ORDER No. R2-2014-0024
NPDES No. CA0037834

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

Table 1. Discharger Information

Discharger	City of Palo Alto
Facility Name	Palo Alto Regional Water Quality Control Plant and City of Palo Alto wastewater collection system
Facility Address	2501 Embarcadero Way Palo Alto, CA 94303
CIWQS Place Number	247457

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Advanced secondary-treated municipal wastewater	37.45833	-122.11028	South San Francisco Bay
002	Advanced secondary-treated municipal wastewater	37.44167	-122.11250	Matadero Creek

Table 3. Administrative Information

This Order was adopted on:	June 11, 2014
This Order shall become effective on:	August 1, 2014
This Order shall expire on:	July 31, 2019
CIWQS Regulatory Measure Number	396790
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:	November 1, 2018
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.

Digitally signed by Bruce H. Wolfe
DN: cn=Bruce H. Wolfe, o=SWRCB, ou=Region 2, email=bwolfe@waterboards.ca.gov, c=US
Date: 2014.06.16 10:26:49 -07'00'

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

Information describing the City of Palo Alto Regional Water Quality Control Plant and City of Palo Alto wastewater collection system (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 this 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 through I are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. No provisions or requirements in this Order are included to implement State law only.

D. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.

E. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2009-0032 (previous order) is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

III. DISCHARGE PROHIBITIONS

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

B. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided for in the conditions stated in Subsections I.G.2 and I.G.4 of Attachment D of this Order.

Diverting wastewater around the plant's fixed film reactors or dual media filters is not considered a bypass (1) during essential maintenance or for process control to ensure efficient operation or during wet weather when the primary effluent flow exceeds the fixed film reactors' process capacity of 39 MGD or when the plant's activated sludge treatment units' effluent flow exceeds the filter process capacity of 39 MGD; and (2) when the discharge complies with the effluent and receiving water limitations contained in this Order. The Discharger shall operate the Facility as designed and in accordance with the Operation and Maintenance Manual developed for the plant. This means that the Discharger shall optimize storage and shall fully utilize the plant's advanced treatment units, if applicable. The Discharger shall report diversions of flows around fixed film reactors or dual media filters in routine monitoring reports and shall conduct monitoring of these discharges as specified elsewhere in this Order.

C. Total average dry weather effluent flow in excess of 39 MGD, determined at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP) (Attachment E), is prohibited. Average dry weather effluent flow shall be determined by the average three consecutive dry weather months each year.

D. Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. The Discharger shall comply with the following effluent limitations at Discharge Point Nos. 001 and 002, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

Table 4. Effluent Limitations for Discharge Point Nos. 001 and 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	mg/L	10	---	20	---	---
Total Suspended Solids (TSS)	mg/L	10	---	20	---	---
pH [1]	standard units	---	---	---	6.5	8.5
Oil and Grease	mg/L	5	---	10	---	---
Turbidity	NTU	---	---	---	---	10
Total Ammonia	mg/L as nitrogen	2.7	---	9.5	---	---
Copper, Total Recoverable	µg/L	21	---	36	---	---

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Nickel, Total Recoverable	µg/L	26	---	31	---	---
Cyanide, Total	µg/L	6.2	---	14	---	---
Dioxin-TEQ	µg/L	1.4×10^{-8}	---	2.8×10^{-8}	---	---

Unit Abbreviations:

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

Footnote:

[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.

B. Percent Removal. The average monthly percent removal of biochemical oxygen demand (BOD_5) and total suspended solids (TSS) at Discharge Point Nos. 001 and 002 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD_5 and TSS, by concentration, for effluent samples collected at Monitoring Locations EFF-001 as described in the MRP shall not exceed 15 percent of the arithmetic mean of the BOD_5 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. Bacteria. Discharges at Discharge Point Nos. 001 and 002, with compliance measured at Monitoring Location EFF-001 as described in the MRP, shall meet the following limitations:

1. **Enterococcus.** The geometric mean enterococcus bacteria concentration of all effluent samples collected within a calendar month shall not exceed 35 most probable number per 100 milliliters (MPN/100 mL).

2. **Fecal Coliform.** The median fecal coliform density of all effluent samples collected within a calendar month shall not exceed 98 MPN/100 mL, and the 90th percentile value of the last eleven samples shall not exceed 301 MPN/100 mL.

D. Whole Effluent Acute Toxicity. Discharges at Discharge Point Nos. 001 and 002 shall comply with the following limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

1. A three-sample median value of not less than 90 percent survival; and

2. A single-sample maximum value of not less than 70 percent survival.

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

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

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

E. Whole Effluent Chronic Toxicity. Discharges at Discharge Point Nos. 001 and 002, 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 discharges shall not cause the following conditions to exist in the South San Francisco Bay or Matadero Creek at any place:

1. Floating, suspended, or deposited macroscopic particulate matter or foams;

2. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

3. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

4. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or

5. 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 Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all "Standard Provisions" 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 Provisions

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 (CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a stormwater pollutant control strategy.

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 "cannot determine" 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:

Discharge Point	Monitoring Station	Minimum Frequency
001 and 002	EFF-001	Twice per calendar year

The samples shall be analyzed for the priority pollutants listed in Attachment G, Table C, except for those priority pollutants with effluent limitations where the MRP already requires more frequent monitoring, and except for those priority pollutants for which there are no water quality criteria (see Fact Sheet Table F-7). Compliance with this requirement shall be achieved in accordance with the specifications of Attachment G, sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any of these priority 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 priority pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-7 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 Facility's service area and treatment plant processes.

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

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

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

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

vi. **Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

vii. **Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions VI.C.3.b.iii, iv, v, and vi.

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

ix. **Evaluation of Pollutant Minimization Program and task effectiveness.** This Discharger shall use the criteria established in Provision VI.C.3.b.vii to evaluate the program and task effectiveness.

x. **Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the 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. Pretreatment Program. The Discharger shall implement and enforce its approved pretreatment program in accordance with federal pretreatment regulations (40 C.F.R. part 403); pretreatment standards promulgated under CWA sections 307(b), 307(c), and 307(d); pretreatment requirements specified under 40 C.F.R. section 122.44(j); and the requirements in Attachment H, "Pretreatment Requirements." The Discharger's responsibilities include, but are not limited to, the following:

i. Enforcement of the National Pretreatment Standards of 40 C.F.R. sections 403.5 and 403.6;

ii. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 C.F.R. part 403);

iii. Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H; and

iv. Evaluation of the need to revise local limits under 40 C.F.R. section 403.5(c)(1) and, by November 1, 2018, submission of a report describing the changes, with a plan and schedule for implementation. To ensure no significant increase in copper discharges,

and thus compliance with antidegradation requirements, the Discharger shall not consider eliminating or relaxing local limits for copper.

b. Sludge and Biosolids Management

i. All sludge and biosolids shall be disposed of, managed, or reused in a municipal solid waste landfill; through land application; as a Class A compost; through a waste-to-energy facility or another recognized and approved technology; in a sludge-only landfill; or in a wastewater 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 on-site sludge or biosolids storage or disposal. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity.

c. Collection System Management. The Discharger shall properly operate and maintain its collection system (see Attachment D, section I.D). 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, sections I.C, I.D, V.E, and V.H).

The *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (General Collection System WDRs), State Water Board Order 2006-0003 DWQ as amended by State Water Board Order WQ 2013-0058-EXEC, has requirements for operation and maintenance of sanitary sewer collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Collection System WDRs and this Order, the General Collection System WDRs more clearly and specifically stipulate requirements for operation and maintenance, and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDRs for proper operation and maintenance and mitigation of sanitary sewer overflows will satisfy the corresponding federal NPDES requirements specified in Attachment D (as supplemented by Attachment G). Following the notification and reporting requirements in the General Collection System WDRs will

satisfy NPDES the corresponding reporting requirements specified in Attachment D (as supplemented by Attachment G) for sanitary sewer overflows.

5. Other Special Provisions

a. Facility Reliability Assurance Plan and Status Report

i. The Discharger shall prepare an updated Facility Reliability Assurance Plan by August 1, 2015, that describes measures in place to assure the reliability of the Discharger's Facility in preventing inadequately treated effluent from being discharged into the receiving waters. Inadequately treated wastewater includes wastewater that bypasses any portion of the plant. At a minimum, the updates shall (1) summarize the implementation status of the action items identified in the Discharger's June 1987 *Reliability Evaluation Update*, (2) describe existing operations and maintenance features of the Facility designed to ensure reliability, (3) identify any future reliability concerns (including but not limited to sea level rise), and (4) identify appropriate actions and their estimated timeline for completion. The Facility Reliability Assurance Plan shall be maintained in usable condition and be available for reference and use by all relevant personnel.

ii. The Discharger shall regularly review, revise, or update, as necessary, the Facility Reliability Assurance Plan to ensure that the document remains useful and relevant to current equipment and operational practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, relevant revisions shall be completed as soon as practical.

iii. The Discharger shall submit a summary describing the current status of its Facility Reliability Assurance Plan, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall submit this Facility Reliability Assurance Status Report by February 1 each year.

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

Table 5. Copper Action Plan

Task	Compliance Date
1. Review Potential Copper Sources The Discharger shall submit an inventory of potential copper sources to the treatment plant.	*Completed*
2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper sources identified in Task 1. The plan shall consists, at a minimum, of the following elements: **a.** Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion); **b.** If corrosion is determined to be a significant copper source, work cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensure that local plumbing contractors implement best management practices to reduce corrosion in pipes; and **c.** Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.	*Completed*
3. Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration in South San Francisco Bay exceeds 4.2 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.	With next annual pollution prevention report due February 28 (at least 90 days following notification)
4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties. The Discharger shall submit an updated study plan and schedule to conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and to investigate sub-lethal effects on salmonids. Specifically, the Discharger shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, the Discharger may collaborate and conduct these studies as a group.	*Completed (Bay Area Clean Water Agencies submitted study plan January 6, 2011)*
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.	Annually by February 28 with annual pollution prevention report

c. Cyanide Action Plan. The Discharger shall continue to implement monitoring and surveillance, pretreatment, source control and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 6. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Sources 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.	*Completed*
2. Implement Cyanide Control Program The Discharger shall submit a plan and begin implementation of a program to minimize cyanide discharges to its treatment plant consisting, at a minimum, of the following elements: a. Inspect each potential source to assess the need to include that 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. For purposes of this Order, a "significant cyanide discharge" is occurring if the Plant's influent cyanide concentration exceeds 10 µg/L.	*Completed*
3. Implement Additional Cyanide Control Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, shall report on the progress and effectiveness of actions taken, and shall provide a schedule for actions to be taken in the next 12 months.	With next annual pollution prevention report due February 28 (at least 90 days following notification)
4. Report Status of Cyanide Control Program The Discharger shall submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, and provide a schedule for actions to be taken in the next 12 months.	Annually by February 28 with annual pollution prevention report

d. Standard Operating Procedures for Resource Recovery. If the Discharger receives hauled-in anaerobically-digestible material for injection into an anaerobic digester, the Discharger shall notify the Regional Water Board and develop and implement Standard Operating Procedures 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:

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

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

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

Bioaccumulative
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 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:

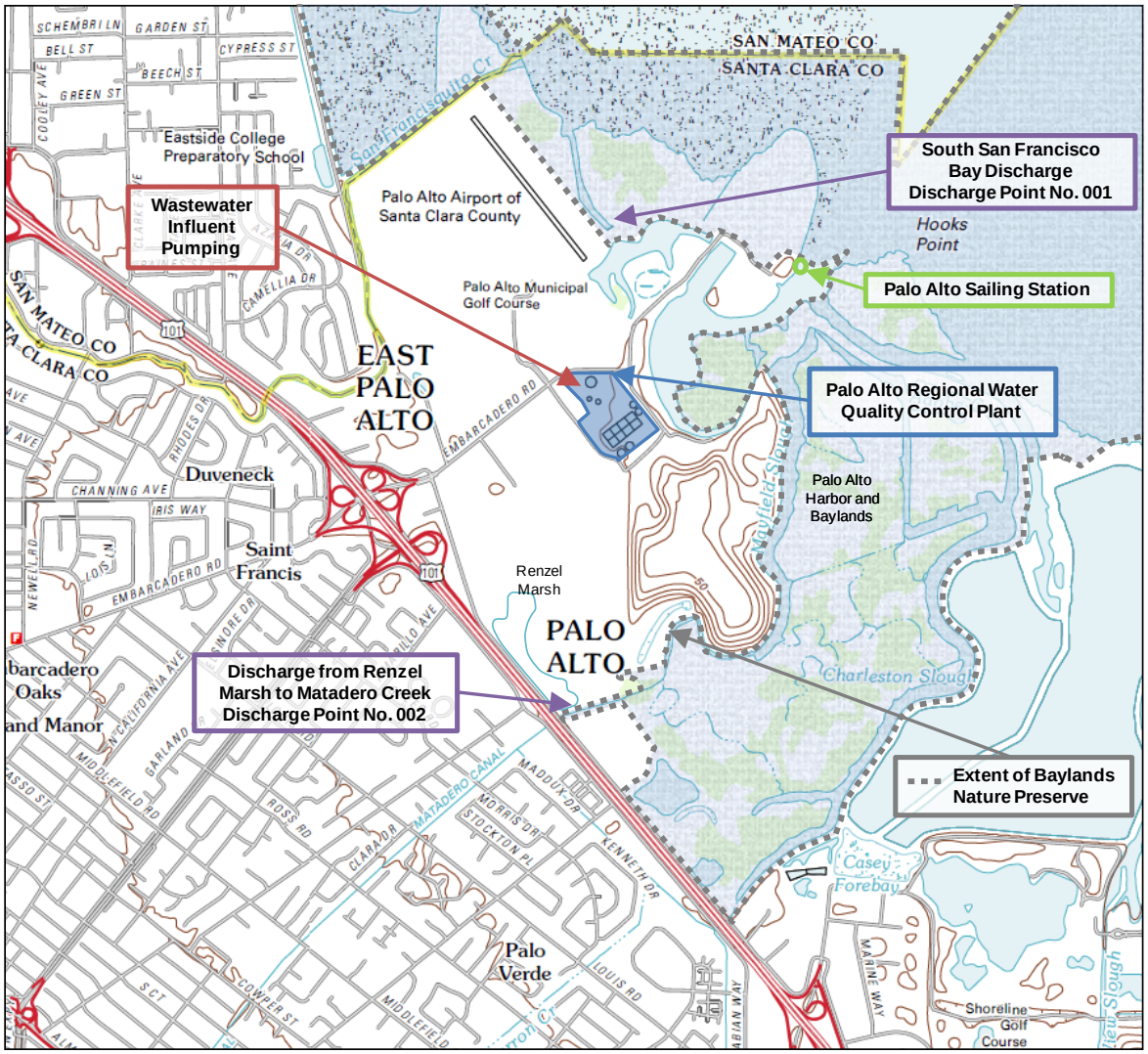
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

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

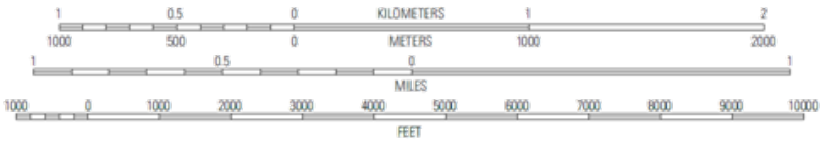
Toxicity Reduction Evaluation (TRE)
Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of 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.

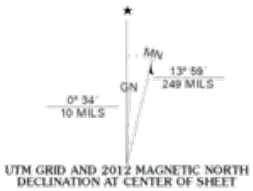
ATTACHMENT B – FACILITY MAP

Palo Alto Regional Water Quality Control Plant, NPDES Permit No. CA0037834
Topographic and Vicinity Map (including extent of Baylands Nature Preserve)



Scale: 1 inch = 24,000 inches (2,000 feet). Contour interval: 10 feet.
North American Vertical Datum of 1988.



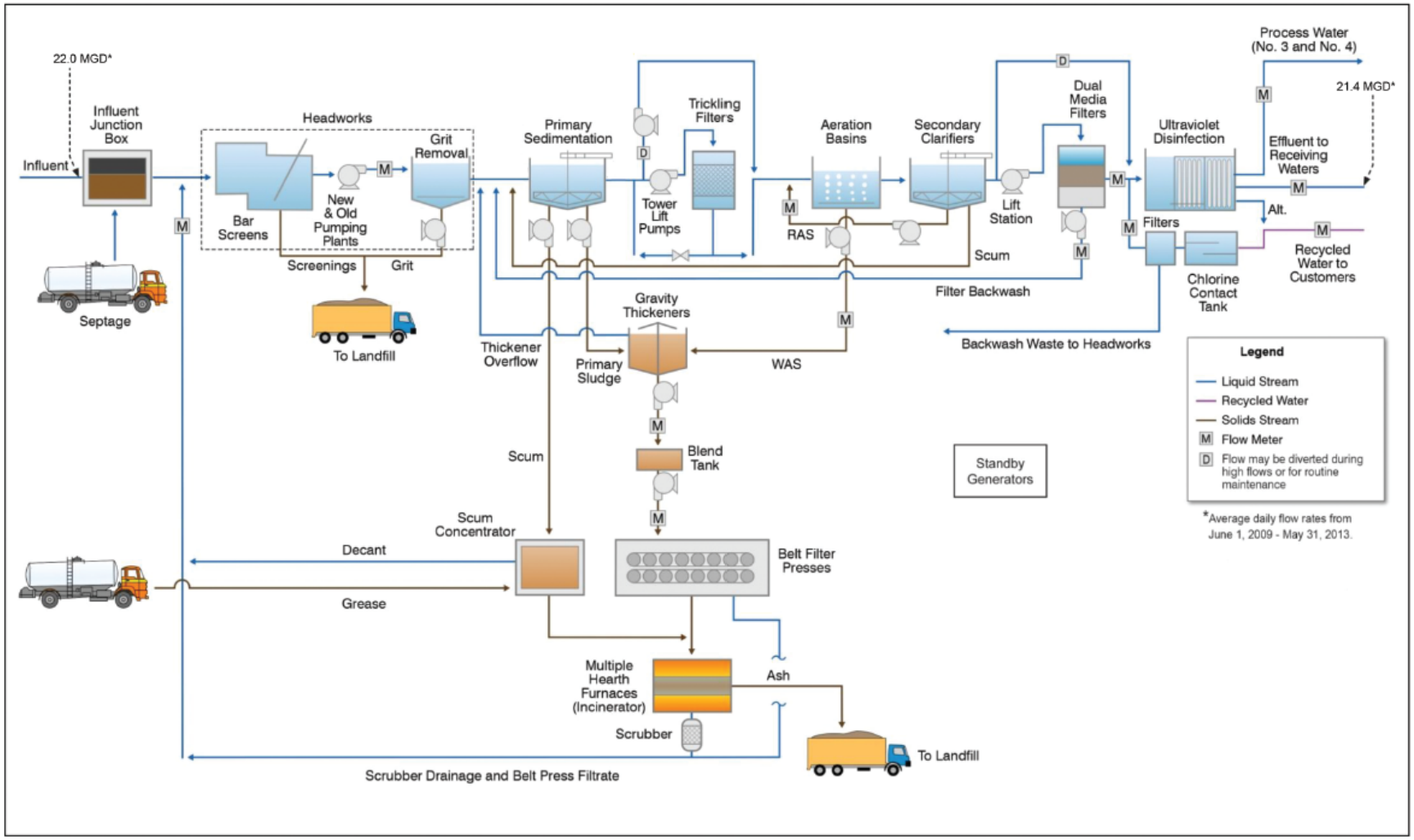


Notes:
This map is an excerpt from the 2012 USGS 7.5 Minute Maps for the Palo Alto and Mountain View Quadrangles.
There are no spring or drinking water wells located within 1/4 mile of the facility.

ATTACHMENT C – PROCESS FLOW DIAGRAM

Palo Alto Regional Water Quality Control Plant, NPDES Permit No. CA0037834

Figure 4: Plant Process Schematic



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; 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 assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

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

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

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

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

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

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of

equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

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

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

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

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

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

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

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

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

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

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

IV. STANDARD PROVISIONS—RECORDS

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

of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include 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 Order under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

B. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

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

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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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) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State laws and regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the "Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits" (Attachment G), this MRP shall prevail.

B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

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
Influent	INF-001	Any point in the plant headworks at which all waste tributary to the treatment system is present, and proceeding any phase of treatment
Effluent	EFF-001	Any point following treatment, including disinfection, and before contact with the receiving water, where all waste streams tributary to Discharge Point Nos. 001 and 002 are present
Effluent	EFF-002	A point following treatment, including disinfection, and before contact with the receiving water, where only effluent to be discharged to Discharge Point No. 002 is present
Receiving Water	RSW-001	A point in South San Francisco Bay located at the Palo Alto Sailing Station
Receiving Water	RSW-002	A point in Matadero Creek within 500 feet downgradient of Discharge Point No. 002
Incinerator Ash	ASH-001	Representative sample of incinerator ash

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/MG	Continuous	Continuous/D
Biochemical Oxygen Demand (5-day @ 20°C)(BOD_5)	mg/L	C-24	1/Week

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Suspended Solids	mg/L	C-24	1/Week
Cyanide, Total[2]	µg/L	Grab	1/Month

Unit Abbreviations:

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

Sample Type:

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

Sampling Frequency

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

Footnotes:

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

[2] Influent cyanide monitoring may be used to satisfy the pretreatment monitoring requirements in Table E-6 of this MRP.

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/MG	Continuous	Continuous/D
Temperature	^{o}C	Grab	1/Month
BOD_5	mg/L	C-24	1/Week [9]
Total Suspended Solids (TSS)	mg/L	C-24	1/Week [9]
pH [2]	standard units	Continuous or Grab	Continuous/D or 1/Day[9]
Oil and Grease [3]	mg/L	Grab	1/Quarter
Turbidity	NTU	Grab	1/Week [9]
Fecal Coliform	MPN/100 mL [4]	Grab	1/Quarter [6]
Enterococcus [5]	MPN/100 mL [4]	Grab	2/Week [9]
Acute Toxicity [7]	% Survival	Flow through	1/Quarter
Chronic Toxicity [8]	TUc	C-24	1/Month
Ammonia, Total	mg/L as N	C-24	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month [9]
Nickel, Total Recoverable	µg/L	C-24	1/Month [9]
Cyanide, Total	µg/L	Grab	1/Month [9]
Dioxin-TEQ	µg/L	Grab	2/Year

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons
^{o}C = degrees Celsius

mg/L = milligrams per liter
µg/L = micrograms per liter
mg/L as N = milligrams per liter as nitrogen
NTU = nephelometric turbidity units
MPN/100 mL = most probable number per 100 mL
TUc = chronic toxicity units, equal to 100/NOEL, where NOEL = IC_{25}, EC_{25}, or NOEC

Sample Type

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

Sampling Frequency

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

Footnotes:

[1] The total flow for Discharge Point No. 001 shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
- Daily average flow rate (MGD)
- Monthly average flow rate (MGD)
- Total Monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD)

Reported flows may be adjusted to reflect water recycling.

The Discharger shall also provide start and end times, duration, and total flow (MG) of any flow diversion around fixed film reactors or dual media filters as described in Fact Sheet section IV.A.1. These data shall be submitted as an attachment to the self-monitoring reports (SMRs) and not be comingled with routine monitoring data.

[2] If monitoring continuously, the minimum and maximum pH values for each day shall be reported in self-monitoring reports.

[3] Each oil and grease sampling and analysis event shall be conducted in accordance with U.S. EPA Method 1664A.

[4] Results may be reported as Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.

[5] The Discharger shall monitor for enterococci using U.S. EPA-approved methods, including, for example, the IDEXX Enterolert method.

[6] The minimum monitoring frequency shall be once per quarter. If the fecal coliform effluent limitation is exceeded, the Discharger shall conduct 2/Week accelerated sampling for at least three consecutive months. If full compliance is demonstrated after the three month period, the Discharger may return to the 1/Quarter sampling frequency.

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

[8] Chronic bioassay tests shall be performed in accordance with MRP section V.B.

[9] Monitoring shall occur at least once per event when diverting flows around fixed film reactors or dual media filters as described in Fact Sheet section IV.A.1 for at least 4 hours. The sample collection shall be grab. These data shall be submitted as an attachment to the SMRs and not be comingled with routine monitoring data.

The Discharger shall monitor plant effluent at Monitoring Location EFF-002 as follows:

Table E-4. Effluent Monitoring at Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow [1]	MGD/MG	Continuous	Continuous/D
Standard Observations [2]	---	---	1/Month

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons

Sampling Frequency

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

Footnotes:

[1] The total flow for Discharge Point No. 002 shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
- Daily average flow rate (MGD)
- Monthly average flow rate (MGD)
- Total Monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD)

Reported flows may be adjusted to reflect water recycling.

[2] Standard observations are specified in Attachment G section III.C. These observations shall occur where Renzel Marsh Pond water is discharged to Matadero Creek.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

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

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations for Discharge Point Nos. 001 and 002 shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays at Monitoring Location EFF-001.

2. Test organisms shall be rainbow trout (*Onchorhynchus mykiss*). The Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.

3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012).

4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference.

5. The sample may be taken from final effluent prior to disinfection. Bioassay water monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and reports 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 (samples may be taken from final effluent prior to disinfection) for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on alternating days.

b. Test Species. The test species shall be *Pimephales promelas* unless a more sensitive species is identified.

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

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

i. The Discharger shall monitor routinely once per month.

ii. The Discharger shall accelerate monitoring to twice per month when either of the following conditions is exceeded:

- Three-sample median value of 1 TUc, or
- Single-sample maximum value of 2 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 Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014)) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, currently fourth edition* (EPA-821-R2-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment.

e. Dilution Series. The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged. 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 IC_{25} or EC_{25} (see MRP Appendix E-1). If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall equal to the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test.

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

vii. TUc values (100/NOEL, where NOEL = IC_{25}, EC_{25}, or NOEC

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

ix. IC_{50} or EC_{50} 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.iii, 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 follow-up monitoring and confirmation of implementation success.

e. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with Effluent Limitation IV.E of the Order).

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

g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the toxic substances from the discharge. The Discharger shall take all reasonable steps to reduce toxicity to levels below the chronic toxicity limit.

h. Many recommended TRE elements parallel required or recommended efforts related to source control, pollution prevention, and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to demonstrate compliance with TRE requirements.

i. Chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful. Regional Water Board enforcement considerations will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program, which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger shall also monitor receiving waters at Monitoring Locations RSW-001 and RSW-002 as follows:

Table E-5. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Salinity	ppt	Grab	1/Quarter
Hardness [1]	mg/L as $CaCO_3$	Grab	1/Quarter
Temperature	ºC	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Total Ammonia Nitrogen	mg/L	Grab	1/Quarter
Standard Observations [2]	--	--	1/Quarter

Unit Abbreviations:

ppt = parts per thousand
mg/L = milligrams per liter
ºC = degrees Celsius

Sampling Frequency:

1/Quarter = once per calendar quarter

Footnote:

[1] Hardness monitoring is not required at Monitoring Location RSW-001.

[2] Standard observations are specified in Attachment G section III.C.

VII. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall comply with the following pretreatment monitoring requirements for influent (at Monitoring Location INF-001), effluent (at Monitoring Location EFF-001), and incinerator ash (at Monitoring Location ASH-001). The Discharger shall report summaries of analytical results in

pretreatment reports in accordance with Attachment H. At its option, the Discharger may also report incinerator ash analytical results in its electronic self-monitoring reports by manual entry, by EDF/CDF, or as an attached file.

Table E-6. Pretreatment and Incinerator Ash Monitoring

Constituents	Sampling Frequency			Sample Type	
	Influent INF-001 [6]	**Effluent EFF-001** [6]	**Incinerator Ash ASH-001**	**Influent and Effluent**	**Incinerator Ash**
VOC [1]	2/Year	2/year	--	Grab	--
BNA [2]	2/year	2/year	--	Grab	--
Metals and Other Elements [3]	1/Month	1/Month	2/Year	C-24[7a]	Grab[7b]
Chromium (VI) [4]	1/Month	1/Month	2/Year	Grab	Grab[7b]
Mercury [5]	1/Month	1/Month	2/Year	Grab	Grab[7b]
Cyanide, Total	1/Month	1/Month	2/Year	Grab	Grab[7b]

Footnotes:

1] VOC: volatile organic compounds

[2] BNA: base/neutrals and acid extractable organic compounds

[3] Metals and other elements are arsenic, cadmium, copper, lead, nickel, selenium, silver, and zinc.

[4] The Discharger may choose to monitor and report total chromium instead of hexavalent chromium. Samples collected for total chromium measurements may be 24-hour composites.

[5] The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring.

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

[7] Sample types:

a. If an automatic compositor is used, the Discharger shall obtain 24-hour composite samples through flow-proportioned composite sampling. Alternatively, 24-hour composite samples may consist of discrete grab samples combined (volumetrically flow-weighted) prior to analysis or mathematically flow-weighted.

b. The incinerator ash sample shall be a composite of the incinerator ash to be disposed. Incinerator ash collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4. The Discharger shall also comply with the incinerator ash monitoring requirements of 40 C.F.R. part 503.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.

2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below.

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

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

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

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

Table E-7. 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.

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

Table E-8. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Permit effective date	All
1/Hour	Permit effective date	Hourly
1/Day	Permit effective date	Midnight through 11:59 PM (or any 24-hour period that reasonably represents a calendar day for purposes of sampling)
1/Week 2/Week	Sunday following permit effective date or on permit effective date if on Sunday	Sunday through Saturday
1/Month	First day of calendar month following permit effective date or on permit 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) permit 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 May 1 or November 1 following (or on) permit effective date	Once during wet season (typically November 1 through April 30); Once during dry season (typically May 1 through October 31)

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

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

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

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

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

d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. Compliance Determination

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

b. When determining compliance with an AMEL or MDEL and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "detected but not quantified" (DNQ) or "non-detect" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following:

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

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 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.

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 paper DMRs. The Discharger shall sign and certify DMRs as Attachment D requires. The Discharger shall submit the DMRs to one of the addresses below:

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

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

IX. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

A. Attachment G 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*

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

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

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

a. Two (2)-Hour Notification

For any unauthorized discharges that enter a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the California 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;

[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.

3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol – *Deleted*

X. MODIFICATIONS TO ATTACHMENT H

This MRP modifies Attachment H as indicated below.

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

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger (POTW - 40 C.F.R. section 403.12[m]). Signed copies of the reports shall be submitted to the State Water Board and the Regional Water Board through the electronic self-monitoring report (eSMR) module of the California Integrated Water Quality System (CIWQS).

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

I. Definition of Terms

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

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

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as 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	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	*(Strongylocentrotus purpuratus, S. franciscanus)* *(Dendraster excentricus)*	Percent fertilization or larval development	1 hour or 72 hours	2
Shrimp	*(Americamysis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

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

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

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

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

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

Toxicity Test Reference:

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

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

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

[1] (a) Marine refers to receiving water salinities greater than 1 part per thousand (ppt) at least 95 percent of the time during a normal water year.
(b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.
(c) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.

[2] The freshwater species may be substituted with marine species if:
(a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or
(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

ATTACHMENT F - FACT SHEET

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ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section II.B of the Order, the Regional Water Board incorporates this Fact Sheet as its 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 438011001
CIWQS Place ID	247457
Discharger	City of Palo Alto
Name of Facility	Palo Alto Regional Water Quality Control Plant and City of Palo Alto wastewater collection system
Facility Address	2501 Embarcadero Way
	Palo Alto CA 94303
	Santa Clara County
Facility Contact, Title, Phone	Phil Bobel, Assistant Director of Public Works, (650) 496-6951
Authorized Person to Sign and Submit Reports	Phil Bobel, Assistant Director of Public Works, (650) 496-6951
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Order No. 93-160
Nutrients Requirements	NPDES Permit No. CA0038873
Mercury and PCB Requirements	NPDES Permit No. CA0038849
Facility Permitted Flow	39 million gallons per day (MGD) (average dry weather flow design capacity with advanced secondary treatment)
Facility Design Flow	39 MGD (average dry weather flow design capacity with advanced secondary treatment) 80 MGD (peak wet weather flow design capacity with secondary treatment)
Watershed	Santa Clara Hydrologic Unit
Receiving Waters	South San Francisco Bay and Matadero Creek
Receiving Water Type	Marine (South San Francisco Bay) and Estuarine (Matadero Creek)

A. The City of Palo Alto (Discharger) owns and operates the Palo Alto Regional Water Quality Control Plant and the City of Palo Alto wastewater collection system (collectively, the Facility). The Facility provides advanced secondary treatment of wastewater collected from its service area and discharges the majority of the treated effluent to South San Francisco Bay via an unnamed channel. The balance of the treated effluent is diverted to Matadero Creek via Renzel Marsh Pond.

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. CA0037532. It was previously subject to Order No. R2-2009-0032 (previous order), which was adopted on April 8, 2009, and expired on May 31, 2014. The Facility discharges treated wastewater to South San Francisco Bay and Matadero Creek, both of which are waters of the United States. Attachment B provides maps of the area around the Facility. Attachment C provides a flow schematic.

C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on November 25, 2013.

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

II. FACILITY DESCRIPTION

A. Wastewater and Biosolids Treatment and Controls

1. **Location and Service Area.** The plant is located at 2501 Embarcadero Way, Palo Alto. The plant provides advanced secondary treatment of domestic, commercial, and industrial wastewater collected from the cities of Los Altos, Los Altos Hills, Palo Alto, and Mountain View; the East Palo Alto Sanitary District; and the unincorporated area of the Stanford University Campus. The service area population is approximately 220,000.

2. **Collection System.** The City of Palo Alto wastewater collection system is a 100 percent separate sanitary sewer system consisting of approximately 200 miles of pipes ranging from 6 inches to 72 inches in diameter and one small lift station. Outside the City of Palo Alto, wastewater is conveyed to the plant by several satellite collection systems owned and operated by the following: the East Palo Alto Sanitary District, Stanford University, and the cities of Mountain View, Los Altos, and Los Altos Hills.

   Each satellite collection system is responsible for an ongoing program of maintenance and capital improvements for sewer lines and pump stations within its respective jurisdiction to ensure adequate capacity and reliability. The responsibilities include managing overflows, controlling inflow and infiltration, and implementing collection system maintenance.

3. **Wastewater Treatment.** Wastewater treatment processes at the plant, as detailed below, include screening and grit removal, primary sedimentation, biological treatment (fixed film reactors and activated sludge), secondary clarification, filtration (dual media filter), and disinfection. The hydraulic capacity of all treatment units is 80 MGD, except for the fixed film reactors and the dual media filters which is 40 MGD. The plant's design flow rate is 39 MGD, determined by the process capacity of the fixed film reactors and the dual media filters. From June 2010 through May 2013, the plant's annual average daily flow rate was 21 MGD, and the maximum daily flow rate was 38.5 MGD.

a. **Preliminary Treatment.** Preliminary treatment consists of screens followed by grit removal.

b. **Primary Treatment.** Following preliminary treatment, wastewater is pumped into rectangular primary clarifiers to remove floatable and settleable material.

c. **Biological Treatment.** All wastewater receives biological treatment in a two-step process that uses fixed film growth reactors to reduce biochemical oxygen demand (BOD), followed by activated sludge treatment. Primary-treated effluent flows up to 39 MGD are treated in the fixed film reactors, and flows in excess of 39 MGD are routed around the reactors and combined with reactor effluent prior to activated sludge treatment. Removal of ammonia (nitrification) is achieved in the activated sludge aeration basins. Mixed liquor from the aeration basins flows to secondary clarifiers for solids removal via settling. The majority of settled solids are returned (return activated sludge) to the aeration basins, and waste activated sludge is treated as described in section II.A.4, below.

d. **Filtration Process.** Following biological treatment, the wastewater undergoes advanced secondary treatment via filtration. There are 12 parallel dual media filters. Filter backwash water is returned to the primary sedimentation basins. Secondary-treated effluent flows up to 39 MGD are processed in the filters, and flows in excess of 39 MGD are routed around the filters and combined with filter effluent prior to disinfection.

e. **Disinfection.** The plant uses ultraviolet (UV) disinfection. Following disinfection, the final effluent is discharged to South San Francisco Bay via an unnamed channel or to Matadero Creek via Renzel Marsh Pond. A portion of the effluent is diverted for further treatment for reclamation use, as described in section II.A.5, below.

4. **Sludge and Biosolids Management.** Solids from primary sedimentation tanks and aeration tanks are sent to the sludge thickening facilities, gravity-thickened, and dewatered by belt presses. Thickened and dewatered solids are incinerated in one of two identical multiple hearth incinerators, and the ash is hauled offsite to a hazardous waste landfill. Belt press filtrate, scrubber water, and other flows from the incinerator building, totaling approximately 1 MGD, are returned to the plant headworks.

5. **Reclamation**. Approximately 850 acre-feet per year or 0.76 MGD of final effluent undergoes additional filtration and chlorination prior to distribution as tertiary unrestricted recycled water. The Discharger sends this water to the Palo Alto Golf Course, Palo Alto parks, the California Department of Transportation, and the City of Mountain View recycled water system. The water is also distributed by truck for landscape irrigation, dust control, soil compaction, and collection system cleaning. These reclamation activities are regulated under Regional Water Board Order No. 93-160.

6. **Stormwater Management.** All stormwater from within the plant boundaries is directed to the plant headworks; therefore, coverage under the statewide permit for discharges of stormwater associated with industrial activities (NPDES General Permit No. CAS000001) is not required.

B. Discharge Points and Receiving Waters

Approximately 95 percent of the treated final effluent that is not recycled is discharged through Discharge Point No. 001 to an unnamed channel that leads to South San Francisco Bay. The remaining 5 percent (approximately 1 MGD) enters Renzel Marsh Pond, where it flows via a sluice gate to Matadero Creek at Discharge Point No. 002. Matadero Creek flows into Mayfield Slough within the Palo Alto Flood Basin, which then flows into South San Francisco Bay at the Flood Basin tide gates. Matadero Creek flows vary greatly with the seasons; flows can be less than 0.03 MGD during summer. Below Discharge Point No. 002, Matadero Creek and Mayfield Slough are tidally-influenced. (The tide gates constrict, but do not preclude, tidal flows entering and exiting the Flood Basin.)

Renzel Marsh Pond is an environmental enhancement project the Discharger initiated in 1992 to bring freshwater to the area to improve a deteriorated habitat near the plant and to mitigate saltwater influx into Matadero Creek. The project created a 15-acre freshwater pond from previously dry land. With a constructed berm around the pond to prevent any stormwater inflows, treated effluent is the only flow to the pond. Because Renzel Marsh Pond was built in a former upland (dry) environment and is exclusively maintained by the plant's discharge with a controlled outfall to Matadero Creek, the receiving water for Discharge Point No. 002 is Matadero Creek.

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 Numeric Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations					Monitoring Data
		Monthly Average	Weekly Average	Daily Maximum	Instant-aneous Maximum	Instant-aneous Minimum	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	mg/L	10	---	20	---	---	8.5
Total Suspended Solids (TSS)	mg/L	10	---	20	---	---	5
Oil and Grease	mg/L	5	---	10	---	---	2.2[1]
pH	standard units	---	---	---	6.5	8.5	6.5-7.6
Turbidity	NTU	---	---	---	---	10	25
Total Residual Chlorine	mg/L	---	---	---	---	0.0	0
Acute Toxicity	percent of survival	[2]	---	---	---		100[3]
Enterococcus Bacteria	CFU/100 mL	[4]	---	---	---	---	7.1
Copper, Total Recoverable	µg/L	12	---	16	---	---	23
Nickel, Total Recoverable	µg/L	26	---	31	---	---	6.8

Parameter	Units	Effluent Limitations					Monitoring Data
		Monthly Average	Weekly Average	Daily Maximum	Instant-aneous Maximum	Instant-aneous Minimum	Highest Daily Discharge
Cyanide, Total	µg/L	7.1	---	14	---	---	7.0
Dioxin-TEQ	µg/L	1.4×10^{-8}	---	2.8×10^{-8}	---	---	0[5]
Chlorodibromomethane	µg/L	34	---	62	---	---	28
Total Ammonia as Nitrogen	mg/L	2.7	---	9.5	---	---	3.1

Unit abbreviations:

mg/L= milligrams per liter
µg/L= micrograms per liter
NTU = nephelometric turbidity units
CFU = colony forming units

Footnotes:

[1] The value shown was estimated.

[2] The eleven-sample median was not to be less than 90 percent survival; the eleven-sample 90th percentile value was not to be less than 70 percent survival.

[3] The value shown was the lowest reported percent of survival. (The Discharger reported 100 percent survival for all acute toxicity tests completed during the previous order term.)

[4] The 30-day geometric mean for all samples analyzed for enterococcus bacteria was not to exceed 35 colonies per 100 mL.

[5] Congener concentrations detected below the minimum levels as provided in Table A, Attachment G, were set to zero for compliance determination.

D. Compliance Summary

During the previous order term, the Discharger complied with all effluent limitations, except those for turbidity and copper. As listed below, the Discharger exceeded the instantaneous maximum limit for turbidity once, the maximum daily effluent limit for copper eleven times, and the average monthly effluent limit for copper five times:

Table F-3. Numeric Effluent Limit Exceedances

Exceedance Date	Exceeded Parameter	Units	Effluent Limitation	Reported Concentration
09/25/2013	Copper, Average Monthly Limit	ug/L	12	14
08/31/2013	Copper, Average Monthly Limit	ug/L	12	13
07/31/2013	Copper, Average Monthly Limit	ug/L	12	14
03/31/2013	Copper, Average Monthly Limit	ug/L	12	17
03/21/2013	Copper, Maximum Daily Limit	ug/L	16	17
03/20/2013	Copper, Maximum Daily Limit	ug/L	16	17
03/19/2013	Copper, Maximum Daily Limit	ug/L	16	17
03/16/2013	Copper, Maximum Daily Limit	ug/L	16	17
03/15/2013	Copper, Maximum Daily Limit	ug/L	16	18
03/14/2013	Copper, Maximum Daily Limit	ug/L	16	23
03/12/2013	Copper, Maximum Daily Limit	ug/L	16	17
03/11/2013	Copper, Maximum Daily Limit	ug/L	16	17
03/10/2013	Copper, Maximum Daily Limit	ug/L	16	17
11/30/2012	Turbidity, Instantaneous Maximum Limit	NTU	10	25
11/30/2012	Copper, Average Monthly Limit	ug/L	12	15

Exceedance Date	Exceeded Parameter	Units	Effluent Limitation	Reported Concentration
11/30/2012	Copper, Maximum Daily Limit	ug/L	16	19
11/17/2012	Copper, Maximum Daily Limit	ug/L	16	17
11/16/2012	Copper, Maximum Daily Limit	ug/L	16	18
11/15/2012	Copper, Maximum Daily Limit	ug/L	16	18
11/14/2012	Copper, Maximum Daily Limit	ug/L	16	19
11/05/2012	Copper, Maximum Daily Limit	ug/L	16	22

The Discharger has a history of compliance with the turbidity limit. Between June 2009 and July 2013, 1,097 samples were tested for turbidity; only one exceeded the turbidity effluent limitation. The incident occurred during high flow, when the Discharger was diverting some secondary-treated flows around the dual media filter. The filtration facility lift pump responded too slowly and caused too much secondary-treated flow to mix with the filtration facility flow. The Discharger has since improved its control system to prevent recurrence.

With regard to the copper exceedances, the Discharger had a long history of compliance until recently, with the last copper violation recorded in January 2000. However, in November 2012, an unexplained change occurred in the plant's biological treatment system that increased effluent turbidity and copper discharges, thus resulting in the copper violations. The problem subsided after about four weeks but re-appeared in March 2013. Again, effluent turbidity increased and effluent copper concentrations rose.

Since November 2012, the Discharger has solicited advice from experts in the wastewater field and completed a series of actions aimed to understand and solve the issue of elevated copper concentrations including:

- Plant process copper study (March 2013)
- Microbial fingerprint study (ongoing since June 2013)
- Ammonia/alkalinity study (July 2013)
- Process control upgrades by installing TSS online analyzers (March 2013)
- Chemical flocculant addition trial using proprietary chemicals Polydyne 6287 and Jenfitch (November 2012)
- Chemical precipitant and polymer addition trial using proprietary chemicals MetaSolve and Zetafloc (September 2013)
- Alkalinity addition trial using magnesium hydroxide (November 2013)
- Fixed film reactor retrofit (ongoing since September 2013)

However, as summarized in a February 1, 2014, report, the Discharger has so far been unable to identify the cause despite various efforts. This Order contains new copper limitations with which the Discharger can comply.

E. Planned Changes

During the term of this Order, the Discharger anticipates a number of plant improvements, several of which are in their early planning stages, as follows:

- Biosolids facility replacement (estimated budget: $64 million, 2013-2019)

- Primary sedimentation tank rehabilitation (estimated budget: $7.3 million, 2014-2017)
- Facility condition assessment and retrofit (estimated budget: $5.1 million, 2004-2018)
- Laboratory and environmental services building construction (estimated budget: $17.9 million, 2015-2021)
- Fixed film reactor replacement and rehabilitation (estimated budget: $19.4 million, 2017-2021)
- Plant equipment replacement (estimated annual budget: $1.8 million, ongoing)
- System flow meter replacement (estimated annual budget: $0.16 million, ongoing)

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 (CEQA)

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

C. State and Federal 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 (MUN). Because of the marine influence on San Francisco Bay, total dissolved solids levels in the receiving water exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. The MUN designation therefore does not apply to the receiving water.

   Beneficial uses applicable to South San Francisco Bay and Matadero Creek are as follows:

Table F-4. Beneficial Uses of South San Francisco Bay and Matadero Creek

Discharge Point	Receiving Water	Beneficial Uses
001	South San Francisco Bay	Industrial Service Supply (IND) 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) Contact Recreation (REC1) Non-contact Water Recreation (REC2) Navigation (NAV)
002	Matadero Creek	Cold Freshwater Habitat (COLD) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)

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 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 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 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.

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

D. Impaired 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.

South 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.

Matadero Creek is not identified as an impaired water body.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of

pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

A. Discharge Prohibitions

1. Prohibitions in this Order

a. Discharge Prohibition III.A (No discharge other than as described in this Order): This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

b. Discharge Prohibition III.B (No bypass except as provided for in section I.G. of Attachment D): This prohibition is based on 40 C.F.R. section 122.41(m). Bypass of untreated or partially-treated wastewater from any portion of the treatment facility is prohibited except for essential maintenance to ensure efficient operation as defined in accordance with 40 C.F.R. section §122.41(m)(2) (see Attachment D section I.G.2).

This Order does not consider diverting wastewater around fixed film reactors or dual media filters to be a bypass during essential maintenance or for process control to ensure efficient operation, or during wet weather when the primary effluent flow exceeds the fixed film reactors' process capacity of 39 MGD or when the activated sludge treatment units' effluent flow exceeds the filter process capacity of 39 MGD, as long as the discharge also complies with the effluent and receiving water limitations contained in this Order and the Discharger operates the facility as designed and in accordance with the Operation & Maintenance Manual developed for the plant. This means that the Discharger is to optimize storage and use of equalization units and fully utilize the advanced treatment units. Because the plant provides two phases of biological treatment (fixed film reactors followed by activated sludge), diverting wastewater around the fixed film reactors does not prevent the plant from providing full secondary treatment to all wastewater. Likewise, because the dual media filters provide advanced secondary treatment, diverting flows around them does not prevent the plant from providing full secondary treatment. During the previous order term, the Discharger reported five wet weather flow diversions. The highest instantaneous flow reached 67.3 MGD. The longest diversion lasted 8 hours and 30 minutes. No effluent or receiving water limitations were exceeded.

c. Discharge Prohibition III.C (Average dry weather effluent flow not to exceed 39 MGD): This Order prohibits an average dry weather effluent flow greater than 39 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.

d. Discharge Prohibition III.D (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.

2. Exception to Shallow Water and Dead-End Slough Discharge Prohibition

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges not receiving a minimum of 10:1 initial dilution or discharges into shallow waters or dead-end sloughs. Basin Plan section 4.2 provides for exceptions under certain circumstances:

- An inordinate burden would be placed on the Discharger relative to the beneficial uses protected, and an equivalent level of environmental protection can be achieved by alternate means;
- A discharge is approved as part of a reclamation project;
- Net environmental benefits will be derived as a result of the discharge; or
- A discharge is approved as part of a groundwater cleanup project.

The Basin Plan further states:

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

Surrounded by an extensive network of mudflats, sloughs, marshes, and salt ponds, South San Francisco Bay is generally confined and shallow, except for a deep central channel, and does not receive a minimum initial dilution of 10:1. Likewise, Matadero Creek discharges do not receive 10:1 initial dilution. In 1988, the Regional Water Board granted an exception to the prohibition based on the discharge providing a net environmental benefit. In 1990, the State Water Board overruled the Regional Water Board by concluding that the Discharger had failed to demonstrate a net environmental benefit. Nonetheless, it acknowledged that relocating the discharge north of the Dumbarton Bridge was not economically or environmentally sound. It also concluded that an exception to the prohibition could be granted on the basis of "equivalent protection" provided that certain conditions were met. Attachment I provides more details regarding the past actions taken by the Discharger, Regional Water Board, and State Water Board.

This Order continues to grant an exception based primarily on "equivalent protection" as follows:

a. Moving the Discharger's outfall to deep water (i.e., north of the Dumbarton Bridge) would be an inordinate burden because such relocation would require pipeline

construction through protected wetlands, which would be costly and disturb wetland habitats.

b. The requirements of this Order (i.e., its prohibitions, limitations, and provisions) implement applicable water quality objectives and protect all relevant beneficial uses.

c. The Discharger continues to provide an equivalent level of environmental protection by providing advanced secondary treatment through a higher level of BOD and TSS removal and nitrification and maintaining its pretreatment and pollution prevention programs.

d. Compliance with Provision VI.C.5.a of the Order provides additional environmental protection by ensuring facility reliability by requiring an updated Facility Reliability Assurance Plan. For the past four years, the Discharger has dedicated $2.5 million annually to ensure the plant's treatment reliability and prevent discharges of inadequately treated effluent. In the future, the Discharger plans to continue investing substantially in additional upgrades and treatment facility maintenance, as described in section II.E of this Fact Sheet.

To further justify an exception, the Discharger continues to pursue wastewater reclamation projects to reduce its discharge volumes. The recycled water it produces has increased from 129 million gallons in 2008 to 276.5 million gallons in 2012.

Moreover, the Discharger continues to provide environmental benefits by maintaining Renzel Marsh Pond to support freshwater marsh habitat and provide resting habitat for migratory and local birds. The discharge from Renzel Marsh Pond into Matadero Creek also mitigates flows from adjacent Renzel Salt Marsh into the creek and supports habitat for the salt marsh harvest mouse and clapper rail.

B. Effluent Limitations for Conventional and Non-Conventional Pollutants

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. In addition, the 30-day average percent removal for biochemical oxygen demand (BOD_5) (or carbonaceous biochemical oxygen demand, $CBOD_5$) and suspended solids (SS), 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
$CBOD_5$ [1,2]	25 mg/L	40 mg/L
TSS[1]	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnotes:

[1] The monthly average percent removal, by concentration, is not to be less than 85 percent.

[2] $CBOD_5$ effluent limitations may be substituted for BOD_5 limitations.

San Francisco Bay south of the Dumbarton Bridge is a unique water body, with a limited capacity to assimilate wastewater. Due to limited circulation, wastewater discharges to this area may take several months to reach the ocean. In addition, the unique wetlands and ambient conditions of South San Francisco Bay sometimes result in natural dissolved oxygen levels lower than the Basin Plan's receiving water limit of a minimum of 5.0 mg/L. The limited assimilative capacity of South San Francisco Bay necessitates effluent BOD_5 and TSS limitations that are more stringent than those required for secondary treatment.

The Discharger constructed advanced waste treatment facilities in the late 1970s and has consistently met limits on BOD_5 and TSS that are more stringent than secondary treatment standards. The advanced secondary treatment system also provides ammonia removal. A performance-based effluent limitation for total ammonia ensures that the plant's treatment continues to provide adequate nitrification; such treatment is necessary to qualify for an exception to Basin Plan Discharge Prohibition 1 (see section IV.A.2 of this Fact Sheet) and to ensure that the effluent continues to pose no reasonable potential to cause exceedance of ammonia water quality objectives.

2. Effluent Limitations

a. BOD_5. The BOD_5 effluent limitations are a monthly average of 10 mg/L, a maximum daily of 20 mg/L, and a removal efficiency of 85 percent. These limits, although numerically unchanged, are more stringent than those in the previous order. (The previous order limits were expressed as $CBOD_5$.) These limits are technologically feasible standards for the advanced wastewater treatment technologies used at the Facility. The Discharger has monitored BOD_5 instead of $CBOD_5$ throughout the previous order term. Monitoring data show that the Discharger has been able to consistently comply with these limitations.

b. TSS. The TSS effluent limitations are a monthly average of 10 mg/L and a maximum daily of 20 mg/L. These limits, including the 85 percent removal requirements, are unchanged from the previous order and are technologically feasible standards for the advanced wastewater treatment technologies used at the Facility. Monitoring data show that the Discharger has been able to consistently comply with these limitations.

c. Oil and Grease. The oil and grease effluent limitations are a monthly average of 5 mg/L and a maximum daily of 10 mg/L. These effluent limitations are unchanged from the

previous order. Monitoring data show that the Discharger has been able to consistently comply with these limits.

d. pH. Basin Plan Table 4-2 requires pH effluent limitations for shallow water dischargers to be 6.5 to 8.5 standard units.

e. Turbidity. The turbidity effluent limitation, an instantaneous maximum of 10 nephelometric turbidity units (NTU), is unchanged from the previous order to ensure the performance of the plant's advanced secondary treatment. Monitoring data show that the Discharger has been able to consistently comply with this limit.

f. Total Ammonia. The total ammonia effluent limitations are an average monthly effluent limit of 2.7 mg/L and a maximum daily effluent limit of 9.5 mg/L. These limits are retained from the previous order to avoid backsliding and to ensure that the Discharger maintains its plant's nitrification performance.

g. Enterococcus. Water contact recreation (REC1) is a beneficial use of South San Francisco Bay and Matadero Creek. For waters with this beneficial use, Basin Plan Table 4-2A requires that the geometric mean enterococcus bacteria concentration in at least five samples collected within a single month not exceed 35 most probable number per 100 mL (MPN/100 mL).

h. Fecal Coliform. Shellfish harvesting (SHELL) is a beneficial use of South San Francisco Bay. For waters with this beneficial use, Basin Plan Table 4-2A requires total coliform effluent limitations, but Basin Plan Table 4-2A, footnote c, allows substituting fecal coliform limitations for total coliform limitations provided that the substitution will not result in unacceptable adverse impacts on beneficial uses. This Order substitutes fecal coliform limitations for total coliform limitations.

The fecal coliform effluent limits in this Order will not result in unacceptable adverse impacts because they are derived from the fecal coliform water quality objectives listed in Basin Plan Table 3-1. The limits (median fecal coliform density not to exceed 98 MPN/100 mL and 90th percentile not to exceed 301 MPN/100 mL) allow effluent fecal coliform concentrations to be seven times the Basin Plan objectives (median fecal coliform density not to exceed 14 MPN/100 mL and 90th percentile not to exceed 43 MPN/100 mL). The Discharger has submitted an amended dilution study, dated April 14, 2014, which demonstrates that effluent fecal coliform bacteria at Discharge Point No. 001 is attenuated by at least 7:1 before leaving the Palo Alto Baylands Nature Preserve (which surrounds the outfall) and entering the main body of South San Francisco Bay (see section IV.C.4.a of this Fact Sheet and the vicinity map in Attachment B). The study takes into account natural bacterial die-off in the receiving water and amends the estimated attenuation of fecal coliform bacteria shown in Palo Alto's January 2014 *Dilution Study for Palo Alto Regional Water Quality Control Plant's Discharge to South San Francisco Bay and Matadero Creek*.

Harvesting shellfish for human consumption is prohibited within the preserve. In March 2014, a Supervising Ranger with the preserve confirmed that the only shellfish harvesting within the preserve is performed by researchers for scientific purposes. Because fecal

coliform discharged at Discharge Point No. 001 would be diluted to concentrations achieving the Basin Plan water quality objectives before reaching any portion of South San Francisco Bay where shellfish harvesting for human consumption could potentially occur, the fecal coliform limits in this Order will not result in unacceptable adverse impacts on the shellfish harvesting beneficial use.

C. Effluent Limitations for Toxic Substances

1. Scope and Authority

This Order contains Water Quality Based Effluent Limitations (WQBELs) that implement water quality objectives that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective, WQBELs must be established using (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria, and 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 South San Francisco Bay, and Discharge Point No. 002 discharges to Matadero Creek. Section III.C.1 of this Fact Sheet identifies South San Francisco Bay and Matadero Creek beneficial uses. Water quality criteria and objectives to protect these beneficial uses are described below:

a. Basin Plan Objectives. The Basin Plan specifies numeric water quality objectives for several priority toxic pollutants. It also specifies 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 South San Francisco Bay and Matadero Creek because neither water body is designated for municipal and domestic supply (MUN) beneficial use.

c. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to South 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.

   South San Francisco Bay is a saltwater environment based on salinity data generated through the Regional Monitoring Program (RMP). Salinity data collected at the BA10 sampling location between 1993 and 2001 indicate that the salinity was greater than 10 ppt roughly 97 percent of the time. South San Francisco Bay is therefore classified as saltwater.

   Matadero Creek is an estuarine environment based on the Discharger's Ammonia Characterization Study Final Report, dated February 1, 2011, which indicates that Matadero Creek salinity is less than 1 ppt 100 percent of the time at the point of discharge but increases shortly downstream due to South San Francisco Bay mixing. The salinity at 1,250 feet downstream of the discharge, for example, is less than 1 ppt only 30 percent of the time. Matadero Creek is therefore estuarine.

   The reasonable potential analysis and WQBELs for Discharge Point Nos. 001 and 002 are based on the lower of the freshwater and saltwater criteria and objectives.

f. **Receiving Water Hardness.** Ambient hardness data were used to calculate freshwater water quality objectives that are hardness dependent. The data were collected at monitoring station RSW-MC in Matadero Creek upstream from Discharge Point No. 002

where the creek passes beneath the Bayshore Freeway. A hardness of 394 mg/L as $CaCO_3$ was used to determine the water quality objectives. This is the geometric mean of 48 hardness measurements the Discharger collected at Matadero Creek from June 2009 through May 2013.

g. Site-Specific Metals Translators. Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

Basin Plan Table 7.2.1-1 provides site-specific translators for copper and nickel for South San Francisco Bay. For the previous order, Regional Water Board staff also developed site-specific translators for chromium (VI), zinc, and lead using data from the Dumbarton Bridge RMP station (BA30). This Order also relies on those translators. CTR default translator were used for all other metals.

Table F-6. Site-Specific Translators for South San Francisco Bay

Pollutant	Average Monthly Effluent Limit Translator	Maximum Daily Effluent Limit Translator
Copper	0.53	0.53
Nickel	0.44	0.44
Zinc	0.24	0.56
Chromium (VI)	0.037	0.089
Lead	0.060	0.15

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

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

a. Methodology. For toxic pollutants other than ammonia, the methodology set forth in SIP section 1.3 was used for this Order in 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 water quality objective (B > water quality objective) *and* the pollutant is detected in any effluent sample.

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

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

b. Effluent Data. The reasonable potential analysis is based on effluent monitoring data the Discharger collected from June 2009 through July 2013.

c. Ambient Background Data. With the exception of ammonia, the ambient background data for both Discharge Point Nos. 001 and 002 are based on RMP data collected at the Dumbarton Bridge RMP station (BA30) from 1993 through 2011, and additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004). These reports contain monitoring results from 2002 and 2003 for priority pollutants the RMP did not monitor at the time. For ammonia at Discharge Point Nos. 001 and 002, ambient background data from the Discharger's 2011 *Ammonia Characterization Study Final Report* were used.

d. Reasonable Potential Analysis for Toxic Pollutants. With the exception of ammonia, the maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis for Discharge Points No. 001 and 002 are presented in the following table, along with the RPA results (yes or no) for each pollutant. Reasonable potential was not determined for all pollutants because there are not applicable water quality objectives for all pollutants and monitoring data are unavailable for others.

Copper and cyanide exhibit reasonable potential by Trigger 1. (Basin Plan section 4.7.2.1 also requires copper WQBELs for all individual NPDES permits for municipal wastewater dischargers in South San Francisco Bay. Basin Plan section 4.7.2.2 requires cyanide WQBELs for all individual NPDES permits for municipal and industrial wastewater treatment facilities.) Nickel exhibits reasonable potential by Trigger 3. Dioxin-TEQ exhibits reasonable potential by Trigger 2.

Table F-7. Reasonable Potential Analysis

CTR #	Priority Pollutants	WQC (µg/L)	MEC or Minimum DL [1][2] (µg/L)	B or Minimum DL [1][2] (µg/L)	RPA Results [3]
1	Antimony	4,300	0.46	1.3	No
2	Arsenic	36	1.70	5.1	No
3	Beryllium	No Criteria	<0.035	0.11	U
4	Cadmium	1.03	0.30	0.17	No
5a	Chromium (III)	637		15	U
5b	Chromium (VI)	11	0.3	15	No
6	Copper	13	23	8.6	Yes
7	Lead	135	0.5	4.20	No
8	Mercury (303(d) listed) [4]	0.025	0.08835	0.068	---
9	Nickel	27	6.8	16	Yes [5]
10	Selenium (303(d) listed)	5	2.8	0.63	No
11	Silver	2.2	0.040	0.12	No
12	Thallium	6.3	<0.05	0.16	No
13	Zinc	107	53	21.0	No
14	Cyanide	2.9	7.0	0.6	Yes
15	Asbestos	No Criteria	---		U
16	2,3,7,8-TCDD (303(d) listed)	0.000000014	<1.0E-08	4.00E-10	No
	Dioxin-TEQ (303(d) listed)	0.000000014	1.27E-11	2.60E-07	Yes
17	Acrolein	780	<1.7	<0.5	No
18	Acrylonitrile	0.66	<0.69	<0.02	No
19	Benzene	71	<0.18	<0.05	No
20	Bromoform	360	3.7	<0.5	No
21	Carbon Tetrachloride	4.4	0.5	0.07	No
22	Chlorobenzene	21,000	<0.18	<0.5	No
23	Chlorodibromomethane	34	27.6	0.057	No
24	Chloroethane	No Criteria	<0.38	<0.5	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.5	U
26	Chloroform	No Criteria	5.9	<0.5	U
27	Dichlorobromomethane	46	8.3	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.19	<0.05	U
29	1,2-Dichloroethane	99	<0.21	0.4	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.5	No
31	1,2-Dichloropropane	39	<0.18	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.16	---	No
33	Ethylbenzene	29,000	<0.26	<0.5	No
34	Methyl Bromide	4,000	<0.17	<0.5	No
35	Methyl Chloride	No Criteria	<0.23	<0.5	U
36	Methylene Chloride	1,600	0.7	<0.5	No
37	1,1,2,2-Tetrachloroethane	11	<0.1	<0.05	No
38	Tetrachloroethylene	8.85	<0.19	<0.05	No
39	Toluene	200,000	0.2	<0.3	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.5	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.5	U
42	1,1,2-Trichloroethane	42	<0.16	<0.5	No
43	Trichloroethylene	81	<0.2	<0.05	No
44	Vinyl Chloride	525	<0.25	<0.5	No
45	2-Chlorophenol	400	<0.98	<1.2	No
46	2,4-Dichlorophenol	790	<0.99	<1.5	No
47	2,4-Dimethylphenol	2,300	<0.87	<1.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.91	<1.2	No
49	2,4-Dinitrophenol	14,000	<0.83	<0.7	No
50	2-Nitrophenol	No Criteria	<0.89	<1.3	U

CTR #	Priority Pollutants	WQC (µg/L)	MEC or Minimum DL [1][2] (µg/L)	B or Minimum DL [1][2] (µg/L)	RPA Results [3]
51	4-Nitrophenol	No Criteria	<0.83	<1.6	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.91	<1.1	U
53	Pentachlorophenol	7.9	<0.81	<1	No
54	Phenol	4,600,000	<0.69	<1.3	No
55	2,4,6-Trichlorophenol	6.5	<0.97	<1.3	No
56	Acenaphthene	2700	<0.03	0.0026	No
57	Acenaphthylene	No Criteria	<0.03	0.0026	U
58	Anthracene	110,000	<0.03	0.00230	No
59	Benzidine	0.00054	<5	<0.0015	No
60	Benzo(a)Anthracene	0.049	<0.03	0.0110	No
61	Benzo(a)Pyrene	0.049	<0.03	0.0450	No
62	Benzo(b)Fluoranthene	0.049	<0.03	0.0570	No
63	Benzo(ghi)Perylene	No Criteria	<0.03	0.0150	Ud
64	Benzo(k)Fluoranthene	0.049	<0.03	0.0210	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.95	<0.3	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.95	<0.32000	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.81	---	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	1.5	0.93	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.97	<0.23	U
70	Butylbenzyl Phthalate	5,200	<0.98	0.055	No
71	2-Chloronaphthalene	4,300	<0.98	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.99	<0.31	U
73	Chrysene	0.049	<0.03	0.0220	No
74	Dibenzo(a,h)Anthracene	0.049	<0.03	0.00880	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.3	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.3	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.3	No
78	3,3 Dichlorobenzidine	0.077	<5	<0.001	No
79	Diethyl Phthalate	120,000	<0.86	0.3	No
80	Dimethyl Phthalate	2,900,000	<0.97	<0.21	No
81	Di-n-Butyl Phthalate	12,000	<0.91	2.2	No
82	2,4-Dinitrotoluene	9.1	<0.96	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<0.98	<0.29	U
84	Di-n-Octyl Phthalate	No Criteria	<0.92	<0.38	U
85	1,2-Diphenyhydrazine	0.54	<0.9	0.0053	No
86	Fluoranthene	370	<0.03	0.039	No
87	Fluorene	14,000	<0.03	0.0055	No
88	Hexachlorobenzene	0.00077	<0.91	0.000480	No
89	Hexachlorobutadiene	50	<0.92	<0.3	No
90	Hexachlorocyclopentadiene	17,000	<0.9	<0.3	No
91	Hexachloroethane	8.9	<0.94	<0.2	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.03	0.0780	No
93	Isophorone	600	<0.93	<0.3	No
94	Naphthalene	No Criteria	0.04	0.011	U
95	Nitrobenzene	1,900	<0.95	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.88	<0.3	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.97	<0.001	No
98	N-Nitrosodiphenylamine	16	<0.83	<0.2	No
99	Phenanthrene	No Criteria	<0.03	0.0140	U
100	Pyrene	11000	<0.03	0.056	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.19	<0.3	U
102	Aldrin	0.00014	<0.004	0.0000160	No
103	Alpha-BHC	0.013	<0.005	0.00066	No

CTR #	Priority Pollutants	WQC (µg/L)	MEC or Minimum DL [1][2] (µg/L)	B or Minimum DL [1][2] (µg/L)	RPA Results [3]
104	Beta-BHC	0.046	<0.003	0.00061	No
105	Gamma-BHC	0.063	<0.004	0.00170	No
106	Delta-BHC	No Criteria	<0.004	0.000130	U
107	Chlordane (303(d) listed)	0.00059	<0.005	0.00057	No
108	4,4'-DDT (303(d) listed)	0.00059	<0.004	0.00020	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.003	0.00068	No
110	4,4'-DDD	0.00084	<0.004	0.00077	No
111	Dieldrin (303d listed)	0.00014	<0.004	0.00029	No
112	Alpha-Endosulfan	0.0087	<0.004	0.000130	No
113	beta-Endosulfan	0.0087	<0.005	0.000046	No
114	Endosulfan Sulfate	240	<0.005	0.000160	No
115	Endrin	0.0023	<0.005	0.000120	No
116	Endrin Aldehyde	0.81	<0.005	---	No
117	Heptachlor	0.00021	<0.004	0.000022	No
118	Heptachlor Epoxide	0.00011	<0.004	0.000170	No
119-125	PCBs sum (303(d) listed) [4]	0.00017	<0.05	0.0040	---
126	Toxaphene	0.0002	<0.2	---	No
	Tributyltin	0.0074	<0.0019	0.0030	No
	Total PAHs	15	0.04	0.3800	No

Abbreviations:

WQC = governing criterion or objective
MEC = maximum effluent concentration
B = ambient background concentration
RPA = reasonable potential analysis

Footnotes:

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

[2] The maximum effluent concentration (MEC) or ambient background concentration (B) is "Unavailable" when there are no monitoring data for the constituent.

[3] RPA Results = Yes, if MEC ≥ WQC, B > WQC and MEC is detected, or Trigger 3
= No, if MEC and B are < WQC or all effluent data are undetected
= Undetermined (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] Reasonable potential for nickel is based on Basin Plan section 4.7.2.1.

e. Reasonable Potential Analysis for Ammonia. Ammonia is a toxic pollutant, but not a priority pollutant as defined by the CTR; therefore Regional Board staff used the procedure outlined in the *Technical Support Document for Water Quality-based Toxics Control* (Technical Support Document) (EPA/505/2-90-001, March 1991) to determine if ammonia in the discharge has a reasonable potential to cause water quality objectives to be exceeded in the receiving water.

i. Technical Support Document Procedure. The Technical Support Document allows the use of measured receiving water concentrations or receiving water concentrations projected from effluent data to perform reasonable potential analyses. The following summarizes the steps using effluent data:

Step 1. Determine the number of total observations (n) for a set of effluent data and determine the highest value from that data set (the maximum effluent concentration or MEC).

Step 2. Determine the coefficient of variation (CV) from the data set. For a data set where $n < 10$, the CV is estimated to equal 0.6. For a data set where $n \geq 10$, the CV is calculated as the standard deviation divided by the mean.

Step 3. Determine an appropriate ratio, R, for projecting a selected upper bound concentration (e.g., the 99th or 95th percentile) assuming a lognormal distribution. To do this, the percentile represented by the MEC in a data set of "n" samples, p_n, needs to be determined based on the desired confidence interval, e.g., 95% or 99%. The 95% confidence interval was used for evaluating reasonable potential for ammonia for this Order.

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

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

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

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

The ratio, R, is then determined to be:

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

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

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

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

ii. Analysis

(a) Ammonia Objective. Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L as an annual median and 0.4 mg/L as a maximum for South San Francisco Bay (including Matadero Creek, a tributary to South San Francisco Bay).

(b) Ammonia Data Translation. Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction

of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature.

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

$$\text{For salinity} > 10 \text{ ppt: fraction of } NH_3 = \frac{1}{1+10^{(pK-pH)}}$$

Where:

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

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

S = Salinity (parts per thousand)
T = Temperature (Kelvin)
P = Pressure (one atmosphere)

$$\text{For salinity} < 1 \text{ ppt: fraction of } NH_3 = \frac{1}{1+10^{(pK-pH)}}$$

Where:

$$pK = 0.09018 + 2729.92/T$$

T = Temperature (Kelvin)

Based on the Discharger's *Ammonia Characterization Study Final Report*, dated February 1, 2011, the plant effluent exhibited a salinity of less than 1 ppt 100 percent of the time. Therefore, the effluent was fresh and the equation for waters of salinity less than 1 ppt was used to convert total ammonia concentrations into un-ionized ammonia concentrations. This conversion applies to effluent discharges to both Discharge Point Nos. 001 and 002 because the Technical Support Document procedure is based on un-ionized ammonia concentrations in the effluent, independent of the receiving water salinity.

(c) Ammonia Dilution. For purpose of this analysis, no dilution was assumed for ammonia, and the receiving water concentration was assumed to be the same as the projected upper bound concentration, i.e., RWC = MEC x R (see Step 4 above).

(d) Two Approaches. According to the Technical Support Document, the reasonable potential analysis can be performed based on the receiving water concentration projected using effluent data (the steps summarized above) or actual measured receiving concentrations. Both values may be compared directly with the Basin Plan un-ionized objectives.

(1) Reasonable Potential Analysis Based on Effluent Data. Effluent monitoring data for total ammonia from June 14, 2009, through July 31, 2013, were used. Un-ionized ammonia concentrations were calculated using the pH and temperature data collected for the same samples. There were 219 data points (n=219). The MEC was 0.0079 mg/L expressed as un-ionized ammonia (as nitrogen). The confidence interval was set at 95%. The percentile represented by the MEC (P_n) was calculated to be 0.986, indicating that the MEC represented the 98.6th percentile of all observed ammonia effluent data. With the upper bound set at the 99th percentile, the R value was determined to be 1.013 (Cp_n was 1.260 and $C_{upper\ bound}$ was 1.275), and the projected receiving water concentration was 0.008 mg/L, which is less than the Basin Plan un-ionized ammonia acute objective of 0.4 mg/L.

Annual medians of the effluent data were used for comparison with the chronic objective, which is an annual median. The highest running annual median from the effluent data was calculated and compared with the annual median objective. No projection is needed to establish the central tendency of the data. The maximum annual median, 0.0036 mg/L, is less than the annual median objective of 0.025 mg/L.

Therefore, the effluent data do not indicate reasonable potential for both Discharge Point No. 001 and 002.

(2) Reasonable Potential Analysis Based on Receiving Water. The Discharger submitted an *Ammonia Characterization Study Final Report* on February 1, 2011. The report demonstrates that the receiving water bodies in the vicinity of the outfalls to both South San Francisco Bay and Matadero Creek meet the Basin Plan water quality objectives for un-ionized ammonia. The highest un-ionized ammonia concentration observed near Discharge Point No. 001 during the 12 month study was 0.005 mg/L (as nitrogen), which is less than the maximum water quality objective of 0.4 mg/L. The highest un-ionized ammonia concentration observed near Discharge Point No. 002 was 0.036 mg/L, which is also less than the maximum water quality objective of 0.4 mg/L. The highest median observed near Discharge Point No. 001 was 0.003 mg/L, which is less than the annual median water quality objective of 0.025 mg/L. The highest median observed near Discharge Point No. 002 was 0.007 mg/L, which is also less than the annual median water quality objective of 0.025 mg/L. Therefore, there is no reasonable potential based on South San Francisco Bay and Matadero Creek receiving water data.

f. 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.

g. **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.

h. **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.

a. **Mixing Zones and Dilution Credits.** Basin Plan section 4.6.1.2 states that dilution credit may be granted to shallow water dischargers on a discharge-by-discharge and pollutant-by-pollutant basis based on the SIP section 1.4.2, which stipulates that granting mixing zones is discretionary and dilution credits may be limited or denied on a pollutant-by-pollutant basis.

The Discharger submitted a *Dilution Study for Palo Alto Regional Water Quality Control Plant's Discharge to South San Francisco Bay and Matadero Creek*, dated January 2014. Using the RMA Bay-Delta Model (updated from a previous version used for the Discharger's 1997 dilution analysis). The study considered a range of hydrologic and tidal conditions, and reported dilution ratios corresponding to a range of potential mixing zones. The dilution ratios corresponded to hydrologically dry conditions. Because Matadero Creek flows are very low during summer, the dilution at Discharge Point No. 002 results from mixing with San Francisco Bay water in the downstream tidal reach and with flows from the adjacent Renzel Salt Marsh that enter Matadero Creek just downstream of Discharge Point No. 002.

The dilution study concluded that, at Discharge Point No. 001, a dilution ratio of 2:1 (two parts total water [mixed effluent plus receiving water] to one part effluent) is achieved within 200 feet beyond the unnamed channel inlet to South San Francisco Bay. A dilution ratio of 3.5:1 is achieved approximately 700 feet beyond the channel inlet. At Discharge Point No. 002, a dilution ratio of 3.5:1 is achieved in Matadero Creek approximately 6,200 feet downstream of the outfall. A dilution ratio of 3.25:1 is achieved in Matadero Creek approximately 5,800 feet downstream of the outfall.

For Discharge Point No. 001, this Order grants a cyanide dilution credit of 3.25:1 based on Basin Plan Table 4-6, and grants a copper dilution credit of 3.5:1. For Discharge Point No. 002, this Order grants a cyanide dilution credit of 3.25:1 and a copper dilution credit of 3.5:1.

i. Copper Mixing Zone at Discharge Point No. 001. Granting a mixing zone for copper at Discharge Point No. 001 is consistent with SIP section 1.4.2.2.A because such a mixing zone does not do any of the following:

(a) Compromise the integrity of the entire water body. South San Francisco Bay, located south of the Dumbarton Bridge, encompasses about 11,600 acres. The mixing zone is about 30 acres, which is only about 0.2 percent of the entire water body. Therefore, the mixing zone will not compromise the integrity of the entire water body.

(b) Cause acutely toxic conditions to aquatic life passing through the mixing zone. The mixing zone will not cause acutely toxic conditions to aquatic life because Provision IV.D of this Order contains acute toxicity limits to ensure no less than 70 percent survival of test organisms subjected to whole effluent without dilution. During the previous order term, no acute toxicity effluent limitation violations occurred. These results indicate that organisms passing through the mixing zone are unlikely to experience acute toxicity.

(c) Restrict the passage of aquatic life. The unnamed channel's only outlet is to South San Francisco Bay, so aquatic life do not pass through it on their way to any other location. Furthermore, the discharge will not cause acutely toxic conditions to aquatic life, so it will not threaten aquatic life moving in and out of the mixing zone. Moreover, copper at the concentration discharged does not affect water clarity, so it has no potential to create a physical or visual barrier that could restrict the passage of aquatic life.

(d) Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species listed under federal or State endangered species laws. Two protected birds live near the outfall: California Clapper Rail (listed as State and federally endangered) and California Black Rail (listed as State threatened). Other sensitive bird species in the vicinity include saltmarsh common yellowthroat and the burrowing owl (not listed as State or federally endangered or threatened). Copper is of greatest potential risk to aquatic organisms; it is unlikely to harm bird species living within the mixing zone.

(e) Produce undesirable or nuisance aquatic life. Copper is not a biostimulant or plant nutrient so it is not expected to cause growth of undesirable or nuisance aquatic species. In addition, this Order contains receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

(f) Result in floating debris, oil, or scum. Copper is not an oil, does not float, and does not cause scum. At the concentrations discharged, it is completely dispersed in the water. Moreover, this Order contains receiving water limitations that prohibit floating debris, oil, or scum in the receiving water.

(g) Produce objectionable color, odor, taste, or turbidity. At the concentrations discharged, copper does not exhibit objectionable color, odor, taste, or turbidity.

(h) Cause objectionable bottom deposits. At the concentrations discharged, copper is completely dispersed in the water. Moreover, this Order contains receiving water limitations that prohibit bottom deposits to the extent that such deposits cause nuisance or adversely affect beneficial uses.

(i) Cause nuisance. The mixing zone will not cause a nuisance as defined by Water Code section 13050(m) because copper, at the concentrations discharged, is not indecent or offensive to the senses.

(j) Dominate the receiving water body or overlap a mixing zone from different outfalls. The mixing zone occupies a relatively minor portion of South San Francisco Bay. The Regional Water Board has not established any other mixing zone in the vicinity. The mixing zone will therefore not dominate the receiving water body or overlap any other mixing zone.

(k) Be allowed at or near any drinking water intake. The mixing zone is within a marine environment and not at or near a drinking water intake.

SIP section 1.4.2.2 requires that mixing zones be as small as practicable. Since a mixing zone extending from Discharge Point No. 001 through the unnamed channel and approximately 700 feet into South San Francisco Bay accounts for no more than 30 acres or 0.2 percent of the South San Francisco Bay's surface, and because the Discharger is able to comply with limits based on the dilution corresponding to such a mixing zone, such a mixing zone is considered as small as practicable.

Consistent with SIP section 1.4.2.2.B, this mixing zone protects beneficial uses and complies with all regulatory requirements. San Francisco Bay is in attainment with copper water quality objectives. Ambient copper concentrations have remained essentially unchanged since 1993.

ii. Copper and Cyanide Mixing Zones at Discharge Point No. 002. Granting mixing zones for copper and cyanide at Discharge Point No. 002 is consistent with SIP section 1.4.2.2.A because such mixing zones do not do any of the following:

(a) Compromise the integrity of the entire water body. Matadero Creek originates in the foothills of the Santa Cruz Mountains at Los Altos Hills, flows northeasterly for more than 8 miles, and then flows into Mayfield Slough, which flows to South San Francisco Bay. Mixing zones, extending 5,800 feet and 6,200 feet down Matadero Creek from Discharge Point No. 002 account for no more than 14 and 15 percent, respectively, of the full stream length. Moreover, these

mixing zones represent only a tiny portion of 11,600-acre South San Francisco Bay. Therefore, the mixing zones will not compromise the integrity of the entire water body.

(b) Cause acutely toxic conditions to aquatic life passing through the mixing zone. The mixing zones will not cause acutely toxic conditions to aquatic life because Provision IV.D of this Order contains acute toxicity limits to ensure no less than 70 percent survival of test organisms subjected to whole effluent without dilution. During the previous order term, no acute toxicity effluent limitation violations occurred. These results indicate that organisms passing through the mixing zone are unlikely to experience acute toxicity.

(c) Restrict the passage of aquatic life. The mixing zones will not restrict the passage of aquatic life because the discharge will not cause acutely toxic conditions. Moreover, copper and cyanide at the concentrations discharged do not affect water clarity, so they have no potential to create a physical or visual barrier that could restrict the passage of aquatic life.

(d) Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitats of species listed under federal or State endangered species laws. Two protected birds live near the outfall: California Clapper Rail (listed as State and federally endangered) and California Black Rail (listed as State threatened). Other sensitive bird species in the vicinity include saltmarsh common yellowthroat and the burrowing owl (not listed as State or federally endangered or threatened). Copper and cyanide are of greatest potential risk to aquatic organisms; they are unlikely to harm bird species living within the mixing zones.

(e) Produce undesirable or nuisance aquatic life. Copper and cyanide are not biostimulant or plant nutrients so they are not expected to cause growth of undesirable or nuisance aquatic species. In addition, this Order contains receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

(f) Result in floating debris, oil, or scum. Copper and cyanide are not oil, do not float, and do not cause scum. At the concentrations discharged, they are completely dispersed in the water. Moreover, this Order contains receiving water limitations that prohibit floating debris, oil, or scum in the receiving water.

(g) Produce objectionable color, odor, taste, or turbidity. At the concentrations discharged, copper and cyanide do not exhibit objectionable color, odor, taste, or turbidity.

(h) Cause objectionable bottom deposits. At the concentrations discharged, copper and cyanide are completely dispersed in the water. They do not cause bottom deposits. Moreover, this Order contains receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses

(i) Cause nuisance. The mixing zone will not cause a nuisance as defined by Water Code section 13050(m) because copper and cyanide, at the concentrations discharged, are not indecent or offensive to the senses.

(j) Dominate the receiving water body or overlap a mixing zone from different outfalls. The Regional Water Board has not established any other mixing zone in the vicinity. Therefore, the mixing zones will not dominate the receiving water body or overlap any other mixing zone.

(k) Be allowed at or near any drinking water intake. The mixing zones are within an estuarine environment and not at or near a drinking water intake.

SIP section 1.4.2.2 requires that mixing zones be as small as practicable. Mixing zones extending from Discharge Point No. 002 down Matadero Creek for 5,800 feet and 6,200 feet account for no more than 14 and 15 percent of the roughly 8-mile long creek. Moreover, the Discharger is able to comply with limits based on the dilution factors corresponding to such mixing zones. The sizes of these mixing zones correspond to the same dilution credits as those used for Discharge Point No. 001 and result in the same limits. Since the same effluent is discharged at both discharge points, it is more efficient to subject the Discharger to one set of limits for the same effluent, particularly when relatively little effluent is discharged to Discharge Point No. 002 compared to Discharge Point No. 001. Providing smaller dilution credits at Discharge Point No. 002 would effectively impose duplicative and more stringent limitations there than on Discharge Point No. 001, which is unnecessary to protect water quality. Therefore, these mixing zones are considered as small as practicable.

b. WQBEL Development. For those pollutants with reasonable potential, average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were developed as explained below. This Order adopts one set of limits applicable to both Discharge Point Nos. 001 and 002 because the dilution credits granted to both outfalls are the same. In addition, as discussed in section IV.c.2 of this Fact Sheet, the water quality objectives and ambient background data applicable to both outfalls are the same.

(1) Copper

(a) Water Quality Objectives. The most stringent copper water quality objectives are those in Basin Plan Table 3-3A, which contains chronic and acute marine water quality objectives of 6.9 and 10.8 µg/L (site-specific objectives for South San Francisco Bay), expressed as dissolved metal. Converting these objectives to total recoverable metal using the site-specific translator of 0.53 (chronic and acute) results in water quality objectives of 13 µg/L (chronic) and 20 µg/L (acute).

(b) Reasonable Potential Analysis. This Order establishes copper WQBELs because the maximum effluent concentrations (23 µg/L) exceeds the lowest water quality criterion (13 µg/L), demonstrating reasonable potential by Trigger 1. In addition, Basin Plan section 4.7.2.1 requires that individual NPDES permits for municipal

wastewater treatment facilities in South San Francisco Bay include copper WQBELs.

(c) WQBELs. Copper WQBELs, calculated according to SIP procedures with an effluent data coefficient of variation of 0.43, a maximum observed ambient background concentration of 8.6 µg/L, and a dilution credit of 3.5:1 (D=2.5), are an AMEL of 21 µg/L and an MDEL of 36 µg/L. The Discharger is expected to be able to comply with these limits because a statistical analysis of its effluent data for the period of unusually high copper discharges (November 2012, March 2013, and July through September 2013) indicates that the 95th percentile (20 µg/L) is less than the AMEL (21 µg/L) and the 99th percentile (22 µg/L) is less than the MDEL (36 µg/L).

(d) Anti-backsliding. The newly calculated copper WQBELs are less stringent than those in the previous order. The relaxed WQBELs qualify for an exception to anti-backsliding requirements as discussed in section IV.D of this Fact Sheet.

(2) Cyanide

(a) Water Quality Objectives. The most stringent cyanide water quality objectives are those in Basin Plan Table 3-3C, which contains chronic and acute marine water quality objectives of 2.9 µg/L and 9.4 µg/L (site-specific objectives for San Francisco Bay).

(b) Reasonable Potential Analysis. This Order establishes cyanide WQBELs because the maximum effluent concentrations (7 µg/L) exceeds the lowest water quality criterion (2.9 µg/L), demonstrating reasonable potential by Trigger 1. In addition, Basin Plan section 4.7.2.2 requires that individual NPDES permits for municipal wastewater treatment facilities include cyanide WQBELs.

(c) WQBELs. Cyanide WQBELs, calculated according to SIP procedures with an effluent data coefficient of variation of 0.78, an ambient background concentration of 0.6 µg/L, and a dilution credit of D = 2.25, are an AMEL of 6.2 µg/L and an MDEL of 14 µg/L.

(d) Anti-backsliding. Anti-backsliding requirements are satisfied because this Order's cyanide WQBELs are more stringent than those in the previous order (AMEL of 7.1 µg/L and MDEL of 14 µg/L).

(3) Nickel

(a) Water Quality Objectives. The most stringent nickel water quality objectives are those in Basin Plan Table 3-3A, which contains chronic and acute marine water quality objectives of 11.9 and 62.4 µg/L (site-specific objectives for South San Francisco Bay), expressed as dissolved metal. Converting these objectives to total recoverable metal using the site-specific translator of 0.44 (chronic and acute) results in water quality objectives of 27 µg/L (chronic) and 142 µg/L (acute).

(b) Reasonable Potential Analysis. This Order establishes nickel WQBELs because Basin Plan section 4.7.2.1 requires individual NPDES permits include nickel effluent limits for South San Francisco Bay dischargers.

(c) WQBELs. Nickel WQBELs, calculated according to SIP procedures with an effluent data coefficient of variation of 0.15 and no dilution credit, are an AMEL of 26 µg/L and an MDEL of 32 µg/L. The MDEL is less stringent than the one in the previous order (31 µg/L); therefore, this Order retains the previous MDEL to avoid backsliding.

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

(4) Dioxin-TEQ

(a) 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 South San Francisco Bay on its 303(d)-list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

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

The CTR establishes a numeric water quality objective for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L for the protection of human health when aquatic organisms are consumed. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion.

(b) Reasonable Potential Analysis. TEFs and BEFs were used to express measured concentrations of 16 dioxin congeners in effluent and background samples as equivalent 2,3,7,8-TCDD concentrations. For each sample, the sum of these equivalent concentrations is the dioxin-TEQ concentration. This Order establishes dioxin-TEQ WQBELs because the ambient background receiving water dioxin-TEQ concentration (2.6×10^{-7} 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 at Discharge Point No. 001 by Trigger 2.

(c) WQBELs. Dioxin-TEQ WQBELs, calculated according to SIP procedures with a default coefficient of variation of 0.60 and no dilution credit, are an AMEL of 1.4×10^{-8} µg/L and an MDEL of 2.8×10^{-8} µg/L.

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

c. Effluent Limit Calculations. The following table shows the WQBEL calculations:

Table F-8. WQBEL Calculations

PRIORITY POLLUTANTS	Copper	Nickel	Cyanide	Dioxin TEQ (303d listed)
Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Basis and Criteria type	Basin Plan SSO	Basin Plan SSO	Basin Plan SSO	CTR HH
Criteria -Acute	-----	-----	-----	-----
Criteria -Chronic	-----	-----	-----	-----
SSO Criteria -Acute	10.8	62.4	9.4	-----
SSO Criteria -Chronic	6.9	11.9	2.9	-----
Water Effects ratio (WER)	1	1	1	1
Lowest WQO	6.9	11.9	2.9	1.4E-08
Site Specific Translator - MDEL	0.53	0.44	-----	-----
Site Specific Translator - AMEL	0.53	0.44	-----	-----
Dilution Factor (D) (if applicable)	2.5	0	2.25	0
No. of samples per month	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N
HH criteria analysis required? (Y/N)	N	Y	Y	Y

Applicable Acute WQO	20.4	141.8	9.4	-----
Applicable Chronic WQO	13.0	27.0	2.9	-----
HH criteria		4.6E+03	2.2E+05	1.40E-08
Background (Maximum Conc for Aquatic Life calc)	8.6	16	0.60	
Background (Average Conc for Human Health calc)		16	0.60	2.6E-07
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	Y
ECA acute	49.8	141.8	29.2	-----
ECA chronic	24.1	27.0	8.1	-----
ECA HH		4.6E+03	7.1E+05	1.40E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	Y	Y
Avg of effluent data points	9.41	4.59	1.22	1.4E-06
Std Dev of effluent data points	4.08	0.70	0.95	4.4E-06
CV calculated	0.43	0.15	0.78	N/A
CV (Selected) - Final	0.43	0.15	0.78	0.6
ECA acute mult99	0.41	0.71	0.26	-----
ECA chronic mult99	0.62	0.84	0.45	-----
LTA acute	20.66	100.70	7.5	-----
LTA chronic	14.95	22.71	3.6	-----
minimum of LTAs	14.95	22.71	3.6	-----
AMEL mult95	1.39	1.13	1.7	1.552E+00
MDEL mult99	2.41	1.41	3.9	3.114E+00
AMEL (aq life)	20.79	25.67	6.2	-----
MDEL(aq life)	36.05	31.98	14.2	-----
MDEL/AMEL Multiplier	1.73	1.25	2.3	2.0
AMEL (human hlth)		4.6E+03	7.1.E+05	1.4.E-08
MDEL (human hlth)		5.7E+03	1.6.E+06	2.8.E-08
minimum of AMEL for Aq. life vs HH	21	25.67	6.2	1.4E-08
minimum of MDEL for Aq. Life vs HH	36	31.98	14.2	2.8E-08
Current limit in permit (30-day average)	12	26	7.1	1.4E-08
Current limit in permit (daily)	16	31	14	2.8E-08

Final limit - AMEL	21	26	6.2	1.4E-08
Final limit - MDEL	36	31	14	2.8E-08
Max Effl Conc (MEC)	23	6.8	7.0	1.3E-11

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 the 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 monthly chronic toxicity tests during the previous order term using the water flea, *Ceriodaphnia dubia*. The previous order contained a chronic toxicity trigger (single-sample maximum of 2 TUc) for accelerated chronic toxicity testing. The maximum single-sample chronic toxicity result during the previous order term was 32.5 TUc in 2012. The highest values resulted from pathogen interference, and only 4 of 98 results were greater than 2 TUc. The relatively infrequent toxicity indicates low reasonable potential for chronic toxicity in the receiving water 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 2013 chronic toxicity screening study did not indicate the

presence of toxicity in the effluent for the test species examined. Because the Discharger experienced pathogen interference at times using *Ceriodaphnia dubia*, the Discharger will use *Pimephales promelas* for routine monitoring.

D. Effluent Limitation Considerations

1. **Anti-backsliding.** This Order does not retain the chlorodibromomethane limits from the previous order because data no longer indicate reasonable potential to exceed the water quality objectives for chlorodibromomethane at Discharge Point Nos. 001 and 002. This is consistent with State Water Board Order WQ 2001-16.

   In addition, this Order establishes less stringent copper effluent limitations than those in the previous order. CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) require that effluent limitations in a reissued permit be as stringent as those previously imposed, with some exceptions in which limitations may be relaxed. Because the less stringent copper effluent limitations in this Order qualify for the following exceptions, they comply with anti-backsliding requirements:

   - CWA section 402(o)(2)(E) allows less stringent effluent limitations if the Discharger has installed the treatment facilities required to meet the previous effluent limitations, and has properly operated and maintained the facilities, but has nevertheless been unable to achieve the previous effluent limitations. As explained in section II.D of this Fact Sheet, the Discharger was able to comply with its copper effluent limits until November 2012, when unexplained changes occurred in the plant's biological treatment system that caused effluent turbidity and copper concentrations to rise. The problem appears and subsides with no clear cause. Influent copper concentrations have not changed. To resolve the issue, the Discharger solicited advice from experts in the wastewater field and implemented various measures, such as addition of chemical flocculants, retrofitting fixed film reactors, addition of chemical precipitant and polymer, and greater control of process variables, such as alkalinity. Given the Discharger's compliance record and its demonstrated efforts to correct the problem, the discharge qualifies for exceptions set forth in CWA section 402(o)(2)(E).

   - CWA section 303(d)(4) allows less stringent effluent limitations if the receiving water meets water quality standards and the relaxation complies with antidegradation policies. South San Francisco Bay and Matadero Creek are not impaired with respect to copper. Because, as discussed below, the discharge is also consistent with antidegradation policies, it qualifies for a backsliding exception under CWA section 303(d)(4).

2. **Antidegradation.** This Order establishes less stringent copper effluent limits than those in the previous order. Antidegradation policies require that existing water quality be maintained unless degradation is justified based on specific findings. State Water Board Resolution 68-16 sets forth California's antidegradation policy. Consistent with 40 C.F.R section 131.12, Resolution 68-16 incorporates the federal antidegradation policy. The Basin Plan implements, and incorporates by reference, the State and federal antidegradation policies. Permitted discharges must comply with these policies. The State Water Board's Administrative Procedures Update No. 90-004 states that a simple antidegradation analysis is adequate when a proposed action would produce minor effects that would not result in a

significant reduction of water quality or when a reduction in water quality would be spatially localized or limited.

When the Regional Water Board adopted the copper site-specific objectives in Basin Plan Table 3-3A, it included two measures to prevent degradation. Every discharger was required to implement a copper action plan (see provision VI.C.5.c of the Order), and additional measures were required in the event that a statistically significant increase in copper concentrations was ever observed in San Francisco Bay. To identify such an increase, Basin Plan Table 7.2.1-3 provides a trigger. If the rolling three-year average dissolved copper concentration in South San Francisco Bay were to exceed 4.2 µg/L, it would indicate that a statistically significant increase in copper had taken place. To date, South San Francisco Bay remains well within statistical norms. According to San Francisco Estuary Institute staff, the three-year rolling average has remained stable, fluctuating between 3.44 and 3.88 ug/L.

The increased copper loading that could result from the relaxed copper limits in this Order are unlikely to affect the rolling three-year average dissolved copper concentration in South San Francisco Bay. The Discharger accounts for about 0.1 percent of the existing San Francisco Bay copper load. Moreover, continued implementation of the copper action plan required by provision VI.C.5.c of the Order will mitigate any potential degradation.

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 and backsliding 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 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 Provisions

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. For more background regarding these requirements, see section VII of this Fact Sheet.

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 "cannot determine" reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to Water Code section 13267, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

3. Pollutant Minimization Program

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

4. Special Provisions for Municipal Facilities

a. Pretreatment Program. This provision is based on 40 C.F.R. part 403. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the plant. This provision lists the Discharger's responsibilities regarding its pretreatment program and requires compliance with the provisions in Attachment H, "Pretreatment Requirements."

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

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

5. Other Special Provisions

a. Facility Reliability Assurance Plan and Status Report. This provision is updated from the previous order. It requires that the Discharger prepare and maintain an updated Facility Reliability Assurance Plan as a condition for the exception to Basin Plan Discharge Prohibition 1 discussed in section IV.A.2 of this Fact Sheet.

b. Copper Action Plan. This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that the copper WQBELs in this Order, which are based on the Basin Plan's copper site-specific objectives and newly established mixing zones, are consistent with antidegradation policies. Data compiled by the San Francisco Estuary Institute for 2009-2011 indicate no degradation of San Francisco Bay water quality with respect to copper (http://www.sfei.org/content/copper-site-specific-objective-3-year-rolling-averages).

c. Cyanide Action Plan. This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that the cyanide WQBELs based on the Basin Plan's cyanide site-

specific objectives are consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible "significant cyanide discharge" in the Discharger's service area is set at 10 ug/L. The Discharger has not observed influent cyanide concentrations greater than 5.1 ug/L during the previous permit term. An influent concentration twice this historical level could indicate a significant new cyanide source.

d. **Standard Operating Procedures for Resource Recovery.** Standard Operating Procedures are required for dischargers that accept hauled waste fats, oil, and grease for injection into anaerobic digesters. The development and implementations of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery (CalRecycle) 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)

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

A. MRP Requirements Rationale

1. **Influent Monitoring.** Influent flow monitoring is necessary to understand Facility operations. BOD_5 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 is necessary to evaluate compliance with this Order's effluent limitations.

3. **Whole Effluent Toxicity Testing**. Acute and chronic whole effluent toxicity tests are necessary to evaluate compliance with the acute and chronic toxicity effluent limitations. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity triggers the need for a Toxicity Reduction Evaluation.

4. **Receiving Water Monitoring.** The Discharger is required to continue participating in the RMP, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. This monitoring is necessary to characterize the receiving water and the effects of the discharge authorized in this Order. The Discharger is also required to monitor the unnamed channel and Matadero Creek to provide data necessary for reasonable potential analyses and WQBEL development. For example, ammonia monitoring will be necessary to conduct reasonable potential analyses and hardness data will be needed to determine water quality objectives.

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

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

Table F-9. Monitoring Requirements Summary

Parameter	Influent INF-001	Effluent EFF-001	Effluent EFF-002	Receiving Water RSW-001	Receiving Water RSW-002	Incinerator Ash ASH-001
Flow Rate	Continuous/D	Continuous/D	Continuous/D	---	---	---
BOD_5	1/Week	1/Week	---	---	---	---
TSS	1/Week	1/Week	---	---	---	---
BOD_5 and TSS percent removal	---	1/Month	---	---	---	---
pH	---	Continuous/D or 1/D	---	1/Quarter	1/Quarter	---
Oil and Grease	---	1/Quarter	---	---	---	---
Turbidity	---	1/Week	---	---	---	---
Fecal Coliform	---	1/Quarter	---	Support RMP	---	---
Enterococcus Bacteria	---	2/Week	---	Support RMP	---	---
Total Ammonia Nitrogen	---	1/Month	---	1/Quarter	1/Quarter	---
Acute Toxicity	---	1/Quarter	---	Support RMP	---	---
Chronic Toxicity	---	1/Month	---	Support RMP	---	---
Copper	---	1/Month	---	Support RMP	---	---
Nickel	---	1/Month	---	Support RMP	---	---
Cyanide	1/Month	1/Month	---	Support RMP	---	2/Year
Dioxin-TEQ	---	2/Year	---	Support RMP	---	---
Standard Observations	---	---	1/Month	1/Quarter	1/Quarter	---
Salinity	---	---	---	1/Quarter	1/Quarter	---
Hardness	---	---	---	1/Quarter	1/Quarter	---
Temperature	---	1/Month	---	1/Quarter	1/Quarter	
Volatile Organic Compounds	2/Year	2/Year	---	---	---	---
Base/Neutrals Acid Extract-able Organic Compounds	2/Year	2/Year	---	---	---	---
Metals and Other Elements	1/Month	1/Month	---	---	---	2/Year

Metric tons/year	---	---	---	---	---	Attach. G §III.B.1

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 Silicon Valley Community Newspaper. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at http://www.waterboards.ca.gov/sanfranciscobay.

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

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 April 28, 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:	Wednesday, June 11, 2014
Time:	9:00 a.m.
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Marcia Liao, (510) 622-2377, Marcia.Liao@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 WDRs. 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 Marcia Liao at (510) 622-2377 or Marcia.Liao@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. Stormwater – This section is an addition to Standard Provisions (Attachment D)

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

1. Stormwater Pollution Prevention Plan (SWPP Plan)

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

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

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

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

2. Source Identification

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

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

b. A site map showing the following:

   1) Stormwater conveyance, drainage, and discharge structures;

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

   3) Paved areas and buildings;

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

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

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

   7) Vehicle service areas.

c. A narrative description of the following:

   1) Wastewater treatment process activity areas;

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

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

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

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

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

3. Stormwater Management Controls

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

a. Stormwater pollution prevention personnel

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

b. Good housekeeping

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

c. Spill prevention and response

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

d. Source control

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

e. Stormwater management practices

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

f. Sediment and erosion control

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

g. Employee training

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

h. Inspections

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

i. Records

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

4. Annual Verification of SWPP Plan

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

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

1. Use of Certified Laboratories

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

2. Use of Appropriate Minimum Levels

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

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

3. Frequency of Monitoring

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

a. Timing of Sample Collection

1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.

2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.

3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).

4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does

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

i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and

ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.

2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.

3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).

4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.

6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for suspended solids (SS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If SS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge

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

c. Stormwater Monitoring

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

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

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

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

3) Testing for the presence of non-stormwater discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all stormwater discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

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

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

d. Receiving Water Monitoring

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

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

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

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

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

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

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

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

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

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

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

1. Receiving Water Observations

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

a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. *Discoloration and turbidity*: description of color, source, and size of affected area.

c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.

e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).

f. *Weather conditions*:

1) Air temperature; and

2) Total precipitation during the five days prior to observation.

2. Wastewater Effluent Observations

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

a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

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

a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.

b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

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

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

b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.

d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

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

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

a. *Odor*: presence or absence, characterization, source, and distance of travel.

b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

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

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

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

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

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

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

d. Data reporting for results not yet available

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

e. Flow data

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

f. Annual self monitoring report requirements

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

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;

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

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;

4) List of approved analyses, including the following:

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

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

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

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

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

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

g. Report submittal

The Discharger shall submit SMRs to:

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

h. Reporting data in electronic format

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

1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until U.S. EPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).

3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

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

1. Spill of Oil or Other Hazardous Material Reports

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.

b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.

c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

1) Date and time of spill, and duration if known;

2) Location of spill (street address or description of location);

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

9) Corrective actions taken to contain, minimize, or clean up the spill;

10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and

11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

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

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

1) Incident description and cause;

2) Location of threatened or involved waterway(s) or storm drains;

3) Date and time the unauthorized discharge started;

4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

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

5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

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

c. 5-Day Written Report

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

1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

2) Efforts implemented to minimize public exposure to the unauthorized discharge;

3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

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

Table B

Summary of Communication Requirements for Unauthorized Discharges[1] from Municipal Wastewater Treatment Plants

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

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

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

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

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

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

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

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

1. Arithmetic Calculations

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

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

or

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

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

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

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

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

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

12. Stormwater means stormwater runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

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

14. Untreated waste is raw wastewater.

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

Table C

List of Monitoring Parameters and Analytical Methods

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

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

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

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

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

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

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

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
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									

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

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

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

ATTACHMENT H – PRETREATMENT REQUIREMENTS

CALIFORNIA REGIONAL WATER QUALITY CONTROL
BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT H
PRETREATMENT PROGRAM PROVISIONS

For

NPDES POTW WASTEWATER DISCHARGE PERMITS

March 2011
(Corrected May 2011)

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Attachment H: Pretreatment Program Provisions

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

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

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

B. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Discharger shall cause nondomestic users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

C. The Discharger shall perform the pretreatment functions as required in 40 CFR 403 and amendments or modifications thereto including, but not limited to:

1. Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);

2. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

3. Publish an annual list of nondomestic users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(viii);

4. Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and

5. Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.

D. The Discharger shall submit annually a report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous calendar year. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix H-1 entitled, "Requirements for Pretreatment Annual Reports." The annual report is due each year on February 28.

E. The Discharger shall submit a pretreatment semiannual report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, information specified in Appendix H-2 entitled, "Requirements for Pretreatment Semiannual Reports." The semiannual report is due July 31 for the period January through June. The information for the period July through December of each year shall be included in the Annual Report identified in Appendix H-1. The Executive Officer may exempt the Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and U.S. EPA's comment and approval.

F. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge (biosolids) as described in Appendix H-4 entitled, "Requirements for Influent, Effluent and Sludge (Biosolids) Monitoring." (The term "biosolids," as used in this Attachment, shall have the same meaning as wastewater treatment plant "sludge" and will be used from this point forward.) The Discharger shall evaluate the results of the sampling and analysis during the preparation of the semiannual and annual reports to identify any trends. Signing the certification statement used to transmit the reports shall be deemed to certify the Discharger has completed this data evaluation. A tabulation of the data shall be included in the pretreatment annual report as specified in Appendix H-4. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX H-1

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

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

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

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

A. Cover Sheet

The cover sheet shall include:

1. The name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of the Discharger(s) that is part of the Pretreatment Program;

2. The name, address and telephone number of a pretreatment contact person;

3. The period covered in the report;

4. A statement of truthfulness; and

5. The dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(m)).

B. Introduction

This section shall include:

1. Any pertinent background information related to the Discharger and/or the nondomestic user base of the area;

2. List of applicable interagency agreements used to implement the Discharger's pretreatment program (e.g., Memoranda of Understanding (MOU) with satellite sanitary sewer collection systems); and

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

C. Definitions

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

D. Discussion of Upset, Interference and Pass Through

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

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

E. Influent, Effluent and Biosolids Monitoring Results

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

This section shall include:

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

F. Inspection, Sampling and Enforcement Programs

This section shall include at a minimum the following information:

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

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

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

G. Updated List of Regulated SIUs

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

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

   a. Name;

   b. Address;

   c. Applicable federal category(ies);

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

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

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

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

   a. Name;

b. Address;

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

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

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

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

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

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

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

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

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

      (1) Consistent compliance;

      (2) Inconsistent compliance;

      (3) Significant noncompliance;

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

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

      (6) Compliance status unknown, and why not.

2. **Enforcement Summary:** This section shall contain a summary of SIU compliance and enforcement activities during the reporting year. The summary may be included in the summary table developed in section 8A and shall include the names and addresses of all SIUs affected by

the actions identified below. For each notice specified in enforcement action "i" through "iv," indicate whether it was for an infraction of a federal or local standard/limit or requirement.

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

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

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

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

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

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

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

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

a. Name and facility address of the SIU;

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

c. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

d. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

e. For violations/noncompliance identified in the reporting period, provide:

(1) The date(s) of violation(s);

(2) The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

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

I. Baseline Monitoring Report Update

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

J. Pretreatment Program Changes

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

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

K. Pretreatment Program Budget

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

L. Public Participation Summary

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

M. Biosolids Storage and Disposal Practice

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

N. Other Pollutant Reduction Activities

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

O. Other Subjects

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

P. Permit Compliance System (PCS) Data Entry Form

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

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

APPENDIX H-2

REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

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

A. Influent, Effluent and Biosolids Monitoring

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

B. Significant Industrial User Compliance Status

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

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

1. Name and facility address of the SIU;

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

3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

5. For violations/noncompliance identified in the reporting period, provide:

    a. The date(s) of violation(s);

    b. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

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

C. Discharger's Compliance with Pretreatment Program Requirements

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

1. Date of latest PCA or PCI report;

2. Date of the Discharger's response;

3. List of unresolved issues; and

4. Plan(s) and schedule for resolving the remaining issues.

APPENDIX H-3

SIGNATURE REQUIREMENTS FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger [POTW - 40 CFR 403.12(m)]. Signed copies of the reports shall be submitted to the U.S. EPA, the State Water Board, and the Regional Water Board at the following addresses unless the Discharger is instructed by any of these agencies to submit electronic copies of the required reports:

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

Submit electronic copies only to State and Regional Water Boards:
Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality-15th Floor
1001 I Street
Sacramento, CA 95814
DMR@waterboards.ca.gov
NPDES_Wastewater@waterboards.ca.gov

Pretreatment Coordinator
NPDES Wastewater Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(Submit the report as a single Portable Document Format (PDF) file to the Pretreatment Coordinator's folder in the Regional Water Board's File Transfer Protocol (FTP) site. The instructions for using the FTP site can be found at the following internet address:
http://www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/FTP_Discharger_Guide-12-2010.pdf.)

APPENDIX H-4

REQUIREMENTS FOR INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING

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

A. Reduction of Monitoring Frequency

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

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

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

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

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

B. Influent and Effluent Monitoring

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

The influent and effluent samples should be taken at staggered times to account for treatment plant detention time. Appropriately staggered sampling is considered consistent with the requirement for

collection of effluent samples coincident with influent samples in Section III.A.3.a(2) of Attachment G. All samples must be representative of daily operations. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated ML, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

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

1. Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.

2. A tabulation of the test results for the detected parameters shall be provided.

3. Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

C. Biosolids Monitoring

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

1. Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

2. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

3. Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5- day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to biosolids is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Wastewater Sludge Survey, September 1990, containing detailed analytical protocols specific to biosolids, is recommended as a guidance for analytical methods.

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

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

- Sampling Procedures and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its biosolids sampling procedures and data validation methods.

- Test Results – Tabulate the test results for the detected parameters and include the percent solids.

- Discussion of Results – Include a complete discussion of test results for the detected parameters. If the detected pollutant(s) is reasonably deemed to have an adverse effect on biosolids disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

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

ATTACHMENT I – ACTIONS TO COMPLY WITH STATE WATER BOARD ORDER No. WQ 90-5

In response to the State Water Board's Water Quality Control Policy for the Enclosed Bays and Estuaries of California (the Bays and Estuaries Policy, adopted in May 1974), which included a general prohibition against the discharge of municipal and industrial wastewaters to enclosed bays and estuaries, the Regional Water Board included the following discharge prohibitions in Basin Plan Table 4-1:

> Any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimal initial dilution of at least 10:1, or into any non-tidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof.
>
> Any wastewater which has particular characteristics of concern to San Francisco Bay south of the Dumbarton Bridge.

These prohibitions essentially preclude discharges of treated wastewater from the wastewater treatment plants of Palo Alto, San Jose/Santa Clara, and Sunnyvale. In 1973, these dischargers formed the South Bay Dischargers Authority to address the possibility of relocating their outfalls to a location north of the Dumbarton Bridge. They also investigated whether they could justify an exception to the discharge prohibitions based on providing a net environmental benefit. The Basin Plan states that an exception may be considered where net environmental benefits will be derived from a discharge. Based on results of studies conducted between1981 through 1986 showing net environmental benefits, the three South Bay dischargers petitioned the Regional Water Board for exceptions to the discharge prohibitions in 1987, with their applications for permit reissuance.

At the same time, the Regional Water Board was establishing water quality objectives for many toxic pollutants. It amended the Basin Plan in 1986 to establish several such water quality objectives. Due to the unique hydrodynamic environment of South San Francisco Bay and presence of substantial non-point pollution sources, the 1986 Basin Plan amendment exempted South San Francisco Bay from the new objectives and required development of site-specific water quality objectives.

In 1988, the Regional Water Board found that the Sunnyvale (Order No. 88-176) and Palo Alto (Order No. 88-175) discharges would provide net environmental benefits and enhance water quality. It therefore granted exceptions to the Basin Plan discharge prohibitions, provided that they conduct several studies addressing salt marsh conversion, site-specific water quality objectives and effluent limitations for metals, ammonia removal, and avian botulism control. The Regional Water Board found that the San Jose/Santa Clara (Order No. 89-012) discharges did not provide a net environmental benefit and did not enhance water quality. It cited, in particular, the conversion caused by that discharge of extensive salt marsh habitat to brackish and freshwater marsh. The Regional Water Board concluded, however, that there could be net environmental benefits if the Discharger provided mitigation for the loss of salt marsh habitat. On January 18, 1989, the Regional Water Board issued Cease and Desist Order No. 89-013, establishing a time schedule for either compliance with the Basin Plan prohibitions or mitigation for the loss of salt marsh habitat.

In addition to providing the exceptions to the Basin Plan's discharge prohibitions, the three reissued permits established a process to develop site-specific water quality objectives and effluent limitations for metals. Interim limitations, based on objectives in the 1982 Basin Plan, were established and were to be replaced by performance-based interim limitations after one year. Ultimately, final effluent limitations

would be established based on the 1986 Basin Plan objectives or site-specific objectives based on studies mandated by the permits.

Responding to objections from environmental groups, the State Water Board adopted Order No. WQ 90-5 on October 4, 1990. It addressed three issues: (a) the conditional exceptions to the Basin Plan discharge prohibitions granted to Sunnyvale and Palo Alto and denied to San Jose/Santa Clara, (b) regulation of toxic pollutants, and (c) mitigation for the loss of salt marsh habitat. The State Water Board concluded that all three South Bay dischargers had failed to demonstrate that exceptions to the Basin Plan discharge prohibitions were warranted on the basis of net environmental benefits. The State Water Board explained that the impact of nutrients in South San Francisco Bay remained unresolved, that avian botulism was negatively affecting wildlife and estuarine habitat, and that metals discharges were contributing or threatening to contribute to impairment of San Francisco Bay. In addition, discharges from the San Jose/Santa Clara plant, specifically, had a substantial adverse impact on rare and endangered species resulting from the loss of salt marsh habitat.

The State Water Board did acknowledge that relocation of the discharges to a location north of the Dumbarton Bridge was not economically or environmentally sound. The State Water Board strongly encouraged the Regional Water Board and the South Bay Dischargers Authority to pursue wastewater reclamation as a means to reduce discharges to San Francisco Bay, and concluded that exceptions to the Basin Plan discharge prohibitions could be granted because the Basin Plan states that an exception may be considered where an inordinate burden would be placed on the discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means. It set forth specific conditions: (a) the permits were to include numeric, water quality-based effluent limitations for toxic pollutants; (b) the dischargers were to continue efforts to control avian botulism; and (c) the dischargers were to properly protect rare and endangered species by limiting flows discharged to San Francisco Bay to not more than 120 million gallons per day (average dry weather flow)—or to flows that would not further adversely affect rare or endangered species—and provide for the creation or restoration of 380 acres of wetlands.

The text below describes, chronologically, actions the State and Regional Water Boards and South Bay dischargers took before and after the State Water Board adopted Order No. WQ 90-05. This summary clarifies the origin of some provisions in this Order.

<u>Regional Water Board Order No. 90-034</u> (February 21, 1990) amended Order No. 88-175.

- Established interim performance based limits for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, zinc, cyanide, phenolic compounds, PAHs, and selenium. Interim limits were to remain effective while site-specific objectives were being developed, and site-specific limits were to be in place by December 31, 1991. (The Basin Plan had not established WQ objectives for metals in South San Francisco Bay, and the Discharger was obligated to assist in gathering data for development of SSOs and effluent limitations.)

- Established interim limits for the same pollutants to maintain ambient conditions in South San Francisco Bay until site-specific objectives and site-specific limits could be put in place by December 31, 1991. (Interim limits were needed for metals because of the lack of assimilative capacity in San Francisco Bay, although metals loadings to San Francisco Bay had diminished since 1975.)

Regional Water Board Order No. 90-069 (May 16, 1990) amended Order No. 88-175.

- By August 1, 1991, required implementation of additional source control measures, including pretreatment program improvements, to reduce toxic pollutants in influent wastewater.

- By December 1, 1990, required submittal of an interim report regarding additional source control measures.

State Water Board Order No. WQ 90-05 was adopted on October 4, 1990.

Regional Water Board Order No. 91-068 (April 17, 1991) amended Order No. 88-175 to comply with State Water Board Order No. 90-5.

- Granted exceptions to the Basin Plan prohibitions based on "equivalent protection" if certain conditions were satisfied: (1) WQBELs for toxic pollutants were to be included in the facility's discharge permit, (2) the discharge permit was to include mass limits for toxic pollutants, and (3) a chronic toxicity limitation is included in the permit.

- Amended permit to state that water quality objectives for South San Francisco Bay exist and are appropriate to use when developing water quality-based effluent limitations. Stated that the Discharger was conducting studies to develop site-specific objectives for copper, lead, mercury, and nickel. Stated that the Regional Water Board was developing bay-wide objectives for copper and nickel. Also contained a requirement to conduct a TRE/TIE for chronic toxicity prior to permit expiration, and that a chronic toxicity limitation would be adopted with the next permit issuance.

- Established new interim concentration-based limits for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, zinc, and selenium, and new interim mass-based limitations for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, silver, zinc, selenium, cyanide, phenols, and PAHs.

Regional Water Board Order No. 93-085 (July 21, 1993) reissued the Palo Alto permit.

- Consistent with the requirements of State Water Board Order No. 90-5, contained water quality-based effluent limits for toxics, and mass limits for metals, and therefore granted exceptions to the Basin Plan discharge prohibitions.

- Addressed chronic toxicity by incorporating all permit amendments contained in the Blanket Chronic Toxicity Order (Regional Water Board Order No. 92-104).

Regional Water Board Cease and Desist Order No. 93-083 (July 21, 1993) was adopted.

- Addressed significant violations of copper and nickel effluent limitations established by Order No. 91-068 occurring between May 1991 and August 1992, and included compliance schedules to enforce compliance with the copper and nickel requirements of Order No. 93-085.

Regional Water Board Order No. 98-054 (June 17, 1998) reissued the Palo Alto permit.

- Based copper and nickel effluent limitations on treatment plant performance to maintain ambient conditions in South San Francisco Bay. Based all other toxic pollutant limitations (i.e., those for mercury, nickel, selenium, and tributyltin) on the 1995 Basin Plan or U.S. EPA criteria.

- Continued exceptions to the Basin Plan discharge prohibitions, stating that effluent limitations were substantially equivalent to the effluent limitations in the 1993 NPDES permit, and that the permit required studies to develop water quality-based mass limits for metals, measures to maximize reclamation and minimize effluent discharge, and continued operation of the plant at a high degree of reliability.

- Established requirements to participate in Total Maximum Daily Load development. (The Regional Water Board expected copper and nickel site-specific objectives to be developed during the term of the order.)

- Established compliance with the Basin Plan narrative objective for chronic toxicity to be demonstrated through monitoring and required accelerated monitoring upon exceedance of chronic toxicity "triggers."

Regional Water Board Order No. R2-2002-0061 (May 22, 2002) adopted a Basin Plan amendment establishing copper and nickel site-specific objectives for San Francisco Bay south of Dumbarton Bridge.

State Water Board Resolution No. 2002-0151 (October 17, 2002) granted State Water Board approval of the copper and nickel site-specific objectives for South San Francisco Bay, which U.S. EPA subsequently approved on January 21, 2003.

Regional Water Board Order No. R2-2003-0078 (August 20, 2003) reissued the Palo Alto permit.

- Contained requirements to comply with Copper and Nickel Action Plans.

- Established water quality-based effluent limitations based on the California Toxics Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, both of which became effective on May 18, 2000.

- Continued exceptions to the Basin Plan discharge prohibitions based on findings regarding the establishment of water quality-based effluent limitations and continuing a marsh reclamation program (which was unrelated to State Water Order 90-5).

State Water Board Resolution No. 2006-0052 (August 9, 2006) granted State Water Board approval to establish new mercury water quality objectives and to amend the Total Maximum Daily Load and implementation plan for mercury in San Francisco Bay.

State Water Board Resolution No. 2006-0086 (December 13, 2006) granted State Water Board approval of cyanide site-specific objectives for San Francisco Bay North of the Dumbarton Bridge.

State Water Board Resolution No. 2007-0042 (June 13, 2007) granted State Water Board approval of copper site-specific objectives for San Francisco Bay North of the Dumbarton Bridge.

Regional Water Board Order No. R2-2009-0032 (June 1, 2009) reissued the Palo Alto permit.

- Established water quality-based effluent limitations based on guidance of the California Toxics Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

- Required implementation of copper and cyanide action plans.

- Found that all the historical requirements of both the State and Regional Water Boards had been met and provided an exception to the Basin Plan prohibitions.