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

STAFF SUMMARY REPORT (Jessica Watkins)
MEETING DATE: April 12, 2017

ITEM: **7**

SUBJECT: **City of Pacifica, Calera Creek Water Recycling Plant and Wastewater Collection System, Pacifica, San Mateo County –** Reissuance of NPDES Permit

CHRONOLOGY: January 2012 – Permit reissued

DISCUSSION: This Revised Tentative Order (Appendix A) would reissue the NPDES permit for the City of Pacifica's wastewater treatment plant and collection system. The plant provides advanced secondary treatment of wastewater from Pacifica, serving a population of about 39,000. The plant's average discharge is 1.9 million gallons per day (MGD) to Calera Creek, which flows about a half mile through constructed wetlands to the Pacific Ocean.

The Revised Tentative Order would continue to allow the discharge subject to updated requirements. Most significantly, it contains new numeric chronic toxicity effluent limits because available data indicate that there is reasonable potential for chronic toxicity in the discharge to cause or contribute to an exceedance of the Basin Plan narrative toxicity water quality objective. Numeric limits in this case are necessary and appropriate because chemical-specific water quality-based limits and the narrative toxicity limit in the previous order failed to maintain the Basin Plan's narrative chronic toxicity water quality objective. Numeric limits are consistent with the federal regulations on whole effluent toxicity limitations.

The City, the Bay Area Clean Water Agencies (BACWA), and U.S. EPA submitted comments (Appendix B) on a draft order circulated for review. As explained in our Response to Comments (Appendix C), the City and BACWA object to the numeric chronic toxicity limits, while U.S. EPA supports them. The more substantial comments object to (1) numeric (versus narrative) limits; (2) the requirement to use the water flea (*Ceriodaphnia dubia*) as the chronic toxicity test species; (3) the potential enforcement of chronic toxicity effluent limit violations, particularly during accelerated monitoring and toxicity reduction evaluations; and (4) the lack of a "minimum level" for reporting chronic toxicity results.

The Response to Comments addresses all of these comments. We do not propose substantial revisions because the draft requirements are based on Clean Water Act regulations, the Basin Plan, and authoritative guidance. However, because the few revisions are unlikely to satisfy the commenters, we expect the City and BACWA to testify at the hearing to object to provisions of the Revised Tentative Order.

RECOMMEN-
DATION: Adoption of the Revised Tentative Order

FILE: CW-212585

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

Appendix A
Revised Tentative Order

REVISED TENTATIVE ORDER No. R2-2017-XXXX
NPDES No. CA0038776

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

Table 1. Discharger Information

Discharger	City of Pacifica
Facility Name	Calera Creek Water Recycling Plant and its wastewater collection system
Facility Address	700 Coast Highway Pacifica, CA 94044 San Mateo County
CIWQS Place Number	212585

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Advanced-Secondary Treated Municipal Wastewater	37.614617°	-122.488933°	Calera Creek

Table 3. Administrative Information

This Order was adopted on:	DATE
This Order shall become effective on:	June 1, 2017
This Order shall expire on:	May 31, 2022
The Discharger shall file a Report of Waste Discharge for updated WDRs in accordance with California Code of Regulations, title 23, and as an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	September 3, 2021
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.

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Bruce H. Wolfe**,** Executive Officer

Contents

Tables

Attachments

I. FACILITY INFORMATION

Information describing the Calera Creek Water Recycling Plant and its collection system (collectively, the Facility) is summarized in Table 1 and in Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

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

A. Legal Authorities. This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States as listed in Table 2 subject to the WDRs in this Order.

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

C. Provisions and Requirements Implementing State Law. None of the 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. R2-2012-0002 (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 Attachment D section I.G.

C. Average dry weather influent flow in excess of 4.0 million gallons per day (MGD) is prohibited at Discharge Point No. 001. Average dry weather influent flow shall be determined from three consecutive dry weather months each year, with compliance measured at Monitoring Location INF-001 as described in the Monitoring and Reporting Program (MRP).

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

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	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	---	---
Oil and Grease	mg/L	5	10	---	---
Turbidity	NTU	---	10	---	---
pH [1]	standard units	---	---	6.5	8.5
Copper, Total	µg/L	10	15	---	---
Ammonia, Total	mg/L as N	3.1	7.1	---	---
Chronic Toxicity	TU_c	1.0 [2]	1.8 [3]	---	---

Unit Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
NTU = Nephelometric Turbidity Unit
TU_c = chronic toxicity units

Footnotes:

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

[2] The average monthly effluent limitation for chronic toxicity shall be the median test result for the month.

[3] The maximum daily effluent limitation for chronic toxicity shall be the maximum test result for the month.

B. Percent Removal. The average monthly percent removal of biochemical oxygen demand (BOD_5) and total suspended solids (TSS) at Discharge Point No. 001 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD_5 and TSS, by concentration, for effluent samples collected at Monitoring Location EFF-001 as described in the MRP shall not exceed 15 percent of the arithmetic mean of the BOD_5 and TSS, by concentration, for influent samples collected at Monitoring Location INF-001 as described in the MRP).

C. **Fecal Coliform.** Discharges at Discharge Point No. 001 shall comply with the following fecal coliform limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

1. The geometric mean fecal coliform concentration of all samples in each calendar month shall not exceed 200 most probable number per 100 milliliters (MPN/100 mL).

2. The 90th percentile fecal coliform concentration of the last eleven samples shall not exceed 400 MPN/100 mL.

D. Whole Effluent Acute Toxicity. Discharges at Discharge Point No. 001 shall comply with the following limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP. The survival of organisms shall be as follows:

1. An 11-sample median value of not less than 90 percent survival; and

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

These acute toxicity limitations are defined as follows:

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

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

V. RECEIVING WATER LIMITATIONS

A. The discharge shall not cause the following conditions to exist in receiving waters:

1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;

2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses, or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;

3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;

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

5. Alteration of temperature beyond present natural background levels;

6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units (NTU);

7. Coloration that causes nuisance or adversely affects beneficial uses;

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

9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

B. The discharge shall not cause the following limitations to be exceeded in receiving waters at any place within one foot of the water surface:

1.	Dissolved Oxygen	5.0 milligrams per liter (mg/L), minimum The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent 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

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, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.

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

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

d. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.

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

f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Permit No. CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a 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 and Receiving Water Characterization Study and Report

a. Study Elements. The Discharger shall continue to characterize and evaluate the discharge from Discharge Point No. 001 and the receiving waters to verify that the "no" or "unknown" reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples at the monitoring locations set forth below, as defined in the MRP, at no less than the frequency specified below:

Monitoring Location	Minimum Frequency
EFF-001	Once per calendar year
RSW-001	Once

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 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 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 exceedance of applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a "pollutant of concern" in the Discharger's Pollutant Minimization Program, described in Provision VI.C.3.

b. Reporting Requirements

i. Routine Reporting. The Discharger shall, within 45 days of receipt of analytical results, report the following in the transmittal letter for the appropriate self-monitoring report:

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

(b) Identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-7 for the criteria), and the detected concentrations of those pollutants.

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

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

3. Pollutant Minimization Program

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

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

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

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

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

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

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

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

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

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

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

x. **Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the Facility, and subsequently in its effluent.

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

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

ii. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.

d. If triggered by the reasons set forth in Provision VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:

i. Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;

ii. Quarterly monitoring for the reportable priority pollutants in the influent to the 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 Publicly-Owned Treatment Works (POTWs)

a. Sludge and Biosolids Management

i. All sludge and biosolids shall be disposed of, managed, or reused in a municipal solid waste landfill; through land application; as a Class A compost; through a waste-to-energy facility or another recognized and approved technology; in a sludge-only landfill; or in a sewage sludge incinerator in accordance with 40 C.F.R. part 503.

ii. Sludge and biosolids treatment, storage, and disposal, or reuse, shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

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

iv. Sludge or biosolids disposed in a municipal solid waste landfill shall meet the requirements of 40 C.F.R. part 258.

v. This Order does not authorize permanent onsite sludge or biosolids storage or disposal. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity.

b. Collection System Management. The Discharger is subject to the requirements of, and shall comply with, State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order No. WQ 2013-0058-EXEC and any subsequent order updating these requirements.

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 wasteload 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.

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

Persistent Pollutants
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.

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

Source of Drinking Water
Any water designated as 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:

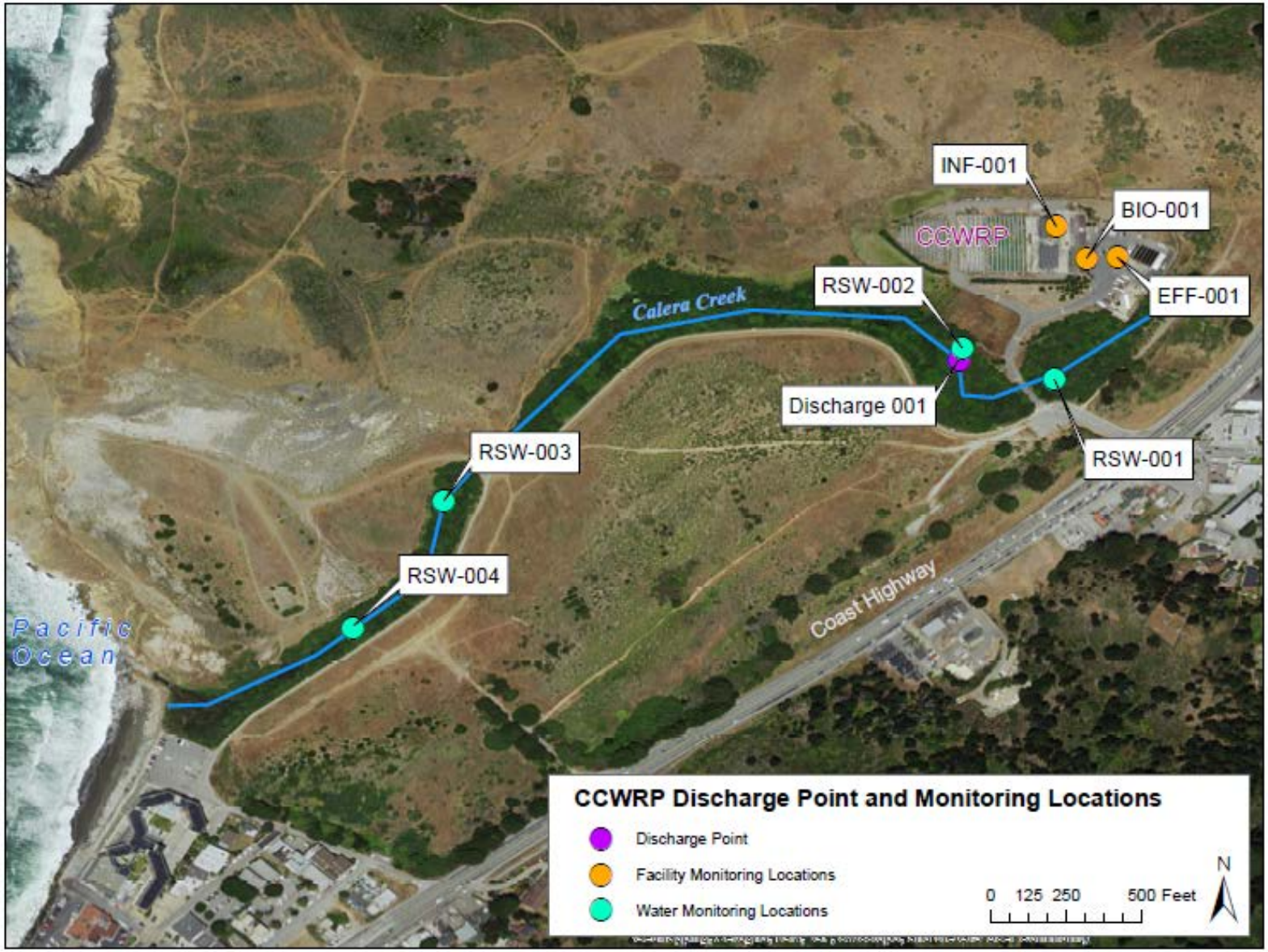
x is the observed value;

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.

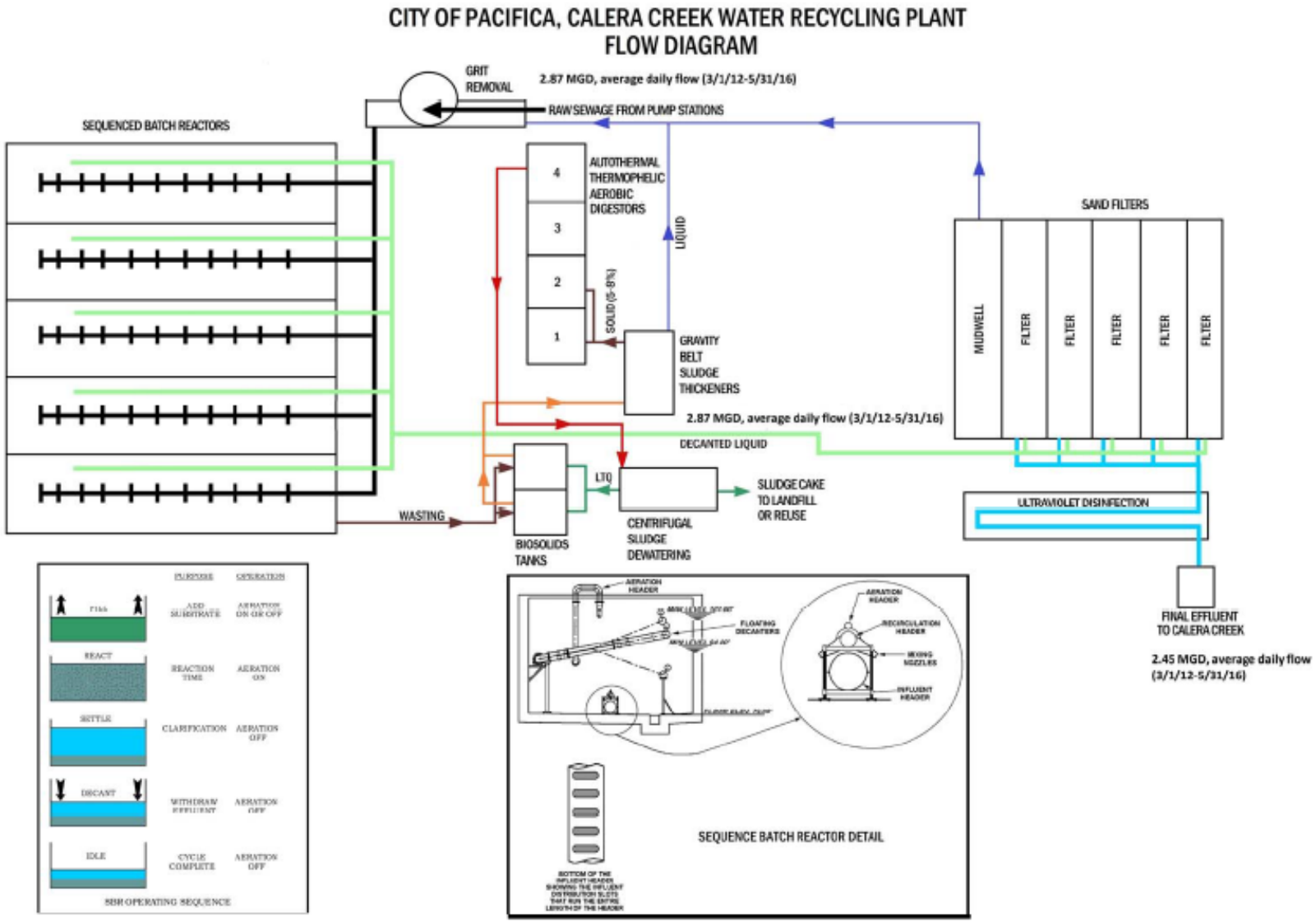
ATTACHMENT B – FACILITY MAP



B

ATTACHMENT C – PROCESS FLOW DIAGRAM

The Facility will include a wet weather equalization basin approximately two miles upstream of the headworks once constructed.



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; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants 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 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, 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 prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (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 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. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either (a) the method ML is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter, or (b) the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in a facility's discharge is

high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N, for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS—RECORDS

A. 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, V.B.5, and V.B.6 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).)

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

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. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (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. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR reporting form specified by the Regional Water Board or State 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 report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report 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.

For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:

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).)

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. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (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).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. § 127.2(c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

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, 13350, 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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Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all National Pollutant Discharge Elimination System (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

Sampling Location Type	Monitoring Location Name	Monitoring Location Description[1]
Influent	INF-001	A point in the treatment plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Effluent	EFF-001	A point following all treatment, including disinfection, at which all waste tributary to Discharge Point No. 001 is present but prior to discharge. *Latitude 37.615551°N Longitude -122.487494°W*
Receiving Water	RSW-001	A point in Calera Creek approximately ten feet upstream of Discharge Point No. 001. *Latitude 37.614444°N Longitude -122.488065°W*
Receiving Water	RSW-002	A point in Calera Creek immediately downstream of Discharge Point No. 001 at which the effluent and receiving water are completely mixed across the creek's cross section. *Latitude 37.614724°N Longitude -122.488898°W*
Receiving Water	RSW-003	A point in Calera Creek downstream of the culvert and approximately 1,700 feet downstream of Discharge Point No. 001. *Latitude 37.613337°N Longitude -122.493613°W*
Receiving Water	RSW-004	A point in Calera Creek approximately 2,500 feet downstream of Discharge Point No. 001. *Latitude 37.612200°N Longitude -122.494414°W*
Biosolids	BIO-001	Biosolids (treated sludge)

Footnote:

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

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor treatment 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
Total Suspended Solids (TSS)	mg/L	C-24	1/Week

Unit Abbreviations:

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

Sample Types and Frequencies:

C-24 = 24-hour composite sample
Continuous = measured continuously
Continuous/D = measured continuously, and recorded and reported daily
1/Week = once per week

Footnote:

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

IV. EFFLUENT MONITORING REQUIREMENTS

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

Table E-3. Effluent 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 [2]
Total Suspended Solids (TSS)	mg/L	C-24	1/Week [2]
Oil and Grease	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Day [7]
Temperature	ºC	Grab	1/Day [7]
Turbidity	NTU	C-24	1/Day
Fecal Coliform Bacteria [3]	MPN/100 mL	Grab	2/Week
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Day
	% saturation	Grab	1/Day
Dissolved Sulfides (if D.O. <5.0 mg/L)	mg/L	Grab	1/Day
Acute Toxicity [4]	% survival	Flow-through	1/Month
Chronic Toxicity [5]	TU_c	C-24	2/Year
Ammonia, Total	mg/L as N	C-24	1/Week [7]
Copper, Total Recoverable	µg/L	C-24	1/Month
Standard Observations [6]	---	---	1/Month

Unit Abbreviations:

ºC	= degrees Celsius
mg/L	= milligrams per liter
mg/L as N	= milligrams per liter as nitrogen
MGD	= million gallons per day
MG	= million gallons
MPN/100 mL	= most probable number per 100 milliliters
NTU	= nephelometric turbidity units
% saturation	= percent saturation
% survival	= percent survival
TU_c	= chronic toxicity units

Sample Types and Frequencies:

C-24	= 24 hour composite
Continuous	= measured continuously
Continuous/D	= measured continuously, and recorded and reported daily
Grab	= grab sample
1/Day	= once per day
1/Week	= once per week
2/Week	= twice per week
1/Month	= once per month
1/Quarter	= once per quarter
2/Year	= twice per year

Footnotes:

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

[2] BOD_5 and TSS samples shall be collected concurrently with influent samples. BOD_5 and TSS percent removal shall be reported for each calendar month in accordance with section IV.B of the Order.

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

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

[5] Chronic toxicity tests shall be performed in accordance with MRP section V.B.

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

[7] Ammonia, temperature, and pH monitoring shall occur concurrently to allow for calculation of the un-ionized ammonia fraction.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations at Discharge Point No. 001 shall be evaluated at Monitoring Location EFF-001 by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.

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

3. All bioassays shall be performed according to the most up-to-date protocols in 40 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). 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.

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

B. Whole Effluent Chronic Toxicity

1. Monitoring Requirements

a. Sampling. The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 for critical life stage toxicity tests as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on consecutive or alternating days.

b. Test Species. The test species shall be the water flea (*Ceriodaphnia dubia*) unless a more sensitive species is identified. If using this species proves unworkable, the Executive Officer may specify a different species in writing upon the Discharger's request with justification.

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

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

i. The Discharger shall monitor routinely twice per year.

ii. The Discharger shall accelerate monitoring to monthly after exceeding a single-sample maximum of 1 TU_c. Based on the TU_c 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. Bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, currently first edition (EPA/600/R-95-136), *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. The adjustment shall not remove the influence of other substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration must be obtained prior to any such adjustment.

e. Dilution Series. The Discharger shall conduct tests at 100%, 75%, 55.6%, 25%, 12.5%, 0%. 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

The Discharger shall provide toxicity test results with self-monitoring reports and shall include the following, at a minimum, for each test:

a. Sample date

b. Test initiation date

c. Test species

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

e. 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.

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

g. TU_c values (100/NOEL and upper and lower confidence intervals)

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

i. IC_{50} or EC_{50} values for reference toxicant tests

j. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)

3. Toxicity Reduction Evaluation (TRE)

a. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the work plan as necessary so that it remains current and applicable to the discharge and discharge facilities.

b. Within 30 days of exceeding the chronic toxicity trigger in section V.B.1.c.ii, above, the Discharger shall submit a TRE work plan, which shall be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. Within 30 days of completing an accelerated monitoring test observed to exceed the trigger in section V.B.1.c.ii, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all Executive Officer comments.

d. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including U.S. EPA guidance materials. The Discharger shall conduct the TRE as a tiered evaluation as summarized below:

i. Tier 1 shall consist of basic data collection (routine and accelerated monitoring).

ii. Tier 2 shall consist of evaluation of treatment process optimization, including operational practices and in-plant process chemicals.

iii. Tier 3 shall consist of a toxicity identification evaluation (TIE).

iv. Tier 4 shall consist of evaluation of options for additional effluent treatment processes.

v. Tier 5 shall consist of evaluation of options for modifications of in-plant treatment processes.

vi. Tier 6 shall consist of implementation of selected toxicity control measures, and followup monitoring and confirmation of implementation success.

e. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with the trigger in section V.B.1.c.ii).

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 limits.

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.

VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall monitor ambient receiving water conditions in the Calera Creek at Monitoring Locations RSW-001 through RSW-004 as follows:

Table E-4. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH [1]	standard units	Grab	1/Quarter
Temperature [1]	°C	Grab	1/Quarter
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Quarter
	% saturation	Grab	1/Quarter
Dissolved Sulfide (if D.O. <2.0 mg/L)	mg/L	Grab	1/Quarter
Total Ammonia [1]	mg/L as N	Grab	1/Quarter
Hardness	mg/L as $CaCO_3$	Grab	1/Quarter
Salinity	ppt	Grab	1/Quarter
Standard Observations [2]	---	---	1/Quarter

Unit Abbreviations:

°C = degrees Celsius
mg/L = milligrams per liter
mg/L as $CaCO_3$ = milligrams per liter as calcium carbonate
mg/L as N = milligrams per liter as nitrogen
ppt = parts per thousand
% saturation = percent saturation

Sample Types and Frequencies:

Grab = grab sample
1/Quarter = once per quarter

Footnotes:

[1] Ammonia, temperature, and pH monitoring shall occur concurrently to allow for calculation of the un-ionized ammonia fraction.

[2] Standard observations are specified in Attachment G section III.C.1.

VII. BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall adhere to sludge monitoring requirements required by 40 C.F.R. part 258 (for landfill disposal) or 40 C.F.R. section 503 (for land application).

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) website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs). 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 section V.C.1.f of Attachment G. See also Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for requirements to submit reports with the annual SMR.

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

Table E-5. 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	Discharger may use this method for all results or

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	**Attached File**
	results only [1]	keep records
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, Dioxins & Furans (by U.S. EPA Method 1613), Other Pollutants (by U.S. EPA methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results [2]	
Volume and Duration of Blended Discharge [3]	Required for all blended effluent discharges	
Analytical Method	Not required (Discharger may select "data unavailable") [1]	
Collection Time Analysis Time	Not required (Discharger may select "0:00") [1]	

Footnotes:

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

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

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

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

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

Table E-6. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous/D	Order effective date	All times
1/Day	Order Effective Date	Every 24-hour period, beginning at midnight and continuing through 11:59 p.m. or any 24-hour period that reasonably represents a calendar day for purposes of sampling
1/Week or 2/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
1/Quarter	Closest January 1, April 1, July 1, or October 1 following or on Order effective date [1]	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1/Year	Closest January 1 before or after Order effective date [1]	January 1 through December 31
2/Year	Closest January 1 or July 1 before or after Order effective date [1]	January through June 30 July 1 through December 31
Once	Order effective date	Once during the permit term within 12 months prior to applying for permit reissuance

Footnote:

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

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

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

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

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

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

   d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (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.

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

C. Discharge Monitoring Reports (DMRs)

DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using the Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

IX. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below:

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

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

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

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

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

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

f. Annual self-monitoring report requirements

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

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

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

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

4) List of approved analyses, including the following:

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

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

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

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

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

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

g. Report submittal

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

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

h. Reporting data in electronic format – *Deleted*

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

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[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*

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%, 80%, 60%, 40%, 20%, 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:

4. 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

Footnotes:

[1] (a) Marine refers to receiving water salinities greater than 10 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

Contents

Tables

ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	2 417022002
CIWQS Place ID	212585
Discharger	City of Pacifica
Facility Name	Calera Creek Water Recycling Plant and its collection system
Facility Address	700 Coast Highway Pacifica, CA 94044 San Mateo County
Facility Contact, Title, Phone	Pedro Mendoza, Plant Manager, (650) 738-4663
Person Authorized to Sign and Submit Reports	Pedro Mendoza, Plant Manager, (650) 738-4663
Mailing Address	170 Santa Maria Avenue Pacifica, CA 94044
Billing Address	Same as mailing address
Facility Type	Publicly-owned treatment works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Recycled Water Requirements	No
Facility Permitted Flow	4.0 million gallons per day (MGD) – average dry weather flow
Facility Design Flow	4.0 MGD – average dry weather treatment capacity 7.0 MGD – peak dry weather treatment capacity 20 MGD – peak wet weather treatment capacity
Watershed	San Mateo Coastal
Receiving Water	Calera Creek
Receiving Water Type	Freshwater

A. The City of Pacifica (Discharger) owns and operates the Calera Creek Water Recycling Plant (treatment plant) and its associated collection system (collectively, the Facility). The Facility is a publicly-owned treatment works (POTW). The Facility provides advanced-secondary treatment of wastewater collected from its service area and discharges it to Calera Creek.

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. CA0038776. The Discharger was previously subject to Order No. R2-2012-0002

(previous order). The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its WDRs and NPDES permit on September 1, 2016.

The Discharger is authorized to discharge subject to WDRs in this Order at the discharge location described in Table 2 of this Order. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorization. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES regulation requirements for continuation of expired permits (40 C.F.R § 122.6[d]).

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

II. FACILITY DESCRIPTION

A. Wastewater and Biosolids Treatment

1. **Location and Service Area**. The treatment plant is located at 700 Coast Highway in Pacifica. It provides advanced-secondary treatment of domestic and commercial wastewater from the City of Pacifica. The Facility currently serves a population of approximately 39,000. Attachment B shows the area around the Facility.

2. **Collection System**. The Discharger owns and operates approximately 100 miles of sewer lines and five pump stations.

3. **Wastewater Treatment**. The treatment plant can provide advanced-secondary treatment for an average daily dry weather design flow of 4.0 million gallons per day (MGD) and a peak wet weather discharge capacity of 20 MGD to Calera Creek. In 2016, the average daily dry weather flow was 1.9 MGD. From October 2013 through September 2016, influent flows exceeded the peak wet weather discharge capacity once (see Fact Sheet section II.D.1). Treatment consists of influent screening, grit removal, sequencing batch reactors for secondary treatment and nutrient removal, sand filters, and ultraviolet (UV) disinfection.

4. **Biosolids Management**. Biosolids generated during the treatment process are stored in waste activated sludge storage tanks, which are aerated prior to thickening with gravity belt thickeners. Thickened solids are digested in autothermophilic aerobic digesters, dewatered with centrifuges, and then hauled offsite for landfill disposal, land application, and composting.

5. **Stormwater Management**. The Discharger is not required to be covered under the State Water Board's statewide NPDES permit for stormwater discharges associated with industrial activities (NPDES General Permit CAS000001) because all stormwater at the treatment plant and pump stations is collected and directed to the headworks for treatment.

6. **Facility Upgrades**. To augment the Facility as described above, the Discharger is implementing improvements to comply with Cease and Desist Order No. R2-2011-0031 (as amended) to reduce and eliminate sanitary sewer overflows (SSOs). The Discharger is currently planning to construct a 2.1-million-gallon wet weather equalization basin approximately two miles upstream of the headworks to provide additional capacity in the sewer system.

B. Discharge Point and Receiving Waters

Plant effluent is discharged over a cascade aerator to Calera Creek at Discharge Point No. 001 and flows approximately 0.52 miles through constructed wetlands to the Pacific Ocean. The discharge elevation at the cascade aerator is approximately 2 to 3 feet above the surface water elevation of Calera Creek based on a 100-year storm.

Calera Creek is located within the San Mateo Coastal watershed. It is freshwater at the point of discharge and transitions to brackish and saltwater before flowing to the Pacific Ocean. The discharge to the Calera Creek is a shallow water discharge because the discharge does not receive 10:1 dilution.

Prior to restoration, Calera Creek was highly degraded and was modified to flow through a man-made ditch in a former rock quarry. The Discharger restored the last half-mile of Calera Creek to a natural meandering stream and restored 8.7 acres of adjacent wetlands, including two ponds, downstream from the discharge point. The restored section of Calera Creek provides habitat for the endangered San Francisco garter snake, the threatened California red-legged frog, and the Pacific tree frog. The wetland design was based on a hydrogeomorphic approach that incorporated data from similar coastal creeks along the San Mateo coastline and set quantifiable design and monitoring targets for restoration.

C. Previous Requirements and Monitoring Data

The following table presents the previous order's effluent limitations and representative monitoring data from the previous order term. The table excludes December 11, 2014, data when influent flows exceeded the peak wet weather design capacity of the treatment plant resulting in partial bypass of the sand filters. While representative of potential wet weather discharge conditions, these data are not representative of normal operations (see Fact Sheet section II.D.1).

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations				Monitoring Data (3/1/2012 – 5/25/2016)
		Monthly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	mg/L	10	20	---	---	12.5 [1]
Total Suspended Solids (TSS)	mg/L	10	20	---	---	11.4 [1]
BOD_5 percent removal	%	85 (minimum)	---	---	---	91.8 [2]
TSS percent removal	%	85	---	---	---	96.9 [2]

Parameter	Units	Effluent Limitations				Monitoring Data (3/1/2012 – 5/25/2016)
		Monthly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Highest Daily Discharge
		(minimum)				
Oil and Grease	mg/L	5.0	10	---	---	6.6 [3]
Turbidity	NTU	---	---	---	10	7.2 [1]
pH	standard units	---	---	6.5	8.5	6.5 – 7.9 [4]
Copper, Total	µg/L	10	15	---	---	7.2 [1]
Cyanide, Total	µg/L	4.4	7.8	---	---	4.7
Lead, Total	µg/L	2.4	6.0	---	---	0.89 [1]
Ammonia, Total	mg/L as N	3.1	7.1	---	---	7.4
Fecal Coliform Bacteria	MPN/100 mL	200 [5]	400 [6]	---	---	300
Acute Toxicity	% Survival	Not less than 90% (11-Sample Median)				95 [7]
		Not less than 70% (11-Sample 90th Percentile)				
Chronic Toxicity	TU_c	No chronic toxicity in the discharge as discharged.				11

Unit Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
MPN/100 mL = most probable number per 100 milliliters
NTU = nephelometric turbidity units
% Survival = percent survival
TU_c = chronic toxicity units

Footnotes:

[1] Excludes December 11, 2014, data.

[2] Lowest monthly average.

[3] The highest monthly average oil and grease concentration was less than 5.0 mg/L.

[4] Range of highest and lowest pH values.

[5] The fecal coliform limitation is expressed as a five-sample moving geometric mean.

[6] The fecal coliform limitation is expressed as a ten-sample moving 90th percentile.

[7] Lowest percent survival.

D. Compliance Summary

1. **Treatment Plant.** The Discharger violated its numeric effluent limitations six times from March 2012 through May 2016:

Table F-3. Effluent Limitation Violations

Violation Date	Parameter	Unit	Effluent Limit	Reported Value
06/13/2013	Cyanide, Average Monthly	µg/L	4.4	4.7
12/11/2014	TSS, Maximum Daily	mg/L	20	46
12/11/2014	BOD_5, Maximum Daily	mg/L	20	93
12/11/2014	Turbidity, Instantaneous Maximum	NTU	10	130
12/11/2014	Copper, Maximum Daily	µg/L	15	37

Violation Date	Parameter	Unit	Effluent Limit	Reported Value
11/12/2015	Ammonia, Maximum Daily	µg/L	7.1	7.4

The Discharger was unable to determine the cause of the June 2013 cyanide effluent limit violation. The December 2014 effluent limit violations occurred due to a partial sand filter bypass during a large storm, when influent flows exceeded the plant's peak wet weather design capacity. The 2.6-million-gallon bypass lasted approximately 12 hours and 20 minutes and violated Discharge Prohibition III.B of the previous order. The Discharger determined that a broken irrigation line caused the November 2015 ammonia effluent limit violation.

To address these violations, the Executive Officer issued an enforcement action (Order No. R2-2016-1014) settling these violations with mandatory minimum penalties of $12,000.

The previous order specified that the discharge was not to contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water. The Discharger discharged chronic toxicity in excess of 1.0 chronic toxicity unit (TU_c) in September 2013, May 2015, and June 2015. It conducted 19 chronic toxicity tests as part of its toxicity identification evaluation (TIE) work from June through December 2015, concluding that biological growth in the UV channel could have been the toxicity source. The Discharger has incorporated more frequent UV channel and effluent wet well cleaning into its standard operating procedures. This Order imposes a numeric chronic toxicity effluent limitation and more frequent chronic toxicity monitoring requirements.

2. **Collection System.** The table below shows the Discharger's SSO rates (total SSOs per 100 miles of collection system) for the last four years, the age and length of the collection system, and comparisons to systems in the San Francisco Bay region. None of the SSOs during the previous order term reached waters of the United States.

Table F-4. SSO Rates (total SSOs/100 miles of sewer)
(based on CIWQS data analysis completed in June 2016) [1]

Medians	Length (miles)	Average Age of Pipe (years)	Total SSO Rate			
			2012	2013	2014	2015
City of Pacifica	100	56	5.0	7.0	9.0	1.0
San Mateo County median (>100 miles)	181	59	9.2	7.0	7.3	2.4
San Francisco Bay Region median of 45 large systems (>100 miles)	237	47	5.0	4.5	5.5	3.8
San Francisco Bay Region median of all 132 systems	46	44	5.2	5.2	6.3	3.7

Footnote:

[1] The State Water Board's Enrollee's Guide to the SSO Database defines "Total number of SSOs per 100 miles of Sewer" as "… the number of SSOs, for which the reporting Enrollee is responsible, for every 100 miles of pipe or sewer lines in an Enrollee's sanitary sewer system. Due to the large variation in facility specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of Enrollees and their sanitary sewer systems."

The Regional Water Board adopted Cease and Desist Order No. R2-2011-0031 on May 11, 2011, as amended by Order No. R2-2013-0005, to reduce and eliminate SSOs. This Order requires the Discharger to prepare an SSO Reduction Plan; meet recordkeeping requirements;

purchase a Computerized Maintenance Management System (CMMS); develop and implement enhanced system-wide cleaning, root control, and illicit discharge elimination programs; complete a condition assessment; complete a System Evaluation and Capacity Assurance Plan (SECAP); prepare and implement a Capital Improvement Plan (CIP); develop a 20-year Financial Plan; develop and implement a private sewer lateral replacement program; achieve minimum SSO performance standards; and develop a training assessment and program.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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 United States Environmental Protection Agency (U.S. EPA) and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.

B. California Environmental Quality Act

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Regional Water Board staff examined actual uses of Calera Creek downstream of the discharge point and confirmed municipal or domestic supply are not actual uses of the creek. Beneficial uses applicable to the Calera Creek are listed below:

Table F-5. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Calera Creek	Preservation of Rare and Endangered Species (RARE) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)

2. **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.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria 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.

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

5. **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. Requirements of this Order comply with anti-backsliding requirements.

6. **Recycled Water Policy.** The State Water Board adopted Resolution No. 2013-0003 on January 22, 2013, titled *Policy for Water Quality Control for Recycled Water*, which is intended to promote sustainable local water supplies by increasing the acceptance and promoting the use of recycled water. The policy sets a goal to increase the use of recycled water statewide by at least one million acre feet per year (afy) over the 2002 baseline-level by 2020 and by at least two million afy by 2030. Consistent with the policy, the Regional Water Board is to exercise its authority to the fullest extent possible to encourage the use of recycled water and to develop watershed-based salt and nutrient management plans to ensure use of recycled water does not degrade groundwater resources.

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

responsible for meeting all requirements of applicable State and federal law pertaining to threatened and endangered species.

D. Impaired Waters on CWA 303(d) List

In July 2015, U.S. EPA approved a revised list of impaired waters 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. Calera Creek is not on the 303(d) list.

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 at a location or in a manner different from that 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 to waters of the United States): This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G).

c. Discharge Prohibition III.C (No average dry weather influent flow in excess of 4.0 MGD): This Order prohibits average dry weather influent flows greater than 4.0 MGD because the plant design treatment capacity (i.e., its historic and tested treatment reliability) is 4.0 MGD. Exceeding this flow could result in lower reliability and greater potential to violate water quality requirements.

d. Discharge Prohibition III.D (No sanitary sewer overflows to waters of the United States): The CWA prohibits the discharge of wastewater to surface waters, except as authorized under an NPDES permit. Basin Plan Table 4-1, Discharge Prohibition 15 prohibits the discharge of raw sewage or any waste failing to meet waste discharge requirements to any waters of the Basin. 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 Basin Plan Discharge Prohibition 1

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits wastewater discharges with particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water. Discharge Point No. 001 discharges to Calera Creek such that the discharge does not receive at least 10:1 dilution. Basin Plan section 4.2 provides for exceptions to Basin Plan Discharge Prohibition 1 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:

> In reviewing requests for exceptions, the Water Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequences of such discharges.

This Order grants an exception to Basin Plan Discharge Prohibition 1 for the following reasons:

- Ensuring that Facility discharges receive a minimum initial dilution of 10:1 would be an inordinate burden for the Discharger, because the Discharger would have to construct and operate a deep water ocean outfall. An economic and ecological cost-benefit analysis was conducted in 2012 (*Economic and Ecological Costs and Benefits of Streamflow Augmentation Using Recycled Water in a California Coastal Stream*, Environ. Sci. Technol. 2013, 47, 10735 – 10743).
- The Discharger provides an equivalent level of protection by providing advanced-secondary treatment (i.e., removes more BOD_5, TSS, turbidity, and oil and grease than required by the Basin Plan and Secondary Treatment Standards).
- The discharge provides a net environmental benefit to Calera Creek by providing treated wastewater to 8.67 acres of restored wetlands along the lower Calera Creek channel and floodplain. The wetlands were created within a former rock quarry and would not exist without the continuous freshwater flow from the treatment plant. They provide habitat for the endangered San Francisco garter snake, the threatened California red-legged frog, and

the Pacific tree frog. The Discharger regularly maintains the wetlands by removing excess vegetation and eradicating invasive species.

B. Conventional and Non-Conventional Pollutant Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. In addition, the 30-day average BOD_5 and TSS percent removal must be at least 85 percent. The Basin Plan contains additional requirements for certain pollutants.

Table F-6. Secondary Treatment Standards

Parameter	Monthly Average	Weekly Average
BOD_5 [1]	30 mg/L	45 mg/L
$CBOD_5$ [1]	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
BOD_5 and TSS Removal	85 percent or greater	---
pH	6.0 – 9.0 standard units	

Abbreviations:

BOD_5 = biochemical oxygen demand (5 days at 20°C)
$CBOD_5$ = carbonaceous biochemical oxygen demand (5 days at 20°C)
TSS = total suspended solids
mg/L = milligrams per liter

Footnote:

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

2. Effluent Limitations

a. BOD_5 and TSS. The BOD_5 and TSS 85 percent removal requirements satisfy the requirements of the Secondary Treatment Standards and Basin Plan Table 4-2. More stringent weekly and monthly average effluent limitations apply, however, to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2). Effluent data show that compliance with these more stringent limits is feasible.

b. Oil and Grease. The oil and grease effluent limitations are more stringent than required by Basin Plan Table 4-2 so as to demonstrate a level of water quality protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2). Effluent data show that compliance with these more stringent limits is feasible.

c. pH. The pH effluent limitations are based on Basin Plan Table 4-2 and are more stringent than the Secondary Treatment Standards.

d. Turbidity. The turbidity effluent limitation is representative of adequate and reliable advanced-secondary wastewater treatment and demonstrates a level of water quality

protection equivalent to complying with Basin Plan Discharge Prohibition 1 (see Fact Sheet section IV.A.2). Effluent data show that compliance with this limit is feasible.

e. Fecal Coliform. Basin Plan Table 4-2A, footnote b, requires total coliform effluent limitations for discharges to receiving waters designated as freshwater, 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 receiving water beneficial uses. According to Order No. R2-2002-0088, the Discharger's 2001 – 2002 Bacteriological Study of Calera Creek demonstrated that the existing discharge is not having an adverse impact on Calera Creek. Therefore, the substitution will not result in unacceptable adverse impacts on receiving water beneficial uses. Furthermore, fecal coliform is a better bacterial indicator than total coliform in freshwaters with the water contact recreation (REC1) beneficial use. Like the previous order, this Order's limits are based on the fecal coliform water quality objectives in Basin Plan Table 3-1 for the water contact recreation beneficial use.

C. Toxic Pollutant Effluent Limitations

1. Scope and Authority

For toxic pollutants, this Order contains water quality-based effluent limitations (WQBELs) that implement water quality objectives protecting 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 beneficial 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

Fact Sheet section III.C.1, above, identifies the beneficial uses of the Calera Creek. Water quality criteria and objectives to protect these beneficial uses are described below:

a. Basin Plan Objectives. The Basin Plan specifies numeric water quality objectives for 10 priority pollutants and narrative water quality objectives for toxicity and bioaccumulation. The narrative toxicity objective states, "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms."

b. CTR Criteria. The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of San Francisco Bay Region. Human health criteria are identified as for "water and organisms" or "organisms only." The criteria for "organisms only" apply to Calera Creek because it is not a source of drinking water.

c. NTR Criteria. The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for inland waters of the State. The NTR criteria apply to Calera Creek.

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

Between April 2012 and May 2016, the Discharger measured salinity 15 times (n = 15) at Monitoring Location RSW-001. Salinity was less than 1 ppt in 100 percent of the samples and greater than 10 ppt in 0 percent of the samples. The waters of the Calera Creek in the vicinity of the discharge are therefore freshwater, and the reasonable potential analysis and effluent limitations in this Order are based on the freshwater objectives.

e. Receiving Water Hardness. Ambient hardness data were used to calculate freshwater water quality objectives that are hardness dependent. Between April 2012 and May 2016, the Discharger measured hardness 15 times (n = 15) at Monitoring Location RSW-001. Hardness ranged from 149 to 329 mg/L as calcium carbonate. The geometric mean (231 mg/L as calcium carbonate) was used to calculate the freshwater water quality objectives.

f. Site-Specific Metals Translators. Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45[c]). Since the water quality objectives for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, TSS, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives. The Discharger has not developed site-specific translators; therefore, default translators established by U.S. EPA in the CTR at 40 C.F.R. 131.38(b)(2), Table 2, were used for determining the need for and calculating WQBELs.

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. Available Information. The reasonable potential analysis for this Order is based on effluent monitoring data the Discharger collected from March 2012 through May 2016. It is also based on receiving water monitoring data the Discharger collected from April 2012 through May 2016 at Monitoring Location RSW-002.

In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. Provision VI.C.2 of this Order requires the Discharger to continue monitoring for such constituents in its effluent using analytical methods that provide the best feasible detection limitations. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision VI.C.2 of this Order still requires monitoring for such pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 of this Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

b. Priority Pollutants

i. Methodology. SIP section 1.3 sets forth the methodology used for this Order for assessing whether a priority 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:

(a) Trigger 1 is activated if the MEC is greater than or equal to the lowest applicable water quality objective (MEC $\geq$ water quality objective).

(b) Trigger 2 is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective (B > water quality objective) and the pollutant is detected in any effluent sample.

(c) Trigger 3 is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.

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

pollutants, and monitoring data are unavailable for others. Copper exhibits reasonable potential by Trigger 1.

Table F-7. Priority Pollutant Reasonable Potential Analysis

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
1	Antimony	4,300	0.39	0.25	No
2	Arsenic	150	0.95	0.64	No
3	Beryllium	No Criteria	<0.090	<0.090	U
4	Cadmium	4.8	<0.050	<0.050	No
5a	Chromium (III)	410	0.48	0.41	No
5b	Chromium (VI)	11	1.9	<1.5	No
6	**Copper**	**20**	**37**	**3.7**	**Yes**
7	Lead	9.2	4.0	0.12	No
8	Mercury	0.025	0.00080	0.00075	No
9	Nickel	110	2.1	2.0	No
10	Selenium	5.0	0.44	0.64	No
11	Silver	17	<0.020	<0.020	No
12	Thallium	6.3	<0.050	<0.050	No
13	Zinc	240	65	42	No
14	Cyanide	5.2	4.7	1.5	No
16	2,3,7,8-TCDD	1.4E-08	<1.4E-07	<1.1E-06	No
17	Acrolein	780	<1.7	<1.7	No
18	Acrylonitrile	0.66	<0.69	<1.8	No
19	Benzene	71	<0.18	<0.18	No
20	Bromoform	360	<0.15	<0.15	No
21	Carbon Tetrachloride	4.4	<0.16	<0.16	No
22	Chlorobenzene	21,000	<0.18	<0.18	No
23	Chlorodibromomethane	34	<0.17	<0.17	No
24	Chloroethane	No Criteria	<0.38	<0.38	U
25	2-Chloroethylvinyl ether	No Criteria	<0.28	<0.28	U
26	Chloroform	No Criteria	<0.19	<0.19	U
27	Dichlorobromomethane	46	<0.16	<0.16	No
28	1,1-Dichloroethane	No Criteria	<0.28	<0.19	U
29	1,2-Dichloroethane	99	<0.18	<0.18	No
30	1,1-Dichloroethylene	3.2	<0.21	<0.21	No
31	1,2-Dichloropropane	39	<0.18	<0.18	No
32	1,3-Dichloropropylene	1,700	<0.16	<0.16	No
33	Ethylbenzene	29,000	<0.26	<0.26	No
34	Methyl Bromide	4,000	<0.17	<0.30	No
35	Methyl Chloride	No Criteria	<0.23	<0.30	U
36	Methylene Chloride	1,600	<0.20	<0.40	No
37	1,1,2,2-Tetrachloroethane	11	<0.10	<0.15	No
38	Tetrachloroethylene	8.9	<0.19	<0.19	No
39	Toluene	200,000	<0.19	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.22	<0.22	No
41	1,1,1-Trichloroethane	No Criteria	<0.19	<0.19	U

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
42	1,1,2-Trichloroethane	42	<0.16	<0.16	No
43	Trichloroethylene	81	<0.20	<0.20	No
44	Vinyl Chloride	530	<0.25	<0.25	No
45	2-Chlorophenol	400	<0.70	<0.40	No
46	2,4-Dichlorophenol	790	<0.90	<0.40	No
47	2,4-Dimethylphenol	2,300	<0.80	<0.40	No
48	2-Methyl- 4,6-Dinitrophenol	770	<0.60	<0.30	No
49	2,4-Dinitrophenol	14,000	<0.83	<0.20	No
50	2-Nitrophenol	No Criteria	<0.80	<0.40	U
51	4-Nitrophenol	No Criteria	<0.50	<0.50	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.80	<0.50	U
53	Pentachlorophenol	5.2	<0.60	<0.40	No
54	Phenol	4,600,000	<0.50	<0.30	No
55	2,4,6-Trichlorophenol	6.5	<0.97	<0.50	No
56	Acenaphthene	2,700	<0.010	<0.020	No
57	Acenaphthylene	No Criteria	<0.020	<0.020	U
58	Anthracene	110,000	0.020	<0.010	No
59	Benzidine	0.00054	<5.0	<4.0	No
60	Benzo(a)Anthracene	0.049	<0.020	<0.020	No
61	Benzo(a)Pyrene	0.049	<0.010	<0.020	No
62	Benzo(b)Fluoranthene	0.049	<0.010	<0.020	No
63	Benzo(ghi)Perylene	No Criteria	<0.020	<0.020	U
64	Benzo(k)Fluoranthene	0.049	<0.010	<0.020	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.90	<0.50	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.70	<0.40	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.60	<0.40	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	1.0	<0.50	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.70	<0.50	U
70	Butylbenzyl Phthalate	5,200	<0.70	<0.50	No
71	2-Chloronaphthalene	4,300	<0.90	<0.40	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.90	<0.50	U
73	Chrysene	0.049	<0.010	<0.020	No
74	Dibenzo(a,h)Anthracene	0.049	<0.020	<0.020	No
75	1,2-Dichlorobenzene	17,000	<0.27	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.18	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.18	<0.18	No
78	3,3 Dichlorobenzidine	0.077	<5.0	<5.0	No
79	Diethyl Phthalate	120,000	<0.70	<0.50	No
80	Dimethyl Phthalate	2,900,000	<0.90	<0.50	No
81	Di-n-Butyl Phthalate	12,000	<0.60	<0.40	No
82	2,4-Dinitrotoluene	9.1	<0.70	<0.40	No
83	2,6-Dinitrotoluene	No Criteria	<0.80	<0.40	U
84	Di-n-Octyl Phthalate	No Criteria	<0.50	<0.40	U
85	1,2-Diphenyhydrazine	0.54	<0.70	<0.50	No
86	Fluoranthene	370	<0.030	<0.020	No

CTR No.	Pollutants	C or Governing Criterion or Objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
87	Fluorene	14,000	0.020	<0.010	No
88	Hexachlorobenzene	0.00077	<0.070	<0.040	No
89	Hexachlorobutadiene	50	<0.060	<0.40	No
90	Hexachlorocyclopentadiene	17,000	<0.70	<0.30	No
91	Hexachloroethane	8.9	<0.60	<0.40	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.020	<0.020	No
93	Isophorone	600	<0.93	<0.50	No
94	Naphthalene	No Criteria	<0.020	<0.020	U
95	Nitrobenzene	1,900	<0.90	<0.50	No
96	N-Nitrosodimethylamine	8.1	<0.50	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.80	<0.50	No
98	N-Nitrosodiphenylamine	16	<0.50	<0.30	No
99	Phenanthrene	No Criteria	0.020	<0.020	U
100	Pyrene	11,000	0.030	<0.020	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.60	<0.30	U
102	Aldrin	0.00014	<0.60	<0.0040	No
103	Alpha-BHC	0.013	<0.0050	<0.0050	No
104	Beta-BHC	0.046	<0.0040	<0.0040	No
105	Gamma-BHC	0.063	<0.0040	<0.0010	No
106	Delta-BHC	No Criteria	<0.0040	<0.0040	U
107	Chlordane	0.00059	<0.020	<0.020	No
108	4,4'-DDT	0.00059	<0.0040	<0.0040	No
109	4,4'-DDE	0.00059	<0.0030	<0.0030	No
110	4,4'-DDD	0.00084	<0.0040	<0.0040	No
111	Dieldrin	0.00014	<0.0040	<0.0040	No
112	Alpha-Endosulfan	0.056	<0.0040	<0.0040	No
113	beta-Endosulfan	0.056	<0.0050	<0.0050	No
114	Endosulfan Sulfate	240	<0.0050	<0.0050	No
115	Endrin	0.036	<0.0050	<0.0050	No
116	Endrin Aldehyde	0.81	<0.0050	<0.0050	No
117	Heptachlor	0.00021	<0.0050	<0.0050	No
118	Heptachlor Epoxide	0.00011	<0.0040	<0.0040	No
119-125	PCBs sum	0.00017	<1.0	<0.34	No
126	Toxaphene	0.00020	<0.30	<0.30	No

Footnotes:

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

[2] The MEC or ambient background concentration 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
= Unknown (U) if no criteria have been promulgated or data are insufficient

c. Ammonia

i. Methodology. Ammonia is a toxic pollutant but not a priority pollutant as defined by the CTR; therefore, the procedure outlined in the Technical Support Document is used to determine if ammonia in the discharge has a reasonable potential to cause Basin Plan water quality objectives to be exceeded in the receiving water. To perform reasonable potential analyses, the Technical Support Document allows the use of measured receiving water concentrations or receiving water concentrations projected from effluent data. 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 coefficient of variation is estimated to equal 0.6. For a data set where $n \geq 10$, the coefficient of variation 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 99^{th} or 95^{th} 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 99^{th} percentile) is 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 calculated as follows:

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

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).

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

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) Water Quality Objective. Basin Plan section 3.3.20 contains an un-ionized ammonia water quality objective of 0.025 mg/L as an annual median.

(b) Ammonia Data Translation. Un-ionized ammonia concentrations must be translated into total ammonia concentrations 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 the salinity, pH, and temperature of the receiving water. Temperature and pH data from effluent and receiving water monitoring were used to determine the fraction of total ammonia in the un-ionized form based on the following equation:

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

Where:

pK = 0.09018 + 2729.92/T
T = temperature in Kelvin

(c) Dilution. For purpose of this analysis, no dilution was assumed, and the receiving water concentration projected from effluent data was assumed to be the same as the projected upper-bound concentration: 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 objective:

(1) Effluent Approach. Effluent un-ionized ammonia concentrations were calculated using the pH and temperature data collected on the same 229 days as the ammonia samples (n = 229). The highest actual running annual median un-ionized ammonia concentration based on the effluent data was calculated and compared with the objective, which itself is expressed as an annual median. No projection is needed to establish the central tendency of the data. The maximum annual median, 0.001 mg/L, is less than the annual median objective of 0.025 mg/L.

(2) Receiving Water Approach. Receiving water monitoring data were collected for total ammonia, pH, salinity, and temperature at Monitoring Location RSW-002. The highest running annual median un-ionized ammonia concentration (0.004 mg/L) was less than the annual median water quality objective (0.025 mg/L).

(e) Conclusion. The discharge does not exhibit reasonable potential for ammonia. However, this Order retains the previous order's total ammonia limits to ensure that the Discharger continues to successfully operate its treatment plant to reduce ammonia concentrations. Doing so will also ensure that effluent ammonia concentrations remain below the Basin Plan objective.

d. Whole Effluent Acute Toxicity

Basin Plan section 4.5.5.3.1 requires acute toxicity monitoring and limitations, implying there is reasonable potential for the discharge to cause or contribute to exceedances of the acute toxicity water quality objective.

e. Whole Effluent Chronic Toxicity

i. Water Quality Objective. Basin Plan section 3.3.18 contains the following water quality objective for toxicity: "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms... . 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. Attainment of this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, or toxicity tests…, or other methods selected by the Water Board."

For this Order, this narrative objective is translated into a numeric criterion of 1.0 TU_c. At 1.0 TU_c, there is no observable detrimental effect when the indicator organism is exposed to 100 percent effluent; therefore, 1.0 TU_c is a direct translation of the narrative objective into a number. Moreover, in the Technical Support Document (see section 3.3.3, "Step 3: Decision Criteria for Permit Limit Development"), U.S. EPA recommends that 1.0 TU_c be used as a criterion continuous concentration (typically a four-day average). It further states that reasonable potential is shown where an effluent is projected to cause an excursion above the criterion continuous concentration. The Technical Support Document applies here as guidance because it directly addresses effluent characterization for whole effluent toxicity.

ii. Analysis. The previous order required annual chronic toxicity tests using the water flea (*Ceriodaphnia dubia*). During the previous order term, the Discharger observed intermittent chronic toxicity. Out of 13 chronic toxicity tests using the water flea, three (23%) exceeded 1.0 TU_c. The highest results, 10.6 and 4.3 TU_c, occurred in May and June 2015. In addition, the Discharger observed toxicity during TIE work conducted from June through September 2015. The Discharger posited that biological growth in the UV channel could have been the toxicity source; however, the source of toxicity was not conclusively identified. Based on available information, there is reasonable potential for the discharge to cause or contribute to exceedances of the translated chronic toxicity water quality objective (1.0 TU_c).

Numeric WQBELs for chronic toxicity are necessary and appropriate because the chemical-specific WQBELs and narrative chronic toxicity WQBEL (with triggers for prescriptive accelerated monitoring and toxicity reduction evaluation) in the previous order were insufficient to attain and maintain the narrative chronic toxicity water quality objective, as evidenced by the observed chronic toxicity in the discharge during the previous order term. Numeric WQBELs are consistent with the intent of the federal regulations requiring whole effluent toxicity effluent limitations at 40 C.F.R. section 122.44(d). As set forth in the preamble to these regulations,

"A limit on whole effluent toxicity refers to a numeric effluent limitation expressed in terms such as toxic units, no observed effect level (NOEL), LC_{50}, or percent mortality." (54 Fed. Reg. 23871, emphasis added.) Numeric toxicity WQBELs are an efficient and effective regulatory tool because the measurement of compliance is clearly defined.

State Water Board Order Nos. WQ 2003-0012 and 2003-0013 do not preclude the Regional Water Board from imposing numeric effluent limitations for chronic toxicity. In those orders, the State Water Board questioned the propriety of numeric chronic toxicity effluent limitations in NPDES permits for POTWs that discharge into inland waters and decided to address the issue by modifying the SIP within one year. It expressly declined to determine the propriety of final numeric effluent limitations for chronic toxicity for the permits under review (Order No. WQ 2003-0012, p. 9). Pending SIP modification, it replaced the numeric toxicity effluent limitations of the specific permits under review with narrative ones similar to those in the previous order. More than 13 years have passed and the State Water Board has not modified the SIP. Meanwhile, notwithstanding the narrative chronic toxicity effluent limitations, discharges that do not ensure compliance with the narrative toxicity water quality objective continue. Based on these developments and differing facts since adoption of the State Water Board orders, the Regional Water Board exercises its own discretion and finds that numeric chronic toxicity WQBELs are necessary and appropriate at this time and that they are consistent with federal regulations as they apply to whole effluent toxicity. Moreover, under similar circumstances, U.S. EPA indicated its intent to object to reissuance of the Las Gallinas Valley Sanitary District permit (Permit No. CA0037851) if that permit did not contain WQBELs as stringent as necessary to meet water quality standards, including numeric WQBELs as needed (Jane Diamond, U.S. EPA, January 15, 2015).

4. Water Quality-Based Effluent Limitations

WQBELs were developed for the pollutants or pollutant parameters determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. WQBELs are based on the procedures in SIP section 1.4. Average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were calculated as shown in the table below. This Order also retains the previous order's total ammonia limits to ensure that existing performance is maintained.

a. WQBEL Expression. NPDES regulations at 40 C.F.R. section 122.45(d) require that permit limits for POTWs be expressed as average weekly and average monthly limits, unless impracticable. This Order contains MDELs instead of weekly limits because MDELs better protect against acute water quality effects and are necessary to prevent fish kills or mortality to aquatic organisms. Weekly limits could allow acute and chronic toxicity to occur over shorter periods (acute and chronic aquatic life criteria are typically expressed as one-hour and four-day averages).

Daily WQBELs are appropriate for chronic toxicity. In discussing permit limit expression for chronic toxicity in *EPA Regions 8, 9 and 10 Toxicity Training Tool* (January 2010), U.S. EPA acknowledges that NPDES regulations at 40 C.F.R. section 122.45(d) require weekly limits for POTWs but indicates that weekly limits are inappropriate for toxic

pollutants and water quality permitting. According to U.S. EPA, the requirement for weekly limits is based on the secondary treatment requirements, which are unrelated to water quality. Section 5.2.3 of the Technical Support Document also states that weekly limits are inappropriate for whole effluent toxicity. In lieu of weekly limits, U.S. EPA recommends daily limits. Since chronic toxicity tests may take several days to complete, Table 4 of the Order contains a note indicating that the maximum daily WQBEL is to be interpreted as the maximum test result for the month, as U.S. EPA recommends in Technical Support Document section 5.2.3.

b. Mixing Zones and Dilution. The Discharger has not provided evidence to support a mixing zone for the discharge; therefore, this Order establishes WQBELs without dilution credits.

c. WQBEL Calculations. The following table shows the WQBEL calculations. Calculations for copper are in accordance with the SIP. Calculations for chronic toxicity use the SIP methodology as guidance because U.S. EPA recommends that toxicity WQBELs be derived using a statistical approach (see Technical Support Document, section 5.4.2), and the SIP-based procedure is one such approach.

Table F-8. WQBEL Calculations

Pollutant	**Copper**	**Chronic Toxicity**
Units	**µg/L**	**TU_c**
Basis and Criteria type	Basin Plan	Basin Plan Narrative
Criteria -Acute	31	---
Criteria -Chronic	19	1.0
Water Effects Ratio (WER)	1	1
Lowest WQO	19	1.0
Site Specific Translator - MDEL	0.96	---
Site Specific Translator - AMEL	0.96	---
Dilution Factor (D) (if applicable)	0	0
No. of samples per month	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y
HH criteria analysis required? (Y/N)	N	N
Applicable Acute WQO	32	---
Applicable Chronic WQO	20	1.0
HH criteria	---	---
Background (Maximum Conc for Aquatic Life calc)	3.7	0
Background (Average Conc for Human Health calc)	---	---
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N
ECA acute	32	---
ECA chronic	20	1.0
ECA HH	---	---
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N
Avg of effluent data points	5.7	2.0

Pollutant	Copper	Chronic Toxicity
Std Dev of effluent data points	4.3	2.7
CV calculated	0.76	1.3
CV (Selected) - Final	0.76	1.3
ECA acute mult99	0.26	---
ECA chronic mult99	0.45	0.29
LTA acute	8.3	---
LTA chronic	9.0	0.29
minimum of LTAs	8.3	0.29
AMEL mult95	1.7	2.3
MDEL mult99	3.9	6.3
AMEL (aq life)	14	0.66
MDEL (aq life)	32	1.8
MDEL/AMEL Multiplier	2.2	2.8
AMEL (human hlth)	---	---
MDEL (human hlth)	---	---
minimum of AMEL for Aq. life vs HH	14	0.66
minimum of MDEL for Aq. Life vs HH	32	1.8
Previous order limit (average monthly)	10	narrative
Previous order limit (maximum daily)	15	narrative
Final limit - AMEL	**10**	**1.0** [1]
Final limit - MDEL	**15**	**1.8**

Footnote:

[1] In *EPA Regions 8, 9 and 10 Toxicity Training Tool* (January 2010), U.S. EPA recommends a median monthly limit of 1.0 TU_c when the statistically-calculated AMEL is less than 1.0 TU_c.

d. Whole Effluent Acute Toxicity

This Order includes effluent limitations for whole effluent acute toxicity based on Basin Plan Table 4-3.

D. Discharge Requirement Considerations

1. **Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4), and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous order. The requirements of this Order are at least as stringent as those in the previous order.

   This Order changes the turbidity instantaneous maximum effluent limitation to a daily maximum effluent limitation and continues to require only 24-hour composite sampling, not instantaneous grab samples. Backsliding is allowed because this Order complies with

antidegradation policies (see Fact Sheet section IV.D.2), and a technical mistake was made when issuing the previous order (i.e., it is not possible to evaluate compliance with an instantaneous limit with composite sampling).

This Order does not retain WQBELs for cyanide and lead from the previous order because current data do not indicate reasonable potential to exceed these water quality objectives. This is consistent with State Water Board Order No. WQ 2001-16.

2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. It continues the status quo with respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for a reduced level of treatment or increase effluent limitations relative to the previous order.

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

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

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions.

The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into 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 the federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

B. Monitoring and Reporting

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

C. Special Provisions

1. Reopener Provisions

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

2. Effluent and Receiving Water Characterization Study and Report

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

3. Pollutant Minimization Program

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

4. Special Provisions for Publicly-Owned Treatment Works (POTWs)

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

b. Collection System Management. The Discharger's collection system is part of the Facility regulated through this Order. This provision requires compliance with State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order No. WQ 2013-0058-EXEC and any subsequent order updating these requirements. These State Water Board WDRs require public agencies that own or operate sanitary sewer systems with one or more miles of sewer lines to enroll for coverage and comply with requirements to develop sanitary sewer management plans and report sanitary sewer overflows, among other provisions and prohibitions. The State Water Board WDRs contain requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive and, therefore, more stringent than the standard provisions in Attachments D and G. Compliance with the State Water Board WDRs will satisfy the corresponding requirements in Attachments D and G.

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 monitoring at Monitoring Location INF-001 is necessary to understand Facility operations and to evaluate compliance with this Order's 85 percent BOD_5 and TSS removal requirements and Discharge Prohibition III.C.

2. **Effluent Monitoring.** Effluent flow monitoring at Monitoring Location EFF-001 is necessary to understand Facility operations. Monitoring for the other parameters is necessary to evaluate compliance with this Order's effluent limitations and to conduct future reasonable potential analyses.

3. **Whole Effluent Toxicity Testing.** Acute and chronic whole effluent toxicity tests are necessary to evaluate compliance with this Order's effluent limitations and to conduct future reasonable potential analyses. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity exceeds the trigger for accelerated monitoring and Toxicity Reduction Evaluations based on Basin Plan sections 4.5.5.3.2 and 4.5.5.3.3 and Basin Plan Table 4-5.

   Consistent with Basin Plan section 4.5.5.3.4, the Discharger is required to conduct a chronic toxicity screening phase study, as described in MRP Appendix E-1, prior to permit reissuance. The Discharger's August 2016 chronic toxicity screening report found green algae (*Selenastrum capricornutum*) to be the most sensitive species based on three test batteries conducted concurrently on three test species (i.e., one plant, one invertebrate, and one fish) in May, June, and July 2016; however, no toxicity was observed in all nine test results (<1 TU_c) based on the IC_{25} and EC_{25} point estimates. As defined in Appendix E-1, the chronic toxicity test result used for compliance determination is equal to the IC_{25} or EC_{25} point estimates unless these cannot be statistically determined. The Discharger indicates that

the June 2016 test result (2 TU_c) based on the NOEC demonstrates that green algae is the more sensitive species, but this is not the appropriate test result to consider.

The chronic toxicity screening studies conducted in 2007 – 2008 and 2013 show the water flea (*Ceriodaphnia dubia*) to be the most sensitive species, and tests conducted in May and June 2015 using the water flea exhibited chronic toxicity (10.6 and 4.3 TU_c). Thus, this Order retains the requirement to use the water flea for chronic toxicity tests because it is the most sensitive species.

4. **Receiving Water Monitoring.** Receiving water monitoring is necessary to evaluate compliance with receiving water limitations and to conduct future reasonable potential analyses.

5. **Biosolids Monitoring Requirements.** Biosolids monitoring is required pursuant to 40 C.F.R. part 258 (for landfill disposal) or 40 C.F.R. part 503 (for land application).

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	Receiving Water RSW-001 through RSW-004	Biosolids BIO-001
Flow	Continuous/D	Continuous/D	Continuous/D	See MRP § VII and Attachment G § III.B
BOD_5	1/Week	1/Week	---	
TSS	1/Week	1/Week	---	
Oil and Grease	---	1/Quarter	---	
pH	---	1/Day	1/Quarter	
Temperature	---	1/Day	1/Quarter	
Turbidity	---	1/Day	---	
Fecal Coliform Bacteria	---	2/Week	---	
Dissolved Oxygen	---	1/Day	1/Quarter	
Dissolved Sulfide	---	1/Day	1/Quarter	
Acute Toxicity	---	1/Month	---	
Chronic Toxicity	---	2/Year	---	
Ammonia, Total	---	1/Week	1/Quarter	
Copper, Total Recoverable	---	1/Month	---	
Hardness	---	---	1/Quarter	
Salinity	---	---	1/Quarter	
Standard Observations	---	1/Month	1/Quarter	
Priority Pollutants [1]	---	1/Year	Once [2]	

Sampling Frequencies:

Continuous/D	= measured continuously, and recorded and reported daily
1/Day	= once per day
1/Week	= once per week
2/Week	= two times per week
1/Month	= once per month
1/Quarter	= once per quarter
1/Year	= once per year
2/Year	= twice per year
Once	= once during the permit term within 12 months prior to applying for permit reissuance

Footnotes:

[1] This monitoring is required by Provision VI.C.2 of the Order.

[2] This monitoring is required only at Monitoring Location RSW-001.

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 *San Mateo County Times*. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at http://www.waterboards.ca.gov/sanfranciscobay.

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

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 February 27, 2017**.

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, April 12, 2017
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Jessica Watkins, (510) 622-2349, Jessica.Watkins@waterboards.ca.gov

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

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

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

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

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

E. Information and Copying. The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m. (except noon to 1:00 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 Jessica Watkins at (510) 622-2349 or Jessica.Watkins@waterboards.ca.gov.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT G

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

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

Contents

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

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

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

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

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

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

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

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

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

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

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

c. Provisions of emergency standby power.

d. Protection against vandalism.

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

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

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

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

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

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

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

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

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

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

2. Wastewater Facilities Status Report - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

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

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

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

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

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

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

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

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

1. Storm Water Pollution Prevention Plan (SWPP Plan)

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

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

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

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

2. Source Identification

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

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

b. A site map showing the following:

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

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

3) Paved areas and buildings;

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

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

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

7) Vehicle service areas.

c. A narrative description of the following:

1) Wastewater treatment process activity areas;

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

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

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

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

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

3. Storm Water Management Controls

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

a. Storm water pollution prevention personnel

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

b. Good housekeeping

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

c. Spill prevention and response

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

d. Source control

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

e. Storm water management practices

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

f. Sediment and erosion control

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

g. Employee training

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

h. Inspections

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

i. Records

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

4. Annual Verification of SWPP Plan

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

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

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

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 C.F.R. 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 C.F.R. part 136 or approved by U.S. EPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

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

a. Timing of Sample Collection

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

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

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

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

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

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

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

b. Conditions Triggering Accelerated Monitoring

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

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

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

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

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

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

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

c. Storm Water Monitoring

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

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

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

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

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

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

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

d. Receiving Water Monitoring

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

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

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

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

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

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

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

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 C.F.R. 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 WDRs 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 WDRs found during the reporting period;

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

3) Causes of violations;

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

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

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

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

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

b. Compliance evaluation summary

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

c. Results of analyses and observations

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

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

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

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

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

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

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

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

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

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

d. Data reporting for results not yet available

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

e. Flow data

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

f. Annual self monitoring report requirements

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

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

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

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

4) List of approved analyses, including the following:

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

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

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

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

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

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

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board

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

h. Reporting data in electronic format

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

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

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until 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 supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

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

1) Incident description and cause;

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

3) Date and time the unauthorized discharge started;

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

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

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

6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

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

c. 5-Day Written Report

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

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

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

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

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

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

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

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

d. Communication Protocol

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

Table B

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

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

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

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

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

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

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISION – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

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

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

1. Arithmetic Calculations

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

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

or

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

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

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

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

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

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

calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

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

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

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

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

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 C.F.R. Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

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

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

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
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
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									

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
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[7]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											

[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
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

Appendix B
Comments

CITY OF PACIFICA
170 Santa Maria Avenue • Pacifica, California 94044-2506
www.cityofpacifica.org

Scenic Pacifica
Incorporated Nov. 22, 1957

February 27, 2017

Ms. Jessica Watkins, P.E.
Water Resource Control Engineer
California Regional Water Quality Control Board,
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
By email: Jessica.Watkins@waterboards.ca.gov

Subject: Comments on Tentative Order for City of Pacifica Water Recycling Plant (Reissuance of NPDES Permit No. CA0038776)

Dear Ms. Watkins:

The City of Pacifica (City) is submitting the following comments on the Tentative Order issued for the Calera Creek Water Recycling Plant (CCWRP) on January 25, 2017. The City's comments are primarily related to the inclusion of numeric chronic toxicity effluent limits, the methods for implementing the limits, and the possible risks to NPDES permit compliance. Where changes are suggested for the Tentative Order, additions are shown as underlined text and suggested deletions are shown as ~~strikethrough~~.

The advanced secondary treated wastewater produced by CCWRP is used to nourish 8.67 acres of restored freshwater wetlands along Calera Creek. The wetlands provide habitat for threatened and endangered species and the perimeter pathway is popular with walkers, runners, bicyclists, bird watchers, and dog walkers. The downstream water quality supports the designated beneficial uses and periodic species surveys indicate the ecosystem is healthy and diverse. During the upcoming permit term, the City is planning to install a 2.1 MGal equalization basin in the collection system, conduct a condition assessment of CCWRP to prioritize replacement of aging equipment and SCADA system and continue rehabilitating, replacing, and upgrading capacity of sewer lines.

Comment No. 1 – Remove Chronic Toxicity Numeric Limitations
Effluent Limitations and Discharge Specifications IV.A., Table 4 (Page 4)

Effluent chronic toxicity measured in May 2015 triggered accelerated monitoring and implementation of a TRE/TIE from June to September 2015. The TRE/TIE pointed to pathogen-related toxicity originating in the UV effluent channel and wet well. In October 2015, the City held wastewater flows for 24 hours and conducted a major cleaning of the UV channel and wet well using a power washer and vactor truck. All chronic toxicity tests conducted after UV channel/wet well cleaning occurred have been < 1 TUc. The results prior to October 2015 are not representative and the reasonable potential analysis should be conducted using only data collected after the October 2015 cleaning event. Since all results since October 2015 are less than the numeric chronic toxicity criterion recommended by the EPA, numeric effluent limits will not be required and can be removed from the Tentative Order. The current permit approach using narrative limits and numeric triggers for accelerated monitoring and investigation will be sufficient for regulating the City's discharge.

Comment No. 2 – No Chronic Toxicity Violations during TRE/TIE Implementation
Effluent Limitations and Discharge Specifications IV.A., Table 4 (Page 4)

If numeric chronic toxicity effluent limits must be included in the permit, the City should be protected from violations during implementation of an approved TRE work plan. The City should not be penalized or become vulnerable to citizen lawsuits while conducting the additional testing and investigations required to identify the cause of measured toxicity. The following changes are suggested to provide this relief.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
Chronic Toxicity	TUc	1.0 [2], [4]	1.8 [3], [4]	---	---

[4] Compliance with chronic toxicity effluent limitations will not be enforced while the Discharger is implementing a TRE work plan approved by the Executive Officer.

Comment No. 3 – Choice of Chronic Toxicity Test Species
Attachment E, Whole Effluent Toxicity Testing Requirements V.B.1. (Page E-5)
Attachment F, Rationale for Monitoring and Reporting Program (MRP) VII.A.3. (Page F-26)

The City tested *Ceriodaphnia dubia* during the current permit term based on species screening conducted in 2011. However, *Ceriodaphnia dubia* testing has been problematic for other dischargers (e.g., San Jose/Santa Clara Regional Wastewater Facility and City of Palo Alto) due to epibiont pathogenicity. *Ceriodaphnia dubia* has also shown high interlaboratory variability in tests conducted for the City of San Jose and a recent interlaboratory evaluation conducted by the Southern California Coastal Water Research Program (SCCWRP)[1]. San Jose sent split samples to different laboratories and four of fifteen samples showed significant differences between laboratories (ranging from results above monitoring triggers to results showing no toxicity). The SCCWRP study indicated the *Ceriodaphnia* reproduction test reproducibility was poor, often showing high toxicity in blank samples and low toxicity in copper spiked samples. Recent species screening conducted by the City indicated

[1] "Stormwater Monitoring Coalition: Toxicity Testing Laboratory Guidance Document," Southern California Coastal Water Research Program, Technical Report 956, December 2016.

Selenastrum capricornutum is the most sensitive species for routine chronic toxicity testing. The City wishes to test *Ceriodaphnia* or *Selenastrum* until it can determine which test species shows less variability in its effluent and can produce consistent, actionable results for compliance and TRE implementation. The following changes are suggested to allow both species to be tested and to provide a rationale for testing *Ceriodaphnia* or *Selenastrum*.

Attachment E

b. Test Species. The test species shall be the water flea (*Ceriodaphnia dubia*) or green algae (*Selenastrum capricornutum*). ~~unless a more sensitive species is identified. If using this species proves unworkable, the Executive Officer may specify a different species in writing upon the Discharger's request with justification.~~

Attachment F

...Consistent with Basin Plan section 4.5.5.3.4, the Discharger is required to conduct a chronic toxicity screening phase study, as described in MRP Appendix E-1, prior to permit reissuance. The Discharger's August 2016 chronic toxicity screening report found green algae (*Selenastrum capricornutum*) to be the most sensitive species ~~(2 TUc)~~ based on cell growth inhibition (2 TUc; 100/NOEC) however tests conducted in May and June 2015 using the water flea (*Ceriodaphnia dubia*) exhibited more chronic toxicity (10.6 and 4.3 TUc; $100/IC_{25}$). It is not clear which species is more sensitive to the Discharger's treatment processes and effluent characteristics. Thus, this Order allows the Discharger to use either species ~~retains the requirement to use the water flea (*Ceriodaphnia dubia*)~~ for chronic toxicity testings ~~because it is the most sensitive species~~.

Comment No. 4 – Remove pH Receiving Water Limitations

Receiving Water Limitations V.B.3 (Page 6)

Surface water pH can be influenced considerably by natural biological and chemical processes. In streams and wetlands, algal photosynthesis and respiration is typically the most significant factor. As a result, it is difficult to determine if effluent discharges are causing or contributing to an exceedance of receiving water pH limitations. Effluent pH limitations are more appropriate for evaluating impacts of an effluent discharge to receiving waters. The City requests removal of pH receiving water limitations from the Tentative Order. This approach is consistent with Tentative Orders issued recently for the City of American Canyon Water Reclamation Facility and the Central Contra Costa Sanitary District Wastewater Treatment Plant. The following change is recommended to implement this request.

~~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 unitis in normal ambient pH levels.~~

Comment No. 5 – Implementing Federal Twenty-Four Hour Reporting Requirements

Attachment D, Standard Provisions - Reporting V.E. (Page D-8)

Attachment D contains new federal twenty-four hour reporting requirements for sanitary sewer overflows and bypass events. To comply with these requirements for sanitary sewer overflows, the City intends to follow reporting provisions specified in the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ, as amended by Order No. WQ 2013-0058-EXEC). To comply with these requirements for unauthorized discharges from the CCWRP, the City intends to follow reporting provisions specified in the Regional Standard Provisions (NPDES Permit Attachment G, as modified in Attachment E).

Comment No. 6 – Location and Purpose of New Wet Weather Equalization Basin
Attachment C (Page C-1) and Attachment F, Facility Description II.A. (Page F-4)

The City is planning to construct a 2.1 million gallon wet weather equalization basin within the collection system. It will be located near 540 Crespi Drive in Pacifica, approximately 2 miles upstream of CCWRP. The equalization basin will provide additional capacity in the sewer system and reduce the potential for sanitary sewer overflows. During large storm events, excess sanitary sewer flows will be diverted to the basin and after storm events subside, the contents will be emptied and returned to the collection system for treatment at the CCWRP. The project features and location are shown in the following diagram. Construction is planned to commence in May 2017.

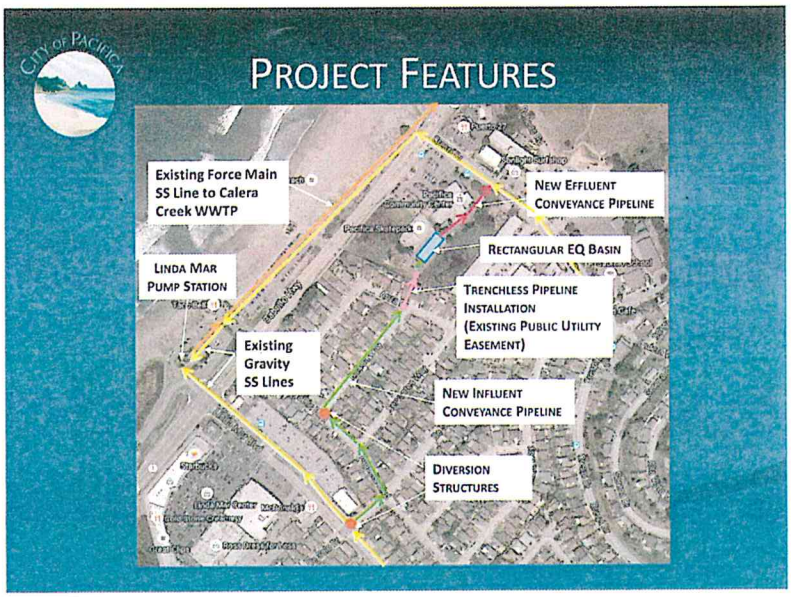
The following changes to the T.O. are needed to accurately describe the location and purpose of the equalization basin.

Attachment C

The Facility will include a wet weather equalization basin approximately 2 miles upstream of the headworks ~~prior to grit removal~~ once constructed.

Attachment F

6. **Facility Upgrades.** To augment the Facility as described above, the Discharger is implementing ~~considering~~ improvements to comply with Cease and Desist Order No. R2-2011-0031 (as amended) to reduce and eliminate sanitary sewer overflows (SSOs). The Discharger is currently planning to construct a 2.1-million gallon wet weather equalization basin approximately 2 miles upstream of the Facility headworks to provide additional capacity in the sewer system.



Comment No. 7 – Interpretation of 2/Year Sampling Frequency and Monitoring Periods
Attachment E, Table E-6, (Page E-11)

The new NPDES permit is projected to become effective on June 1, 2017. To comply with 2/Year monitoring requirements in 2017, the City interprets Table E-6 to mean the monitoring period will begin on July 1, 2017 since that date is closer to the June 1, 2017 permit effective date. As a result, one sample will be collected in 2017.

Comment No. 8 – Non-Substantive Comments

Attachment E, Whole Effluent Toxicity Testing Requirements V.B.1.c. (Page E-6)

> **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.

Attachment F, Facility Description II.D.1. (Page F-6)

> The previous Order specified that the discharge was not to contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water. The Discharger discharged chronic toxicity in excess of 1.0 chronic toxicity unit (TUc) in September 2013, May 2015, and June 2015~~May, June, and December 2015~~. It conducted 19 chronic toxicity tests as part of its toxicity identification evaluation (TIE) work...

Attachment F, Rationale for Provisions VI.C.4. (Page F-26)

> **a. Sludge and Biosolids Management.** This provision is based on Basin Plan section 4.17 and 40 C.F.R. parts 258~~257~~ and 503. "Sludge" refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. "Biosolids" refers to sludge that has been treated and may be beneficially reused.

The City appreciates the time and considerations granted by Regional Water Board staff during development of the Tentative Order. Please contact me at (650) 738-4663 (or by email, mendozap@ci.pacifica.ca.us) if you have any questions or need additional information.

Sincerely,

Pedro Mendoza
Plant Manager

Cc: Robert Schlipf, robert.schlipf@waterboards.ca.gov
Louis Sun, sunl@ci.pacifica.ca.us

February 27, 2017

Jessica Watkins
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

VIA EMAIL: jwatkins@waterboards.ca.gov

Subject: Comments on Tentative Order: NPDES Permit No. CA0038776, Regional Water Quality Control Board Order No. R2-2017-00XX for City of Pacifica Calera Creek Water Recycling Plant and its wastewater collection system

Dear Ms. Watkins:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the Tentative Order (TO) issued to the City of Pacifica Calera Creek Water Recycling Plant and its wastewater collection system (Pacifica). BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health.

BACWA's comments pertain to the new numeric chronic whole effluent toxicity (WET) limits in Pacifica's Tentative Order. Pacifica's current permit contains narrative toxicity limits, and numeric triggers that if exceeded lead to accelerated monitoring as well as a toxicity investigation/reduction evaluation (TIE/TRE). BACWA is extremely concerned about the imposition of chronic toxicity limits in this TO, particularly since at 1.0 TUc as an average monthly effluent limit (AMEL), and 1.8 TUc as a maximum daily effluent limit (MDEL), these limits are within the natural variability of the test. Toxicity testing is best deployed as a monitoring tool to observe if there is toxicity due to an unknown contaminant that is not being monitored, rather than a metric that leads to a violation if exceeded, even before any investigations have been conducted.

Toxicity testing measures a biological response, rather than directly measuring the presence of a toxicant. While biological inhibition may occur in response to a toxicant, it can also occur due to problems with the organisms' food, or with the health of the organisms themselves. It is particularly difficult to investigate the cause of a toxicity result below approximately 2 TUc,

because the results are typically intermittent and can't be associated with any particular activity or discharge.

Because of the lower validity of WET data when measured at low levels, over the past seven years, several dischargers in the San Francisco Bay Region have exceeded their triggers and were required to conduct TREs (see Attachment 1). Of the six shallow water dischargers with low toxicity triggers who have conducted TREs in the past five years, only one has identified a probable toxicant. The other TREs were either inconclusive or showed pathogen interference was the cause of the observed toxic effect. Pacifica's test species, *Ceriodaphnia dubia*, in particular, has been problematic, as it is vulnerable to epibiont[1] pathogenicity for dischargers such as the San Jose/Santa Clara Regional Wastewater Facility, and the City of Palo Alto. The total cost of these TRE efforts has been upwards of $1.3 million for this seven-year period.

Besides problems with interference, there has been significant variability observed between laboratories measuring toxicity in the same effluent sample. Between August 2009 and May 2010, San Jose sent fifteen split samples to different labs for chronic toxicity testing using *Ceriodaphnia* (see Attachment 2). In four of these fifteen occasions, the results from the two labs were sufficiently different that one of the results would have contributed to a trigger exceedance and the other would not. In two cases, one lab showed relatively high levels of toxic effect (>5 TUc) while the other showed none.

This laboratory variability, particularly with *Ceriodaphnia*, was also observed by the Southern California Coastal Water Research Program in their recent interlaboratory study[2]. Results from this study are provided in Figure 1, below, where the *Ceriodaphnia* reproduction test reproducibility was poor, often showing high toxicity (high percent effect) in the blank samples, and low toxicity (low percent effect) in the copper spiked samples.

[1] See San Jose/Santa Clara RWF's Annual Report, pg. 21, see https://bacwa.org/document/san-jose-annual-report-2016/

[2] Stormwater Monitoring Coalition: Toxicity Testing Laboratory Guidance Document, Southern California Coastal Water Research Program.
http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/956_StrmWtrMonitCoalitToxTestingLabGuid.pdf

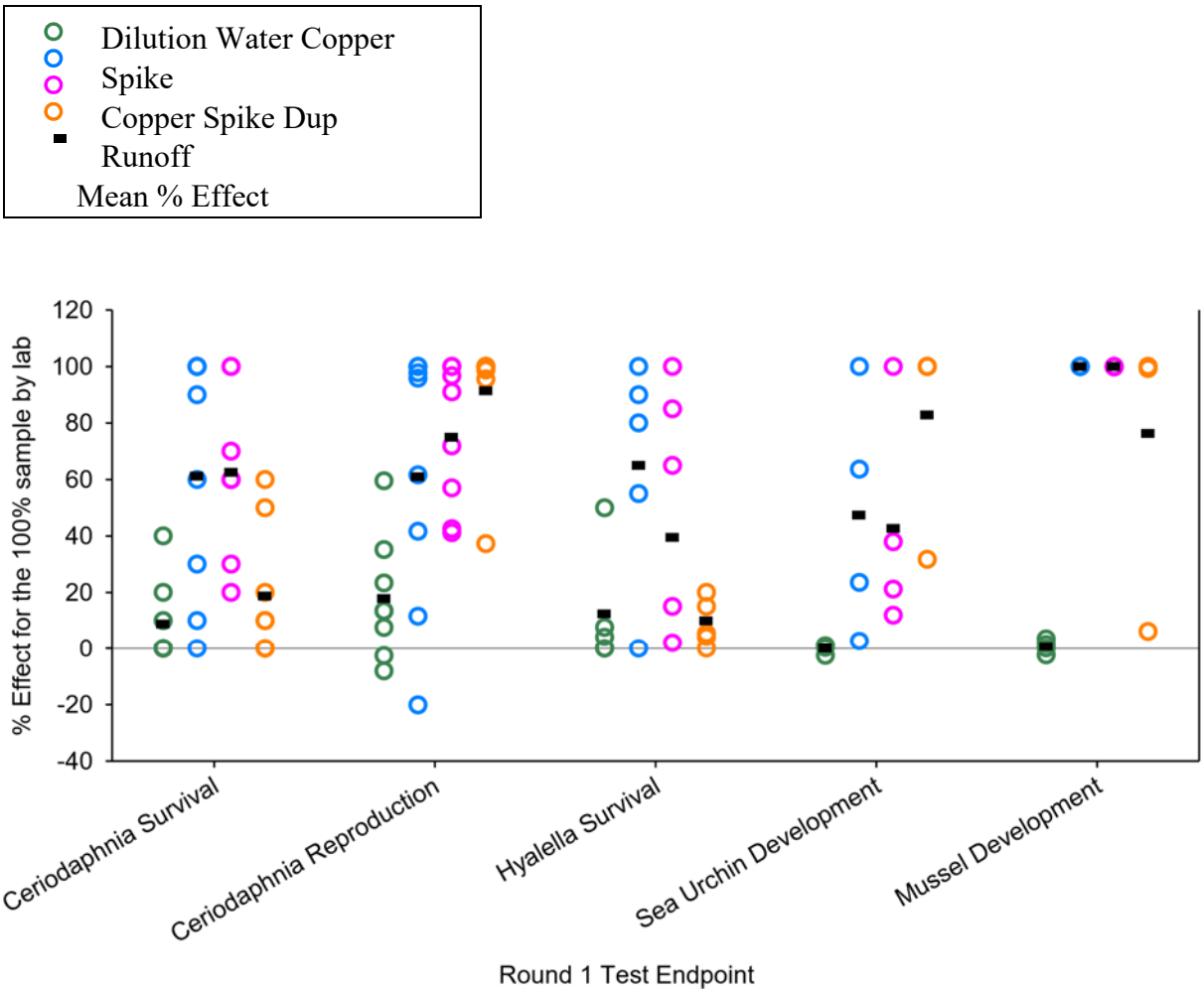


Figure 1. Toxicity test response (% effect) of the various endpoints to full strength (no dilution or 100%) samples during Round 1 of the SMC intercalibration study. Each symbol represents the result from a single laboratory[2]

In light of these known issues with the chronic WET test, and with the *Ceriodaphnia dubia* test species specifically, BACWA's recommendations for implementing toxicity limits in Pacifica's TO are below.

1. **BACWA recommends that the Regional Water Board consider alternatives to effluent limits for investigating low levels of toxicity**

The Central Valley Regional Water Board has allowed dischargers under its jurisdiction to initiate a study of low level toxicity. Dischargers may participate in this study in lieu of pursuing a TRE after observing such low-level toxicity. From the Central Valley Regional Water Board's 2017/18 Priorities:

> *Over the past five years staff has noticed an overall decrease in the magnitude of toxicity reported and a potential increase in reoccurring but intermittent low level toxicity. As a result of the toxicity being intermittent and occurring at low levels, several Dischargers have conducted multiple year studies, accruing heavy costs and in many cases not identifying the cause. In FY 17/18 staff would continue working with stakeholders to better understand chronic toxicity with a focus on low level chronic toxicity. In addition, staff will work with industry experts and the State Water Board to develop a chronic toxicity guidance document.*

Rather than imposing low toxicity limits, BACWA recommends that the San Francisco Bay Regional Water Board consider working with its counterpart in the Central Valley to develop guidance for investigating low level toxicity.

2. **If effluent limits are necessary, the Regional Water Board should establish a minimum level for chronic toxicity. Results below laboratory reporting levels should not be deemed as violations.**

The AMEL of 1.0 TUc is equal to the Method Detection Limit (MDL) of the WET test, since lower toxicity cannot be measured. The variability in WET test results increases as the toxicity approaches the MDL. In contrast to chemical effluent limits, there are no Minimum Levels (MLs) that have been established for chronic toxicity. If there were, results in the 1.0 to 1.8 TUc range would probably be below a likely ML/Reporting Level (RL), making them Detected Not Quantified (DNQ) values, and not suitable for compliance evaluation purposes. The Regional Water Board or EPA should establish chronic toxicity MLs before imposing numeric chronic toxicity effluent limits, particularly a limit set equal to the MDL. Additionally, laboratories should be given guidance for establishing RLs for the WET test.

Once these analytical measures are in place, compliance determination for chronic toxicity limits should be consistent with that for other permitted constituents. Specifically, reporting and enforcement requirements for toxicity should be equivalent with those listed in Attachment E, Section VIII.B.6:

> *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 in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.*

3. BACWA recommends that the maximum daily effluent limit of 1.8 TUc be removed

Due to the variability inherent in toxicity testing, declaring a violation based on a single test result without confirmation sampling is unwarranted. Single sample exceedances that are not part of a pattern of toxicity should be viewed with suspicion, as they may be due to transient causes unrelated to chronic toxicity, especially when they are below 2 TUc. The appropriate response to a WET test indicating the presence of toxicity is to investigate the cause, starting with follow up testing to confirm the initial result.

Exceedance of the effects level identified in the proposed MDEL will trigger accelerated monitoring whether or not it is an enforceable limit. This response is the result that the Regional Water Board and EPA want to encourage, so there is no additional benefit from making it a violation, while Pacifica would potentially suffer an enforcement action or a citizen lawsuit for an event over which it has no control.

4. BACWA recommends that Pacifica be given a choice of test species

On page F-26, the TO states:

> *The Discharger's August 2016 chronic toxicity screening report found green algae (Selenastrum capricornutum) to be the most sensitive species (2 TUc); however, tests conducted in May and June 2015 using the water flea (Ceriodaphnia dubia) exhibited more chronic toxicity (10.6 and 4.3 TUc). Thus, this Order retains the requirement to use the water flea (Ceriodaphnia dubia) for chronic toxicity tests because it is the most sensitive species.*

This reasoning does not make sense. It is unknown whether *Selenastrum* would have exhibited toxicity during the May and June toxicity events, since this alternative test was not run at that time. Furthermore, Pacifica did a TIE which concluded that biological contamination in the UV channel was the likely cause of the observed toxic effect, which may not have impacted *Selenastrum* as it did *Ceriodaphnia*. If Pacifica were given a choice of test species between *Selenastrum* and *Ceriodaphnia*, it could determine which test had less variability in its effluent, yielded consistent, actionable results, and avoid spurious violations.

5. Violations should not continue to accrue during Toxicity Identification Evaluations/Toxicity Reduction Evaluations

If Pacifica can demonstrate to the Regional Water Board that it is engaged in a good-faith effort to investigate the cause of any apparent toxicity, the permit should protect them from accruing any additional violations that would result from exceedance of permit limits during accelerated monitoring. Not providing this protection leaves the discharger vulnerable to citizen lawsuits, even as it is doing all that it can to address the cause of the violation.

6. Language about episodic toxicity and enforcement should be reinstated.

The current permit includes the following requirement (Attachment E, Section V.B.3.h.i):

> *The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.*

This section is no less applicable with effluent limits than with triggers, and should be restored.

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

Respectfully Submitted,

David R. Williams

David R. Williams
Executive Director
Bay Area Clean Water Agencies

cc: BACWA Board
Pedro Mendoza, City of Pacifica
Denise Conners, Larry Walker and Associates
Eric Dunlavey, BACWA Permits Committee Chair

Summary of Chronic TREs by Region 2 Dischargers

Shallow Dischargers

Discharger	Timeframe	Number of Samples	Number between 1 and 2 Tuc	Percentage between 1 and 2 Tuc	Number ≥ 2 Tuc	Percentage ≥ 2 Tuc	TRE Notes
Palo Alto	June 2009 - December 2014	72	5	7%	10	14%	TRE Feb-Jul 2012, concluded cause was pathogen interference. Cost approximately **$100K**.
San Jose	July 2009 - December 2016	127	15	12%	12	9%	TRE/TIEs Oct 2009 - June 2010, and June 2013- August 2014, both inconclusive. Investigations in 2016 confirmed presence of epibionts. Total cost above **$260K**.
Sunnyvale	January 2010 - December 2014	85	4 (survival) 14 (Growth)	5% (survival) 16% (growth)	2 (survival) 12 (Growth)	2% (survival) 14% (growth)	Three successive TREs, all inconclusive - ammonia, unidentified organic and polymer, respectively, were suspected. Total cost approximately **$750K**.
Novato	October 2010 - October 2014	25	2	8%	13	52%	TRE Feb 2011 - May 2012, found pathogen interference. Total cost approximately **$100K.**
Sonoma	March 2006 - January 2015	53	6	11%	9	17%	Ongoing TIE indicates that zinc may be toxicant. Total cost **$73K.**
Las Gallinas	April 2009 - December 2014	32	19 (survival) 20 (Growth)	59% (survival) 62% (growth)	1 (survival) 2 (Growth)	3% (survival) 6% (growth)	TIE work since 2011 is inconclusive, but pyrethroids are suspected. Total cost approximately **$50K**.

Deep Water Discharger

Discharger	Timeframe	Number of Samples	Number between 10 and 20 Tuc	Percentage between 10 and 20 Tuc	Number ≥ 20 Tuc	Percentage ≥ 20 Tuc	TRE Notes
Vallejo	January 2016-June 2016	7	3	43%	0	0%	Addition of zeolite showed toxicity caused by ammonia. District received permission to conduct toxicity testing with zeolite in future. Total cost approximately **$60K**.

San Jose-Santa Clara Regional Wastewater Facility

Chronic Toxicity Test Results 2009-Dec 2014 **Test Species: *Ceriodaphnia dubia (May 2009- October 2014 Permit)***

Start Date	NOEC (Survival)	TUc (Reproduction)	NOEC % (Reproduction)	EC or IC 25 (Reproduction)	TST (Reproduction)
7/18/09	100%	33.5	<32% effluent	2.99% effluent	Fail 67.7%
8/1/09	100%	<1	100% effluent	>100% effluent	Pass
8/17/2009 (TSI)	100%	1.17	100% effluent	85.4% effluent	Fail 25%
8/19/2009 (PERL)	100%	2.49	56% effluent	40.2% effluent	Fail 36%
9/14/2009 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
9/15/2009 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
10/4/2009 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
10/4/2009 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
11/7/2009 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
11/28/2009 (TSI)	100%	<1	100% effluent	>100% effluent	Pass
11/29/2009 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
12/18/2009 (ESD)	100%	5.78	<32% effluent	17.3% effluent	Fail 41.9%
12/20/2009 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
1/9/2010 (TSI)	100%	<1	100% effluent	>100% effluent	Pass
1/10/2010 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
1/20/2010 (TSI)	100%	<1	100% effluent	>100% effluent	Pass
1/21/2010 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
1/30/2010 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
1/31/2010 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
2/8/2010 (AS)	75%	5.2	<32% effluent	19.1% effluent	Fail 75.5%
2/8/2010 (ESD)	100%	8.5	<32% effluent	11.8% effluent	Fail 40.3%
2/26/2010 (AS)	100%	<1*	100% effluent	>100% effluent	Pass
2/27/2010 (ESD)	100%	7.5	<32% effluent	13.3% effluent	Fail 70.7%
3/13/2010 (AS)	100%	<1	100% effluent	>100% effluent	Pass
3/13/2010 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
3/27/2010 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
3/28/2010 (AS)	100%	<1	100% effluent	>100% effluent	Pass
4/17/2010 (ESD)	100%	<1	100% effluent	>100% effluent	Fail 16.9%
4/17/2010 (AS)	100%	No Result**	NA	NA	NA
5/1/2010 (ESD)	100%	<1	100% effluent	>100% effluent	Pass

October 2009-June 2010: SJSC conducted TRE/TIE investigations. TIE costs estimated ~ $200,000 - 250,000. Toxicity Identification Evaluation (TIE) manipulations were performed on samples from two confirmed toxic events in February with support from Aqua-Science Laboratories in Davis, CA. The TIE studies could only confirm that toxicity was present, was only slightly ameliorated by EDTA (not a metal or only slight effect from a metal), was more ameliorated by Solid Phase Extraction (SPE) columns (likely organic), was substantially ameliorated by Organophosphate (OP) enzyme and piperonyl butoxide (PBO) (indicating possibility of an OP pesticide or some organic compound that behaves similarly), was exacerbated by filtration (not particle-bound) and was exacerbated by sodium thiosulfate (STS) (not an oxidizer). Unfortunately, attempts to elute and recover the toxicity captured on SPE columns were unsuccessful. For this reason, the TIE investigations were of limited value.

5/2/2010 (AS)	100%	1.8	42% effluent	55.6% effluent	Fail 24%
5/2/2010 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
5/21/2010 (ESD)	100%	<1	100% effluent	>100% effluent	Pass
5/21/2010 (PERL)	100%	<1	100% effluent	>100% effluent	Pass
6/14/10	100%	<1	100% effluent	>100% effluent	Pass
6/26/10	100%	<1	100% effluent	>100% effluent	Pass
7/17/10	100%	<1	100% effluent	>100% effluent	Pass
8/13/10	100%	<1	100% effluent	>100% effluent	Pass
9/19/10	100%	10.4	6.25% effluent	9.63% effluent	Fail 84.8%
10/4/10	100%	<1	100% effluent	>100% effluent	Pass
10/24/10	100%	<1	100% effluent	>100% effluent	Pass
11/13/10	100%	<1	100% effluent	>100% effluent	Pass
12/11/10	100%	No Result**	100% effluent	>100% effluent	Pass
12/19/2010 (TSI)	100%	<1	100% effluent	>100% effluent	Pass
1/10/11	100%	<1	100% effluent	>100% effluent	Pass
2/21/11	100%	<1	100% effluent	>100% effluent	Pass
3/7/11	100%	<1	100% effluent	>100% effluent	Pass
4/21/11	100%	<1	100% effluent	>100% effluent	Pass
5/10/11	100%	5.46	25% effluent	18.3% effluent	Fail 51.8%
6/9/11	100%	<1	100% effluent	>100% effluent	Pass
6/21/11	100%	1.4	50% effluent	71% effluent	Fail 34.6%
7/23/11	100%	<1	100% effluent	>100% effluent	Pass
8/8/11	100%	<1	100% effluent	>100% effluent	Pass
8/22/11	100%	1.7	25% effluent	58.9% effluent	Fail 62.9%
9/13/11	100%	<1	100% effluent	>100% effluent	Pass
10/3/11	100%	<1	100% effluent	>100% effluent	Pass
11/2/11	100%	<1	100% effluent	>100% effluent	Pass
12/5/11	100%	<1	100% effluent	>100% effluent	Pass
1/10/12	100%	1.6	50% effluent	61.7% effluent	Fail 40.8%
2/6/12	100%	<1	100% effluent	>100% effluent	Pass
3/5/12	100%	<1	100% effluent	>100% effluent	Pass
4/16/12	100%	<1	100% effluent	>100% effluent	Pass
5/7/12	100%	<1	100% effluent	>100% effluent	Pass

6/11/12	100%	<1	100% effluent	>100% effluent	Pass
7/16/12	100%	<1	100% effluent	>100% effluent	Pass
8/13/12	100%	<1	100% effluent	>100% effluent	Pass
9/11/12	100%	<1	100% effluent	>100% effluent	Pass
10/16/12	100%	4.1	12.5% effluent	24.5% effluent	Fail 24.5%
11/2/12	100%	<1	100% effluent	>100% effluent	Pass
11/8/12	100%	<1	100% effluent	>100% effluent	Pass
12/3/12	100%	<1	100% effluent	>100% effluent	Pass
1/19/13	100%	1.7	25% effluent	58.1% effluent	Fail 63.3%
2/4/13	100%	<1	100% effluent	>100% effluent	Pass
3/4/13	100%	10.1	6.25% effluent	9.88% effluent	Fail 44.2%
4/2/13	100%	<1	100% effluent	>100% effluent	Pass
4/12/13	100%	1.2	100% effluent	84.5% effluent	Fail 27%
5/6/13	100%	2.3	50 % effluent	42.7% effluent	Fail 67.6%
6/10/13	100%	<1	100% effluent	>100% effluent	Pass
7/12/13	100%	<1	100% effluent	>100% effluent	Pass
8/1/13	100%	1.1	50% effluent	90.7% effluent	Fail 27.1%
8/5/13	100%	<1	100% effluent	>100% effluent	Pass
9/12/13	100%	2.9	25% effluent	34.6% effluent	Fail
10/4/13	100%	<1	100% effluent	>100% effluent	Pass
11/19/13	100%	1.2	50% effluent	86.1% effluent	Fail
12/9/13	100%	<1	100% effluent	>100% effluent	Pass
1/10/14	100%	<1	100% effluent	>100% effluent	Pass
2/3/14	100%	1.6	100% effluent	>100% effluent	Fail
3/3/14	100%	<1	100% effluent	>100% effluent	Pass
4/8/14	100%	<1	100% effluent	>100% effluent	Pass
5/5/14	100%	<1	100% effluent	>100% effluent	Pass
6/9/14	100%	<1	100% effluent	>100% effluent	Pass
7/14/14	100%	<1	100% effluent	>100% effluent	Pass
8/11/14	100%	<1	100% effluent	>100% effluent	Pass
9/12/14	100%	<1	100% effluent	>100% effluent	Pass
10/3/14	100%	<1	100% effluent	>100% effluent	Pass
11/3/14	100%	<1	100% effluent	>100% effluent	Pass
12/8/14	100%	<1	100% effluent	>100% effluent	Pass

June 2013-August 2014: TRE/TIE initiated in response to permit triggers being exceeded. TIE studies were unsuccessful in confirming toxicity or identifying potential toxicants. The frequency and magnitude of the observed paralysis (a sub-chronic effect) in RWF effluent have also declined.

Note: SJSC uses a TRE/TIE trigger of 2 TUc calculated as 100/EC50 or IC50 or three sample median of >1 as recommended in the 2009 TRE Workplan submitted to Regional Water Board

* <1 - This result was rejected due to an anomolous dose response inversion.

** Test Failed Quality Control

Watkins, Jessica@Waterboards

From: Lorien Fono <lfono@bacwa.org>
Sent: Monday, February 27, 2017 4:22 PM
To: Watkins, Jessica@Waterboards; Sherry Hull
Subject: Re: Comments on Tentative Order

Jessica, the link in the letter to San Jose's Annual report is broken. Please use this instead: https://bacwa.org/wp-content/uploads/2017/02/2016-Annual-Self-Monitoring-Report-Final-1.pdf

On 2/27/2017 4:11 PM, Watkins, Jessica@Waterboards wrote:

> Received. Thanks!
>
> Jessica Watkins, P.E.
> Water Resource Control Engineer
> San Francisco Bay Regional Water Quality Control Board
> 1515 Clay Street, Suite 1400
> Oakland, CA 94612
> Phone (510) 622-2349
> Fax (510) 622-2460

From: Sherry Hull [mailto:shull@bacwa.org]
Sent: Monday, February 27, 2017 3:36 PM
To: Watkins, Jessica@Waterboards
Cc: Williams, David@@bacwa.org; Lorien Fono; Denise Conners; Eric Dunlavey (Eric.Dunlavey@sanjoseca.gov); Pedro Mendoza (mendozap@ci.pacifica.ca.us); Amy J. Chastain (AChastain@sfwater.org); Ben Horenstein; Dave Stoops (Dastoops@ebda.org); Ervin, James; Jason Warner (jwarner@oroloma.org); Jean-Marc Petit; Laura Pagano (LPagano@sfwater.org); Lori Regler (lregler@sfwater.org); Lori Schectel; Maura Bonnarens (mbonnare@ebmud.com); Mike Connor (mconnor@ebda.org); Mutsuddy, Amit; Roger Bailey; Tommy Moala; vdelange@ebmud.com
Subject: Comments on Tentative Order

Dear Ms. Watkins,

On behalf of David R. Williams, PE and Executive Director of the Bay Area Clean Water Agencies, please find attached a Comment Letter on Tentative Order: NPDES Permit No. CA0038776, Regional Water Quality Control Board Order No. R2-2017-00XX for City of Pacifica Calera Creek Water Recycling Plant and its wastewater collection system.

Please let me know if you have any questions or difficulty accessing the document.

Best regards,
Sherry

Sherry Hull
Assistant Executive Director
Bay Area Clean Water Agencies
shull@bacwa.org
415-404-8303

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Lorien Fono, Ph.D., P.E.
BACWA Regulatory Program Manager
510-684-2993

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

February 23, 2017

Bruce H. Wolfe, Executive Officer
ATTENTION: Jessica Watkins
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: U.S. EPA comments on draft NPDES permit for Calera Creek Water Recycling Plant (NPDES No. CA0038776)

Dear Mr. Wolfe:

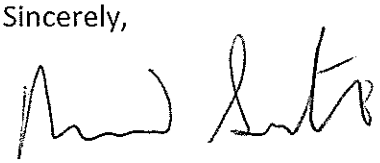
Thank you for the opportunity to review and comment on the draft NPDES permit for the discharge from Calera Creek Water Recycling Plant. We support the permit as currently proposed and its prompt adoption. EPA agrees with San Francisco Bay Regional Water Board (Regional Water Board) staff that discharges from the facility exhibit the reasonable potential to exceed the narrative water quality standard for chronic toxicity in the San Francisco Bay Region Basin Plan and that water quality based effluent limits (WQBELs) are required under 40 CFR 122.44(d)(1)(i) and (v).

As with the 2015 NPDES permit for the discharge from Las Gallinas Valley Sanitary District Sewage Treatment Plant (NPDES No. CA0037851), the permit for this discharge departs from containing only a "trigger" for further investigation related to chronic toxicity, rather than an actual WQBEL. EPA is pleased that the subject draft permit clearly requires actual effluent limits on chronic whole effluent toxicity (WET), where there is reasonable potential (see Order section IV.A, Table 4, p. 4; Attachment F sections IV.C.3.e and 4, pp. F-20 – F-23). EPA agrees with the Regional Water Board's decision to use numeric chronic WET WQBELs for this POTW permit, which are feasible to calculate for this discharge. As a result, the permit meets the requirements of CWA sections 301(b)(1)(C) and 502(11) and 40 CFR 122.44(d)(1)(i) and (v). Moreover, EPA supports inclusion of both monthly (multiple toxicity test results) and daily (single toxicity test result) WQBELs for toxicity in this permit, based on the reasonable potential analysis provided in the Fact Sheet section referenced above.

We want to underscore the fact that the draft permit clearly identifies not only the 40 CFR 136 methods, but also the approaches chosen by the Regional Water Board to measure and report chronic toxicity for compliance (i.e., EC25, a statistical approach) and acute toxicity for compliance (i.e., percent survival, a non-statistical approach). The draft permit connects these choices to the expression of the WET WQBELs and effluent monitoring and reporting requirements, as well as the applicable water quality standards for toxicity (chronic and acute) in the Basin Plan. Consequently, the NPDES permit contains transparent, clear, and enforceable requirements for WET.

When unacceptable toxicity is measured in NPDES discharges, we support and encourage your continued close coordination with the permittee and their toxicity laboratory—as well as the State Water Board's new "toxicity help desk" and our office. This will further our mutual effort to strengthen and build California's capacity to solve and resolve toxicity problems in NPDES effluents. If you have questions regarding these comments on the public notice draft permit, please call Robyn Stuber (415) 972-3524 or Becky Mitschele (415) 972-3492.

Sincerely,



David Smith, Manager
NPDES Permits Section

Appendix C
Response to Comments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS

on Tentative Order for
City of Pacifica
Calera Creek Water Recycling Plant and Wastewater Collection System
Pacifica, San Mateo County

The Regional Water Board received written comments on a tentative order (TO) distributed on January 27, 2017, for public comment from the following:

1. City of Pacifica (February 27, 2017)
2. Bay Area Clean Water Agencies (February 27, 2017)
3. United States Environmental Protection Agency, Region 9 (February 27, 2017)

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

All revisions to the TO are shown with underline text for additions and strikethrough ~~text~~ for deletions. This document also contains staff-initiated revisions in addition to those arising from the response to comments.

City of Pacifica

City Comment 1 (Remove Chronic Toxicity Numeric Limitations): *The City requests that we replace numeric chronic toxicity water quality-based effluent limitations (WQBELs) with a narrative limitation because there is no reasonable potential for the discharge to cause or contribute to an exceedance of the narrative toxicity objective. The City believes the reasonable potential analysis should exclude chronic toxicity observed prior to October 2015—when the City cleaned its ultraviolet (UV) effluent channel and wet well—because those observations are not representative of the discharge. The City also indicates that toxicity observed from May through September 2015 was pathogen-related toxicity originating in the UV channel. Finally, the City points out that chronic toxicity results since October 2015 have been less than 1.0 chronic toxicity unit (TU_c).*

Response: We disagree. As described below and in the revised TO, there is reasonable potential for the discharge to cause or contribute to exceedances of the narrative toxicity objective, thus warranting numeric chronic toxicity WQBELs.

The weight-of-evidence does not support the City's hypothesis that the toxicity source was pathogen-related, originating in the UV channel, and thus making any toxicity tests done prior to channel cleaning unrepresentative of the discharge. To the contrary, the City's laboratory (AQUA-Science) concluded that (1) data were insufficient to conclusively ascertain the role of

pathogen-related toxicity in the effluent and (2) there was no consistent difference between the final plant effluent and UV channel effluent.[1] AQUA-Science's conclusions were based on two accelerated monitoring tests and three Toxicity Identification Evaluation (TIE) studies (involving 19 toxicity tests) conducted from June through September 2015. To investigate the potential for pathogen-related toxicity, AQUA-Science compared results using effluent versus effluent treated with antibiotics. To investigate the potential role of UV disinfection, AQUA-Science compared results using final plant effluent versus UV channel effluent. AQUA-Science found the effluent toxicity to be both intermittent and highly variable.

Prior to October 2015, the City had not cleaned the UV effluent channel and wet well since it began operating in August 2000. If poor UV channel maintenance were the only toxicity source, we would expect toxicity observations to be more consistent over time. However, the City observed highly variable and intermittent toxicity, not steady or increasing toxicity. As such, we do not agree that all data collected from August 2000 through October 2015 are necessarily unrepresentative of the discharge. Thus, we recommend a finding of reasonable potential and propose numeric chronic toxicity WQBELs. If improving UV channel cleaning practices eliminates toxicity within the next permit term, we may be able to recommend finding no reasonable potential when next reissuing the permit.

City Comment 2 (No Chronic Toxicity Violations during TRE/TIE Implementation): *The City requests that we include language to protect it from enforcement if and when it is implementing an approved Toxicity Reduction Evaluation (TRE) work plan. The City also expresses concern about citizen lawsuits over noncompliance with chronic toxicity WQBELs.*

Response: We disagree. We understand the City's concern; however, it is unnecessary and inappropriate to specify in the revised TO how the Regional Water Board will use its enforcement discretion. The Clean Water Act (CWA) and the California Water Code provide no basis for setting aside the Board's enforcement discretion within an NPDES permit. The State Water Board's *Water Quality Enforcement Policy* (November 17, 2009) provides guidance for the implementation of our enforcement program. The significance and severity of violations, compliance history, and good-faith efforts to eliminate noncompliance are among the criteria used to prioritize discretionary enforcement. As stated in that policy, the Regional Water Board strives to be fair, firm, and consistent in taking enforcement actions, while recognizing the unique facts of each case.

In *EPA Regions 8, 9 and 10 Toxicity Training Tool* (January 2010), U.S. EPA provides additional enforcement guidance and specifically addresses concern over citizen lawsuits:

> EPA does not recommend that the initial response to a single exceedance of a [toxicity] limit, causing no known harm, be a formal enforcement action with a civil penalty. The regulated community has expressed concern about the potential for third party lawsuits for single exceedance of [toxicity]. Citizens cannot sue a permittee on the basis of a single violation of a permit limit. Under section 505(a) of the CWA, citizens are allowed to take a civil action against anyone who is alleged to "be in violation" of any standard or limit under the CWA. In Gwaltney

[1] *Phase I Toxicity Identification Evaluation to Determine the Cause of City of Pacifica Calera Creek WRP Effluent Toxicity to Ceriodaphnia dubia, Interim Phase I TIE Report*, AQUA-Science, October 6, 2015.

> of Smithfield, Ltd., v. Chesapeake Bay Foundation, Inc., 484 U.S. 49, 1008 S.Ct. 376, 98 L.Ed.2d 306 (1987), the Supreme Court held that the most natural reading of "to be in violation" is "a requirement that citizen-plaintiffs allege a state of either continuous or intermittent violation--that is, a likelihood that a past polluter will continue to pollute in the future." A State may have its own enforcement policy which may be more stringent.

Therefore, we believe citizen lawsuits are unlikely if the City takes timely steps to resolve individual instances of toxicity violations.

City Comment 3 (Choice of Chronic Toxicity Test Species): *The City believes that green algae (*Selenastrum capricornutum*) is the most sensitive species for routine chronic toxicity testing and requests that we add it to the permit as an optional test species, in addition to the water flea (*Ceriodaphnia dubia*), until the City can determine which test species shows less effluent variability. The City also points out that using the water flea is problematic because (1) the City of Palo Alto and the San Jose/Santa Clara Regional Wastewater Facility have both observed pathogen-related toxicity, and (2) the City of San Jose and the Southern California Coastal Water Research Program (SCCWRP) have both reported unacceptably high interlaboratory variability when using the water flea.*

Response: Regarding green algae being the most sensitive species, we disagree. The weight-of-evidence shows that the most sensitive species is the water flea. The City's August 2016 chronic toxicity screening report found green algae to be the most sensitive species based on three test batteries conducted concurrently on three test species (i.e., one plant, one invertebrate, and one fish) in May, June, and July 2016; however, no toxicity (less than 1 TU_c) was observed in all nine tests based on the IC_{25} and EC_{25} point estimates. As defined in Attachment E – Monitoring and Reporting Program (MRP), Appendix E-1, of the revised TO, the chronic toxicity test result used for compliance determination should be based on 25 percent inhibition or effect concentration point estimates (IC_{25} or EC_{25}) unless these cannot be determined. Only then should a No Observed Effect Concentration (NOEC) be used. The City indicates that a June 2016 green algae test result (2 TU_c) based on the NOEC demonstrates that green algae is the more sensitive species. However, when considering this test using the EC_{25} point estimate, the sample was not toxic. In contrast, the chronic toxicity screening studies conducted in 2007 – 2008 and 2013 show the water flea to be the most sensitive species and tests conducted in May and June 2015 using the water flea exhibited chronic toxicity (10.6 and 4.3 TU_c); all of these studies are based on IC_{25} and EC_{25} point estimates.

We also disagree that the test species should be selected based on which shows less effluent variability. As explained in Attachment E – MRP, section V.B.1.b, the City is required to use the most sensitive species for routine chronic toxicity testing, not the species that shows the least effluent variability. We note that effluent variability is normal at municipal wastewater treatment plants due to variable influent characteristics and changing operating conditions (e.g., seasonal variability or synergistic or antagonistic effects among multiple toxicants).[2]

[2] *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833B-99/002, U.S. Environmental Protection Agency, Office of Wastewater Management, Washington, DC, August 1999.

To clarify the rationale for using the water flea in the revised TO, we revised Fact Sheet section VII.A.3 (second paragraph) as follows:

> … The Discharger's August 2016 chronic toxicity screening report found green algae (*Selenastrum capricornutum*) to be the most sensitive species ~~(2 TU_c)~~ based on three test batteries conducted concurrently on three test species (i.e., one plant, one invertebrate, and one fish) in May, June, and July 2016; however, no toxicity was observed in all nine test results (<1 TU_c) based on the IC_{25} and EC_{25} point estimates. As defined in Appendix E-1, the chronic toxicity test result used for compliance determination is equal to the IC_{25} or EC_{25} point estimates unless these cannot be statistically determined. The Discharger indicates that the June 2016 test result (2 TU_c) based on the NOEC demonstrates that green algae is the more sensitive species, but this is not the appropriate test result to consider.
>
> The chronic toxicity screening studies conducted in 2007 – 2008 and 2013 show the water flea (*Ceriodaphnia dubia*) to be the most sensitive species, and tests conducted in May and June 2015 using the water flea ~~(*Ceriodaphnia dubia*)~~ exhibited ~~more~~ chronic toxicity (10.6 and 4.3 TU_c). Thus, this Order retains the requirement to use the water flea ~~(*Ceriodaphnia dubia*)~~ for chronic toxicity tests because it is the most sensitive species.

We also revised Fact Sheet section IV.C.3.e.ii (first paragraph) as follows:

> ... In addition, the Discharger observed toxicity during TIE work conducted from June through September ~~December~~ 2015. The Discharger posited that biological growth in the UV channel could have been the toxicity source; however, the source of toxicity was not conclusively identified. ~~However, despite a thorough UV system cleaning in October 2015, the discharge exhibited toxicity in December 2015 and during screening testing conducted with green alga (Selenastrum capricornutum) in June 2016.~~ Based on available information, there is reasonable potential for the discharge to cause or contribute to exceedances of the translated chronic toxicity water quality objective (1.0 TU_c).

The revised TO does not preclude the use of green algae in the future if found to be more sensitive than the water flea. Attachment E – MRP, section V.B.1.b, allows the City to conduct side-by-side chronic toxicity tests to demonstrate that green algae is more sensitive.

Regarding the potential for pathogen-related toxicity when using the water flea, we also disagree. As explained in our response to City Comment 1, the weight-of-evidence does not support the hypothesis that the toxicity at the Calera Creek Water Recycling Plant has been pathogen-related. We do not rule out such findings in the future, however, if supported by evidence.

Regarding the potential for unacceptably high interlaboratory variability when using the water flea, we again disagree. From September 1999 through April 2000, U.S. EPA conducted a peer-

reviewed study[3] that measured interlaboratory variability. Based on chronic toxicity data from 34 laboratories using the water flea, U.S. EPA found that interlaboratory variability was within an acceptable range. In 2004, a federal appeals court[4] confirmed that this level of variability is acceptable, recognizing that toxicity test methods exhibit a degree of precision compatible with numerous chemical-specific tests already in use.

Despite this court ruling, the City contends that using the water flea is problematic because recent studies by the City of San Jose and the Southern California Coastal Water Research Program (SCCWRP) reported high interlaboratory variability. First, the City of San Jose's chronic toxicity data[5] is anecdotal, since the City did not conduct a peer-reviewed interlaboratory study with a study design, controls, or statistical examination of study results.

Second, the SCCWRP variability study[6] does not conclude that chronic toxicity testing with the water flea has unacceptably high interlaboratory variability. On the contrary, the SCCWRP study shows water flea test variability comparable to that identified by U.S. EPA and concludes that all four tested species, including the water flea, are recommended for future use in its monitoring programs.

City Comment 4 (Remove pH Receiving Water Limitations): *The City requests that we delete the pH receiving water limitations because it believes pH effluent limitations are sufficient to prevent receiving water impacts. The City points out that surface water pH can be influenced considerably by natural biological and chemical processes (e.g., algal photosynthesis and respiration in streams and wetlands), making it difficult to determine if the discharge causes or contributes to any possible receiving water limitation exceedances.*

Response: We disagree. The pH effluent limitations require the discharge to stay between 6.5 and 8.5 pH units, but this does not necessarily ensure that the discharge will not cause changes greater than 0.5 pH units in normal ambient pH levels and/or deviations from the required ambient pH range. We agree that natural biological and chemical processes influence the pH in streams and wetlands considerably; however, nutrient-rich discharges could also encourage algal growth and contribute to pH fluctuations. Since the City discharges to freshwater, pH fluctuations are more likely to occur because freshwater systems have little buffering capacity. Therefore, the revised TO continues to include numeric pH receiving water limitations consistent with Basin Plan section 3.3.9.

City Comment 5 (Implementing Federal Twenty-Four Hour Reporting Requirements): *The City contends that Attachment D – Standard Provisions, section V.E, contains new 24-hour*

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3 *Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods*, EPA 821-B-01-004 and EPA 821-B-01-005, U.S. Environmental Protection Agency, Office of Water, Washington, DC, September 2001.

4 *Edison Electric Institute v. Environmental Protection* Agency (D.C. Cir. 2004) 391 F.3d 1267, 1272-73.

5 The City of Pacifica did not provide supporting information related to the City of San Jose's chronic toxicity testing. For supporting information, see *Comments on Tentative Order: NPDES Permit No. CA0038776, Regional Water Quality Control Board Order No. R2-2017-00XX for City of Pacifica Calera Creek Water Recycling Plant and its wastewater collection system*, Bay Area Clean Water Agencies (BACWA), February 27, 2017.

6 *Stormwater Monitoring Coalition Toxicity Testing Laboratory Guidance Document*, Technical Report 956, Southern California Coastal Water Research Program (SCCWRP), December 2016.

reporting requirements for sanitary sewer overflows and bypass events. For sanitary sewer overflows, it intends to comply by following the reporting provisions specified in the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ, as amended by Order No. WQ 2013-0058-EXEC). For bypass events, it intends to comply by following the reporting provisions specified in Attachment G – Regional Standard Provisions, and Monitoring and Reporting Requirements, section V.E, as modified by Attachment E – MRP, section IX.C.

Response: We agree that notification and reporting as the City describes is sufficient. To be clear, Attachment D does not contain a new 24-hour "reporting" requirement; it continues to require "oral notification" within 24 hours in specific circumstances. The "reporting" deadlines described in Attachments E and G and the Statewide General Waste Discharge Requirements are at least as stringent as those in Attachment D. The 24-hour oral notification is not subject to U.S. EPA's new Electronic Reporting Rule, which requires electronic reporting of sanitary sewer overflows and bypass events within five days starting December 21, 2020. State Water Board staff is working with U.S. EPA to determine the best way to implement the new rule by that deadline.

City Comment 6 (Location and Purpose of New Wet Weather Equalization Basin): *The City requests that we clarify the location and purpose of a planned wet weather equalization basin.*

Response: We agree and revised the Attachment C figure caption as follows:

> **ATTACHMENT C – PROCESS FLOW DIAGRAM**
>
> The Facility will include a wet weather equalization basin approximately two miles upstream of the headworks ~~prior to grit removal~~ once constructed.

We also revised Fact Sheet section II.A.6 as follows:

> **Facility Upgrades.** To augment the Facility as described above, the Discharger is implementing ~~considering~~ improvements to comply with Cease and Desist Order No. R2 2011-0031 (as amended) to reduce and eliminate sanitary sewer overflows (SSOs). The Discharger is currently planning to construct a 2.1-million-gallon wet weather equalization basin approximately two miles upstream of the headworks to provide additional capacity in the sewer system.

City Comment 7 (Interpretation of 2/Year Sampling Frequency and Monitoring Periods): *The City requests that we clarify that monitoring required twice per year is only required once in 2017 (during the July 1 through December 31 monitoring period).*

Response: We agree with the City's interpretation of Attachment E – MRP, Table E-6.

City Comment 8 (Non-Substantive Comments): *The City requests correction of some typographical errors.*

Response: We agree and revised the TO accordingly.

Bay Area Clean Water Agencies (BACWA)

BACWA Comment 1: *BACWA recommends that we engage with the Central Valley Regional Water Quality Control Board to develop guidance for the investigation of low-level chronic toxicity instead of imposing low chronic toxicity WQBELs. It notes that Central Valley dischargers may participate in a study of low-level toxicity in lieu of pursuing a Toxicity Reduction Evaluation (TRE) after observing low-level toxicity.*

Response: We disagree. The circumstances of this discharge require numeric chronic toxicity WQBELs (see our response to City Comment 1). Imposing numeric chronic toxicity WQBELs is consistent with federal regulations, as explained in Fact Sheet section IV.C.4.a. In accordance with 40 C.F.R. section 122.44(d)(1)(i) and (v), chronic toxicity WQBELs are required because there is reasonable potential for chronic toxicity within the discharge to cause or contribute to an exceedance of the narrative toxicity water quality objective in Basin Plan section 3.3.18. Numeric WQBELs are necessary and appropriate because the chemical-specific WQBELs and narrative chronic toxicity WQBEL in the previous order were insufficient to attain and maintain the narrative chronic toxicity water quality objective, as evidenced by the observed chronic toxicity in the discharge during the previous order term and described in the reasonable potential analysis. Numeric WQBELs are consistent with the intent of the federal regulations requiring whole effluent toxicity effluent limitations at 40 C.F.R. section 122.44(d) (see the preamble to these regulations in 54 Fed. Reg. 23871).

TREs have the potential to be expensive and unsuccessful, but that does not eliminate the need to take reasonable steps to reduce toxicity to levels below the chronic toxicity WQBELs. In *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* (March 27, 2001), U.S. EPA "acknowledges that intermittent or marginal toxicity may be more difficult to detect, but that a properly conducted TIE has a reasonable expectation of successfully finding the toxicant(s) responsible for the effluent noncompliance." U.S. EPA has already developed guidance for the investigation of low-level chronic toxicity, including the following:

- *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program*, U.S. Environmental Protection Agency, Office of Wastewater management, Office of Regulatory Enforcement, Washington, DC, March 27, 2001.

- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA/600/6-91/005F, U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC, May 1992.

- *Methods for Aquatic Toxicity Identification Evaluations, Phase I Toxicity Characterization Procedures, Second Edition*, EPA/600/6-91/003, U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC, February 1991.

- *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures*, EPA/600/3-88/035, U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC, February 1989.

- *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, EPA/600/R-92/081, U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC, September 1993.

Nothing in the revised TO prevents the City from participating in regional or statewide studies of low-level toxicity to improve strategies to resolve low-level toxicity.

BACWA Comment 2: *BACWA requests that we establish a minimum level for reporting chronic toxicity results and provide guidance for establishing reporting levels for chronic toxicity test methods. BACWA speculates that the minimum level would be greater than the maximum daily effluent limitation in the revised tentative order (1.8 TU_c). BACWA also suggests that the City should only be deemed out of compliance with chronic toxicity WQBELs when results are higher than the effluent limitation and greater than or equal to the reporting level.*

Response: We disagree because (1) the concepts of "minimum level"[7] and "reporting level"[8] as applied in chemical methods are not applicable to toxicity testing, and (2) it is unnecessary to establish a minimum level because toxicity results can be reliably quantified at levels above 1.0 TU_c with available methods. Likewise, because U.S. EPA has not established, nor provided any guidance for establishing, minimum levels or reporting levels for toxicity tests, we too refrain from doing so.

U.S. EPA has chosen not to establish method detection limits,[9] minimum levels, or reporting levels for toxicity tests because these concepts are not applicable. In 2004, a federal appeals court[10] in the District of Colombia found that U.S. EPA "offered a reasoned and thorough explanation of its decision" to not establish method detection limits for toxicity test methods in

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7 **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.

8 **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.

9 **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.

10 *Edison Electric Institute v. Environmental Protection* Agency (D.C. Cir. 2004) 391 F.3d 1267, 1273.

its report to Congress in 1988[11] and its rulemaking in 2002.[12] The federal appeals court summarized its decision—which also explains why minimum levels and/or reporting levels are not applicable—as follows:

> … Detection limits are applicable only to tests that rely on instrumental measurements; they represent the sensitivity thresholds of the technology, below which measurements become unreliable or impossible. Because [toxicity] testing is a biological and experimental, rather than an instrumental, method, "detection limit concepts are not applicable." … The ratified test methods, however, entail a built-in mechanism that serves the same basic purpose as detection limits in instrumental tests—to reduce the likelihood that random "noise" will result in a false positive result. A single [toxicity] test involves exposing multiple batches of organisms to the effluent at various concentrations, as well as to a "control" sample of pure water, and then aggregating the effects on each batch. Statistical analysis then is used to ensure that any observed differences between the organisms exposed to a given effluent concentration and those exposed to the control blanks most likely are not attributable to randomness—that they are statistically significant. ... This safeguard addresses [commenters'] concerns. …

BACWA Comment 3: *BACWA recommends that we remove the maximum daily effluent limitation (MDEL) for chronic toxicity because there is unacceptable variability inherent in toxicity testing. BACWA believes declaring a violation based on a single test result without confirmation sampling is unwarranted. BACWA also sees no benefit to imposing a chronic toxicity MDEL and warns that the City could be subjected to enforcement or citizen lawsuits.*

Response: We disagree. As explained in Fact Sheet section IV.C.4.a, imposing daily chronic toxicity WQBELs is consistent with federal regulations:

> NPDES regulations at 40 C.F.R. section 122.45(d) require that permit limits for POTWs be expressed as average weekly and average monthly limits, unless impracticable. This Order contains MDELs instead of weekly limits because MDELs better protect against acute water quality effects and are necessary to prevent fish kills or mortality to aquatic organisms. Weekly limits could allow acute and chronic toxicity to occur over shorter periods (acute and chronic aquatic life criteria are typically expressed as one-hour and four-day averages).
>
> Daily WQBELs are appropriate for chronic toxicity. In discussing permit limit expression for chronic toxicity in *EPA Regions 8, 9 and 10 Toxicity Training Tool* (January 2010), U.S. EPA acknowledges that NPDES regulations at 40 C.F.R. section 122.45(d) require weekly limits for POTWs but indicates that weekly limits are inappropriate for toxic pollutants and water quality permitting. According to U.S. EPA, the requirement for weekly limits is based on the

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[11] *Availability, Adequacy, and Comparability of Testing Procedures for the Analysis of Pollutants Established Under Section 304(h) of the Federal Water Pollution Control Act, Report to Congress*, EPA/600/9-87/030, U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Cincinnati, OH, September 1988.

[12] *Guidelines Establishing Test Procedures for the Analysis of Pollutants; Whole Effluent Toxicity Test Methods; Final Rule*, Federal Register, Vol. 67, No. 223, 69957-58, 69968, November 19, 2002.

secondary treatment requirements, which are unrelated to water quality. Section 5.2.3 of the Technical Support Document also states that weekly limits are inappropriate for whole effluent toxicity. In lieu of weekly limits, U.S. EPA recommends daily limits. Since chronic toxicity tests may take several days to complete, Table 4 of the Order contains a note indicating that the maximum daily WQBEL is to be interpreted as the maximum test result for the month, as U.S. EPA recommends in Technical Support Document section 5.2.3.

Regarding possible enforcement outcomes and toxicity testing variability, see our responses to City Comments 2 and 3.

BACWA Comment 4: *BACWA recommends that we give the City a choice of test species for routine chronic toxicity testing—green algae or the water flea—until it can determine which test species shows less variability. BACWA asserts that the rationale in the tentative order for requiring the water flea does not make sense because it is unknown whether green algae would have exhibited more or less toxicity than the water flea in May and June 2015. It also claims biological contamination in the UV channel was the likely cause of observed toxicity, and biological contamination may not affect green algae as it could the water flea.*

Response: We disagree. See our responses to City Comments 1 and 3.

BACWA Comment 5: *BACWA requests that we not allow chronic toxicity WQBEL violations to accrue during accelerated monitoring and TREs if the City engages in good-faith efforts to investigate the causes of any toxicity. BACWA reiterates its concern over citizen lawsuits.*

Response: We disagree. See our response to City Comment 2.

BACWA Comment 6: *BACWA requests that we add language that states (1) chronic toxicity may be episodic and it may be difficult to identify and reduce the source, and (2) enforcement of chronic toxicity violations will be in part based on the City's efforts to identify and control or reduce sources of consistent toxicity. BACWA points out that this language is in the previous order.*

Response: We did not revise the TO to retain the language from the previous order because that language contained no requirement and merely described how the Regional Water Board would exercise its enforcement discretion. Such language is unnecessary and inappropriate as explained in our response to City Comment 2.

United States Environmental Protection Agency (U.S. EPA), Region 9

U.S. EPA Comment: *U.S. EPA agrees that the discharge exhibits a reasonable potential to exceed the narrative chronic toxicity water quality standard and supports the application of both monthly and daily numeric chronic toxicity WQBELs. U.S. EPA confirms that, by requiring numeric chronic toxicity WQBELs, the tentative order meets the requirements of CWA sections 301(b)(1)(C) and 502(11) and 40 C.F.R. sections 122.44(d)(1)(i) and (v).*

Response: No response is required.

Regional Water Board Staff-Initiated Changes

In addition to making minor editorial and formatting changes, we revised Fact Sheet section VI.C.4.a as follows:

> This provision is based on Basin Plan section 4.17 ~~and 40 C.F.R. parts 257 and 503~~. …

We added Attachment E – MRP, section IX.C, footnote 1, as follows:

> [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.

We added Attachment G – Regional Standard Provisions, and Monitoring and Reporting Requirements, section V.E.2, footnote 1, as follows:

> [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.

We revised Attachment G – Regional Standard Provisions, and Monitoring and Reporting Requirements, Table B, to correct footnotes as 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] ~~1~~ 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] ~~2~~ www.wbers.net
3. Report	Regional Water Board	Within **5 business days** of becoming aware of the unauthorized discharge.	Electronic[4] ~~3~~ 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.

We revised Attachment G – Regional Standard Provisions, and Monitoring and Reporting Requirements, Table C, to correct footnotes as follows:

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[51]	Minimum Levels[62] (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)[73]	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)[84]												
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)[95]	0100.2 [106]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	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).

[84] 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[51]	Minimum Levels[62] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichloromethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									

CTR No.	Pollutant/Parameter	Analytical Method[51]	Minimum Levels[62] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
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)[11][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											

[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[51]	Minimum Levels[62] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											