	January 1 through December 31

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

Navy Comment 9: *The Navy suggests changing the dilution series to be used for chronic toxicity screening tests.*

Response to Navy Comment 9: We disagree. The existing language, which appears in essentially all individual NPDES permits in the Region for discharges to inland surface waters, is sufficient because it states, “...or as otherwise approved by the Executive Officer if different dilution ratios are needed to reflect discharge conditions.”

Navy Comment 10: *The Navy suggests language for Monitoring and Reporting Program Table AE-1 to clarify echinoderm fertilization and development test durations.*

Response to Navy Comment 10: We agree. We revised Monitoring and Reporting Program Table AE-1 as follows:

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

Species	(Scientific Name)	Effect	Test Duration	Reference
:				
Oyster Mussel	<i>(Crassostrea gigas)</i> <i>(Mytilus edulis)</i>	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	<i>(Strongylocentrotus purpuratus, S. franciscanus)</i> <i>(Dendraster excentricus)</i>	Percent fertilization or larval development	1 hour (<u>fertilization</u>) or 72 hours (<u>development</u>)	2
Shrimp	<i>(Americamysis bahia)</i>	Percent survival; growth	7 days	3
:				

Navy Comment 11: *The Navy recommends a change in the wastewater collection system description for accuracy.*

Response to Navy Comment 11: We agree. We revised Fact Sheet section II.A.2 as follows:

- 2. Collection System.** The collection system is a separate sewer system with approximately 16 miles of pipes ranging in diameter from 4 to 36 inches. Pipeline materials include cast iron, plastic, vitrified clay, and asbestos cement. In addition to gravity sewers, the system also includes 28 pump stations, 2 of which are on Yerba Buena Island. As part of the collection system, a 6-inch submarine force main pumps wastewater from Yerba Buena Island. Wastewater from the eastern portion of Yerba Buena Island flows to Treasure Island through a 6-inch submarine force main. Wastewater from the western portion of Yerba Buena Island flows to Treasure Island through a 6-inch gravity sewer.

Navy Comment 12: *The Navy points out the need to correct the historic ammonia effluent limitation in Fact Sheet Table F-2.*

Response to Navy Comment 12: We agree. We revised Fact Sheet Table F-2 as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data from Discharge Point No. 001

Parameter	Units	Effluent Limitations					Monitoring Data (01/10–04/14)
		Monthly Average	Weekly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Highest Daily Discharge
:							
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	---	4.4 x 10 ⁻⁸	---	---	4.4 x 10 ⁻¹⁰
Ammonia, as N	mg/L as N	430 <u>150</u>	---	330 <u>490</u>	---	---	1.18
Acute Toxicity	% Survival	Not less than 90% (11-Sample Median)					100
		Not less than 70% (11-Sample 90 th Percentile)					100

Navy Comment 13: *The Navy requests removal of sanitary sewer overflow (SSO) information for several reasons:*

- 1. The Navy asserts that the State Water Board waste discharge requirements (WDRs) for sanitary sewer systems (Order No. 2006-0003-DWQ) should be the main regulatory mechanism for sanitary sewer systems, not this permit. The Navy claims the proposed findings are confusing and potentially conflict with the statewide WDRs.*
- 2. The Navy contends that the SSO rates presented in the Tentative Order are neither representative of collection system conditions nor water quality impacts since only the total number of SSOs is reported, regardless of the volume spilled or whether the spill reached surface waters.*
- 3. The Navy says comparing the Treasure Island collection system median SSO rate to the San Francisco County median SSO rate for small collection systems is statistically unsound since there are only three small San Francisco County collection systems.*
- 4. The Navy explains that there is “zero budget” for capital improvements because Base Realignment and Closure regulations preclude them. Redevelopment plans for Treasure Island include capital improvements to the collection system.*

Response to Navy Comment 13: The SSO information in the Tentative Order provides a useful overview of existing conditions. We respond to the Navy’s specific concerns below:

1. The Treasure Island collection system is rightfully subject to this permit because publicly-owned treatment works are defined to include their collections systems, and NPDES permits must regulate the entire facility.
2. The information in the Tentative Order is not intended to provide an exhaustive analysis. It is intended to facilitate comparisons with other collection systems. Information about total SSOs, including those that did not reach waters of the U.S., is valuable since it is a commonly used indicator of collection system operation. This is important because future SSOs have some potential to reach waters of the U.S.
3. The Tentative Order presents the Treasure Island collection system within the context of other similarly-sized systems within San Francisco County and throughout the Region. We agree that few comparable systems exist in the county, and we clearly state in the Tentative Order how many exist. As for the Region-wide comparison, we normalize available data per 100 miles of collection system to ensure that comparisons are fair.
4. In the Navy’s comments, it confirms that there is currently no capital budget for capital improvements in the collection system. Although the Tentative Order is already clear regarding redevelopment plans (see Fact Sheet section II.E), which include a new collection system (and treatment plant), recognizing these plans within the context of collection system compliance is helpful. Therefore, we revised Fact Sheet section II.D.2 (second paragraph) as shown below:

Regional Water Board staff plans to evaluate in 2015 the adequacy of the Discharger’s collection system capital improvement plan and preventative maintenance and, if warranted, may bring this matter for Regional Water Board consideration. The average age of the Discharger’s collection system is over 67 years. While the Discharger has indicated it plans to replace existing sanitary sewers as part of island redevelopment (see section II.E, below), and the Discharger has reported zero budget for capital improvements for 2013, and a definitive redevelopment schedule has not been set. Also, the Discharger’s SSO rate (76.5 SSOs per 100 miles of collection system) is high compared to the San Francisco Bay

Region median for small (~~10-99 miles~~) collection systems (9.1 SSOs per 100 miles of sewer pipe).

Navy Comment 14: *The Navy requests changes to Fact Sheet language discussing the Cyanide Action Plan for accuracy and clarity.*

Response to Navy Comment 14: We agree. We changed Fact Sheet section VI.C.5.b as follows:

b. Cyanide Action Plan. ... The threshold for considering influent cyanide concentrations to indicate a possible “significant cyanide discharge” in the Discharger’s service area is set at 10.0 µg/L. This concentration is twice the minimum level of the required analytical method for cyanide (5.0 µg/L) listed in Attachment G Table C found in the Facility’s influent near the end of the previous order’s term. Because the Discharger has not observed multiple influent cyanide concentrations greater than 5.0 µg/L during the previous order term, if influent concentrations twice this level were observed, there could be a significant cyanide source.

Navy Comment 15: *The Navy requests text describing water quality-based effluent limitation development similar to what appears in most recently adopted individual NPDES permits in the Region. Specifically, the Navy would like more text describing the calculations, the triggers that activate reasonable potential, and anti-backsliding.*

Response to Navy Comment 15: We disagree. In this Tentative Order, we streamlined Fact Sheet section IV.C.4.b to remove redundant information, which also reduces inconsistencies as a draft permit is developed. Everything the Navy requests is provided elsewhere in the Tentative Order. Fact Sheet Table F-7 sets forth the water quality-based effluent limitation calculations. Fact Sheet section IV.C.3 and Fact Sheet Table F-6 explain the reasonable potential analysis and identify the triggers used to find reasonable potential where applicable. Fact Sheet section IV.D.1 discusses compliance with anti-backsliding requirements.

Navy Comments 16-21: *The Navy points out several typographical errors.*

Response to Navy Comments 16-21: We revised the Tentative Order as appropriate. We revised Table 6 of the Tentative Order as follows:

Table 6. Cyanide Action Plan

Task	Compliance Date
⋮	
<p>2. Implement Cyanide Control Program The Discharger shall continue to implement its program to minimize cyanide discharges consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> a. Inspect each potential source to assess the need to include that source in the control program. b. Inspect 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). 	<p>With annual Pollution Prevention Report due February 28 <u>each year</u>. Plan implementation shall be ongoing.</p>
⋮	

We did not revise Monitoring and Reporting Program section V.B.1.b (Navy Comment 17) because “screening chronic toxicity test” is not a typographical error and this wording is consistent with most individual NPDES permits issued within this Region.

We revised Fact Sheet section I.A as follows:

- A. The U.S. Navy (the Discharger) owns the Treasure Island Wastewater Treatment Plant, which discharges to Central San Francisco Bay through a submerged deep-water diffuser. ... Pursuant to the Cooperative Agreement, the San Francisco Public Utilities Commission operates and maintains the utility systems at Treasure Island, including the Facility, pursuant to a Memorandum of Understanding with the Treasure Island Development Authority, while the Discharger retains ownership of all the utility systems until a transfer of ownership to the Treasure Island Development Authority (see section II.E).

We revised Fact Sheet section II.A.3 as follows:

- 3. **Wastewater Treatment.** The plant was initially constructed in 1961 to provide primary treatment and was upgraded to provide secondary treatment and disinfection. It is designed to provide secondary treatment for ~~on~~ an average of 2.0 million gallons per day (MGD) and, as indicated in the study “Improving Process Reliability and Performance Through Flow Equalization” (Nolte & Associates, April 1991), under wet weather conditions the plant can provide secondary treatment for up to 4.4 MGD. ...

We revised Fact Sheet section IV.C.3.d (second paragraph) as follows:

Bis(2-ethylhexyl)phthalate, chlorodibromomethane, copper, and cyanide, ~~and zinc~~ exhibit reasonable potential by Trigger 1. Dioxin-TEQ exhibits reasonable potential by Trigger 2.

We revised Fact Sheet Table F-7 as follows:

Table F-7. WQBEL Calculations

PRIORITY POLLUTANTS	Bis(2-Ethylhexyl) Phthalate	Copper	Chlorodi-bromomethane	Cyanide	Dioxin-TEQ	Total Ammonia
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
:						
Criteria -Chronic	-----	-----	-----	-----	-----	1.27
SSO Criteria Site-Specific Objective-Acute	-----	3.9	-----	9.4	-----	-----
SSO Criteria Site-Specific Objective-Chronic	-----	2.5	-----	2.9	-----	-----
Water Effects ratio (WER)	1	2.5	1	1	1	1
:						

Navy Comment 22: *The Navy provides new figures for Attachments B and C.*

Response to Navy Comment 22: We replaced these figures in the Tentative Order.