TENTATIVE ORDER No. R2-2014-XXXX
NPDES No. CA00XXXXX

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

Table 1. Discharger Information

Discharger	Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc.
Facility Name	Permanente Plant
Facility Address	24001 Stevens Creek Blvd. Cupertino, CA, 95014 Santa Clara County
CIWQS Place Number	273205

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated quarry dewatering water, Primary Crusher wash water, Cement Plant Reclaim Water System wastewater, Rock Plant aggregate wash water, Truck Wash water, non-stormwater, and stormwater, discharged from Pond 4A	37.31713°	-122.11165°	Permanente Creek
002	Settled stormwater, including stormwater from Crusher Slope Drainage Area east of Pond 13B, discharged from Pond 13B	37.31674°	-122.10167°	Permanente Creek
003	Stormwater from roads and hillsides, pumped from Dinky Shed Basin and discharged from Pond 9	37.31339°	-122.09058°	Permanente Creek
004	Settled stormwater discharged from Pond 17	37.31431°	-122.08893°	Permanente Creek
005	Settled stormwater from Aluminum Plant, entry road, and nearby hillside, discharged from Pond 20	37.32016°	-122.08944°	Permanente Creek
006	Settled stormwater from Rock Plant access road and surrounding area, discharged from Dinky Shed Basin overflow (following large storms)	37.31425°	-122.08961°	Permanente Creek
007	Stormwater from Rock Plant with Rock Plant wash water, discharged from Rock Plant Sump (following large storms)	37.31285°	-122.09074°	Permanente Creek
008	Stormwater with overflow from Cement Plant Reclaim Water System (following large storms)	37.31809°	-122.08944°	Permanente Creek

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
009	Settled stormwater from East Materials Storage Area, discharged from Pond 30	37.31731°	-122.08553°	Permanente Creek

Table 3. Administrative Information

This Order was adopted on:	<Adoption Date>
This Order shall become effective on:	April 1, 2014
This Order shall expire on:	March 31, 2019
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with California Code of Regulations, title 23, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	October 2, 2018
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Major

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

_____

Bruce H. Wolfe**,** Executive Officer

Contents

Tables

Attachments

I. FACILITY INFORMATION

Information describing the Lehigh Southwest Cement Company's (Discharger) Permanente Plant (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 the following:

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

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

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

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

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

THEREFORE, IT IS HEREBY ORDERED that in order to meet the provisions of California 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.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated or untreated wastewater at a location or in a manner different from that described in this Order for the final treatment and controls configuration shown in Attachment C, Schematic C-3, is prohibited.

B. Discharge greater than 167,000 gallons per hour (gph), as determined on an hourly basis, from Discharge Point No. 001 is prohibited.

C. Discharge from Discharge Point Nos. 002 through 009 is prohibited except as a result of precipitation.

D. Discharge of kiln exhaust cooling water is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Discharge Point No. 001

The Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 and EFF-001a as described in the Monitoring and Reporting Program (MRP).

Table 4. Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	lbs/d	---	58	---	---
Oil and Grease	mg/L	10	20	---	---
pH [1]	s.u.	---	---	6.5	8.5
Total Residual Chlorine	mg/L	---	---	---	0.0
Settleable Matter	mL/L-hr	0.10	0.20	---	---
Chromium (VI)	µg/L	8.0	16	---	---
Mercury	µg/L	0.020	0.041	---	---
Nickel	µg/L	82	160	---	---
Selenium	µg/L	4.1	8.2	---	---
Thallium	µg/L	1.7	3.4	---	---
Total Dissolved Solids (TDS)	mg/L	1,000	2,000	---	---
Turbidity	NTU	5.0	10	---	---

Unit Abbreviations:

ºC = degrees Celsius
µg/L = micrograms per liter
mg/L = milligrams per liter
mL/L-hr = milliliters per liter-hour
NTU = nephelometric turbidity units
s.u. = standard units
lbs/d = pounds per day

Footnote:

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

B. Discharge Point Nos. 002 through 008

The Discharger shall comply with the following effluent limitations at Discharge Point Nos. 002 through 008, with compliance measured at Monitoring Locations EFF-002 through EFF-008 as described in the MRP.

Table 5. Effluent Limitations – Discharge Point Nos. 002 through 008

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	---	50	---	---
Oil and Grease	mg/L	10	20	---	---
pH [1]	s.u.	---	---	6.5	8.5
Settleable Matter	mL/L-hr	0.10	0.20	---	---
Turbidity	NTU	---	40	---	---

Unit Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter
mL/L-hr = milliliters per liter-hour
NTU = nephelometric turbidity units
s.u. = standard units

Footnote:

[1] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. § 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.

C. Discharge Point No. 009

The Discharger shall comply with the following effluent limitations at Discharge Point No. 009, with compliance measured at Monitoring Location EFF-009 as described in the MRP.

Table 6. Effluent Limitations – Discharge Point No. 009

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TSS	mg/L	---	50	---	---
pH[1]	s.u.	---	---	6.5	8.5
Settleable Matter	mL/L-hr	0.10	0.20	---	---

Unit Abbreviations:

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

Footnote:

[1] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. § 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.

D. Whole Effluent Toxicity (Discharge Point No. 001)

1. **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:

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

   b. single-sample value of not less than 70 percent survival.

The three-sample median acute toxicity limitation is defined as follows: if one of the past two or fewer bioassays shows less than 90 percent survival, then survival of less than 90 percent in the next bioassay is a violation of this effluent limitation.

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

If the Discharger can demonstrate that toxicity exceeding the levels cited above is caused exclusively by ammonia and that the ammonia in the effluent would not cause toxicity in the receiving water when discharged (e.g., due to the pH of the receiving water), then such toxicity does not constitute a violation of this effluent limitation.

2. **Chronic Toxicity.** Discharges at Discharge Point Nos. 001 through 008, with compliance measured at Monitoring Locations EFF-001 through EFF-008 as described in the MRP, shall not contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, or any other relevant measure of the health of an organism population or community. Compliance with this limit shall be determined by analysis of indicator organisms and toxicity tests as described in the MRP.

V. RECEIVING WATER LIMITATIONS

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

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

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

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

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

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

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

1. Dissolved Oxygen 5.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause

concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

2. Dissolved Sulfide — Natural background levels

3. pH — The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.

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

C. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water 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" in Attachment G.

B. Monitoring and Reporting

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

C. Special Provisions

1. Reopener Provisions

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

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

b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not

intended to restrict in any way future modifications based on legally adopted water quality objectives or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.

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

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

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

f. 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.

With the consent of the Discharger, the Executive Officer may make minor modifications to this Order for the purposes set forth in 40 C.F.R. section 122.63.

2. Effluent Characterization Study and Report

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

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

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

The Discharger shall evaluate on an annual basis if concentrations of any of these priority pollutants significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an excursion above applicable water quality criteria. This requirement may be satisfied by including the constituent in the Discharger's Pollutant Minimization Program, described in Provision VI.C.4.

b. Reporting Requirements

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

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

(b) Identity of priority pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-6 for the criteria), and the detected concentrations of those pollutants.

ii. Annual Reporting. The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report; if samples are only taken once per year, one report can be submitted to satisfy the Routine Reporting described in (i) above and the Annual Reporting requirement herein.

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

3. Ambient Background Study and Report

a. Study Elements. The Discharger shall collect representative ambient background samples at Monitoring Location RSW-001A, as defined in the MRP, at least twice each year (during wet and dry periods). The samples shall be analyzed for the priority pollutants listed in Attachment G, Table C, plus pH, salinity, hardness, temperature, turbidity, and total dissolved solids (TDS). Compliance with this requirement shall be achieved in accordance with the specifications of Attachment G, sections III.A.1 and III.A.2.

b. Reporting Requirements

i. Routine Reporting. The Discharger shall, within 30 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 study was collected; and

(b) Monitoring results for the pollutants evaluated.

ii. Annual Reporting. The Discharger shall summarize the data 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.

4. Pollutant Minimization Program

a. The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence (e.g., sample results reported as detected but not

quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order in accordance with SIP sections 2.4.2 or 2.4.3 above, presence of whole effluent toxicity, health advisories for fish consumption, or results of benthic or aquatic organism tissue sampling) that the priority pollutant is present in the effluent above an effluent limitation 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.

b. If triggered by the reasons set forth in Provision VI.C.2.a, 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 wastewater treatment system. The Executive Officer may approve commensurate 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.2.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.

5. Facility Reliability Assurance Plan and Status Report

a. The Discharger shall submit a Facility Reliability Assurance Plan no later than May 16, 2014, that describes measures in place (e.g., treatment and storage capacities, especially during high wet weather flows; critical system redundancies and spare parts; warning alarms; etc.) to ensure the reliability of the Discharger's system in preventing inadequately treated wastewater from being discharged. The Facility Reliability

Assurance Plan shall cover the interim and final treatment systems. Inadequately treated wastewater includes wastewater that bypasses any portion of treatment. The Facility Reliability Assurance Plan shall be maintained in usable condition and be available for reference and use by all relevant personnel.

b. The Discharger shall regularly review, revise, and update, as necessary, the Facility Reliability Assurance Plan to ensure that the document remains useful and relevant to current equipment and operational practices (e.g., it shall be updated any time significant changes are made to the treatment system, such as installation of the interim and final treatment systems). The Discharger shall conduct reviews annually and complete revisions or updates as necessary. For any significant changes in treatment equipment or operational practices, the Discharger shall complete relevant revisions as soon as practicable.

c. The Discharger shall submit a report describing the current status of its Facility Reliability Assurance Plan, including any recommended or planned actions, and an estimated time schedule for these actions, with the annual SMR each year.

6. Stormwater Best Management Practices

The Discharger shall manage discharges through Discharge Point Nos. 002 through 009, according to the following minimum requirements, which supersede those of Attachment G, sections I.J.1 through I.J.4.

a. Stormwater Pollution Prevention Plan and Annual Report

i. The Discharger shall continue to implement its Stormwater Pollution Prevention Plan (SWPPP) for the Facility until it submits an updated SWPPP as required by Provision VI.C.6.a.ii, below.

ii. The Discharger shall submit and implement an updated SWPPP to the Executive Officer by May 16, 2014, and annually thereafter with the annual SMR due February 1 each year. The Discharger shall also implement any changes to the SWPPP the Executive Officer deems necessary. The updated SWPPP shall contain information and describe measures consistent with the requirements in *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities,* NPDES General Permit No. CAS000001 (State Water Board Order No. 97-03-DWQ), Section A, Storm Water Pollution Prevention Plan Requirements. If the Discharger determines that an update is not needed, it shall submit a letter to such effect with the annual SMR.

iii. The Discharger shall submit an Annual Stormwater Report by July 1 of each year providing data for the previous wet weather season. The Annual Stormwater Report shall, at a minimum, include the following:

(1) tabulated summary of all sampling results and a summary of visual observations taken during inspections;

(2) comprehensive discussion of the compliance record and any corrective actions taken or planned to ensure compliance with this Order; and

(3) comprehensive discussion of source identification and control programs for constituents that do not have effluent limitations (e.g., those in Table 7, below).

b. Best Management Practices Plan

i. The Discharger shall maintain a Best Management Practices (BMP) Plan in usable condition and available for reference and use by all appropriate personnel. The BMP Plan shall be developed and implemented to minimize the potential impact of periodic discharges on Permanente Creek, to prevent the accidental release of toxic or hazardous substances into the environment, and to minimize and mitigate the effects of any such releases using equipment and techniques available and practical for such use. The BMP Plan shall be consistent with U.S. EPA's *Guidance Manual for Developing Best Management Practices (BMP)* (October 1993, EPA 833-B-93-004) and shall, at minimum, include BMPs described in NPDES General Permit No. CAS000001 (State Water Board Order No. 97-03-DWQ), Section A, Storm Water Pollution Prevention Plan Requirements.

ii. The Discharger shall regularly review, and revise or update as necessary, the BMP Plan to ensure that it remains useful and relevant to current equipment and operations. At a minimum, the Discharger shall conduct reviews annually and complete revisions or updates as soon thereafter as possible. Appropriate revisions shall be completed within 90 days of any significant changes in Facility equipment or operations.

iii. The Discharger shall submit a report describing the current status of its BMP Plan, including any recommended or planned actions and an estimated schedule for completing these actions, upon Executive Officer request. The Discharger shall include a description or summary of its review and evaluation procedures and any changes to its BMP Plan in each annual SMR.

c. Additional Stormwater Provisions

i. Upon an initial detection of a pollutant at Discharge Point Nos. 002 through 009 in excess of the action levels in the Table 7, below, the Discharger shall review the selection, design, installation, and implementation of its BMPs to identify necessary modifications. The Discharger shall complete such modifications before the next storm, if possible, or as soon as practical. Within 45 days of becoming aware of results that exceed these action levels, the Discharger shall report to the Executive Officer the exceedances, the results of its review of its BMPs, and additional BMPs to be implemented.

Table 7. Stormwater Action Levels

Parameter	Unit	Action Level
Conductivity	µmho/cm	200
Chromium (VI)	µg/L	16
Mercury	µg/L	2.4
Nickel	µg/L	1,400

Parameter	Unit	Action Level
Selenium	µg/L	240
Thallium	µg/L	1.7
Visible Oil	---	Presence
Visible Color	---	Presence

Unit Abbreviations:

µmho/cm = micromhos per centimeter
µg/L = micrograms per liter

ii. If after modifying its BMP Plan the Discharger continues to detect a pollutant in excess of the action levels above, the Discharger shall again review its control measures and perform either of the following tasks:

(1) Further modify and report as in Provision VI.C.6.c.i, above, or

(2) Determine that no further pollutant reductions are technologically available and economically practicable in light of best industry practice, document the rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with its SWPPP. The Discharger shall also report these findings to the Executive Officer within 45 days of detecting the pollutant; written concurrence from the Executive Officer is required before the Discharger is authorized to stop improving its BMPs.

ATTACHMENT A – DEFINITIONS

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

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

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

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

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

Carcinogenic
Known to cause cancer in living organisms.

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

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

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

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

Detected, but Not Quantified (DNQ)
Sample result less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Standard Deviation (σ)
Measure of variability calculated as follows:

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

where:

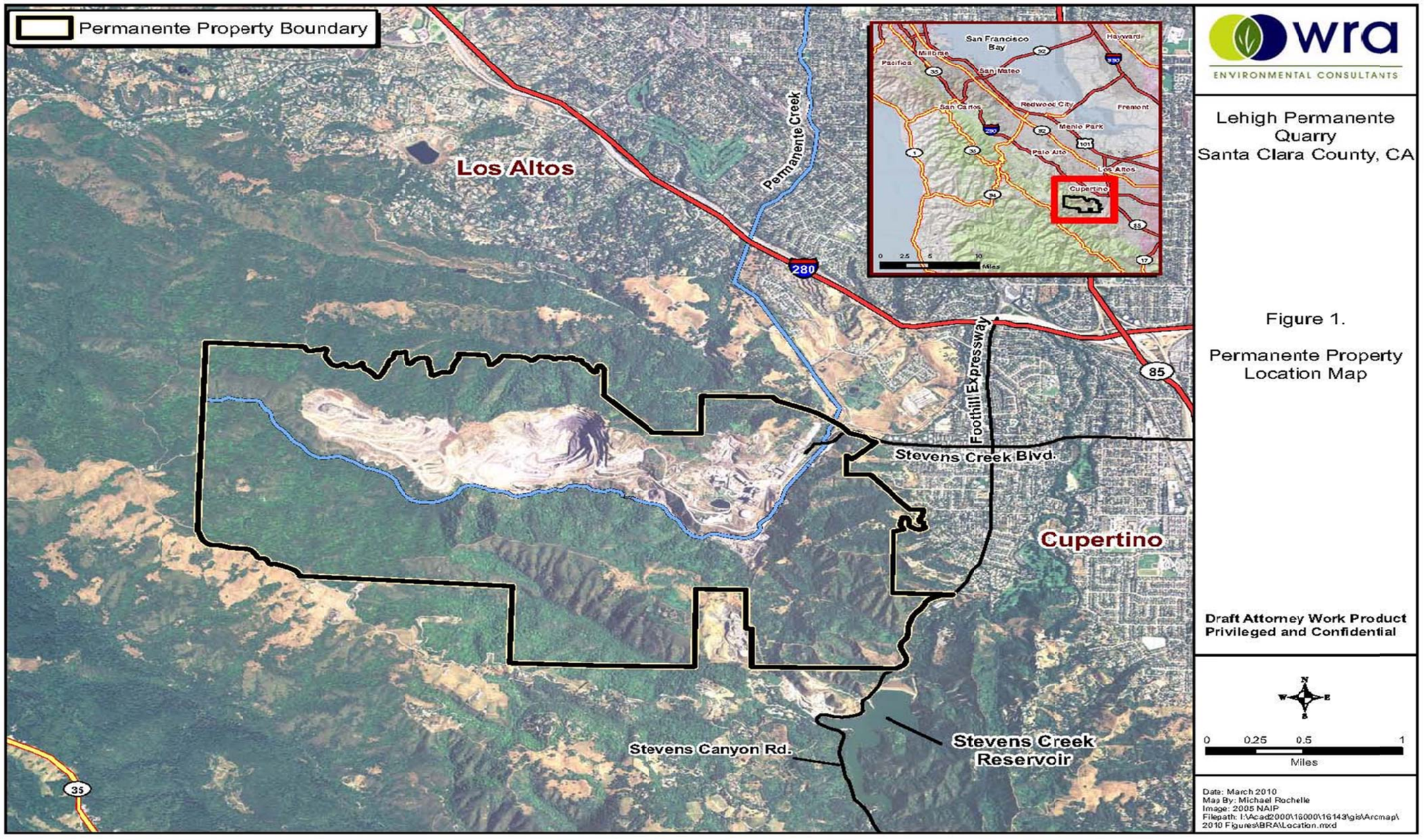
x is the observed value;

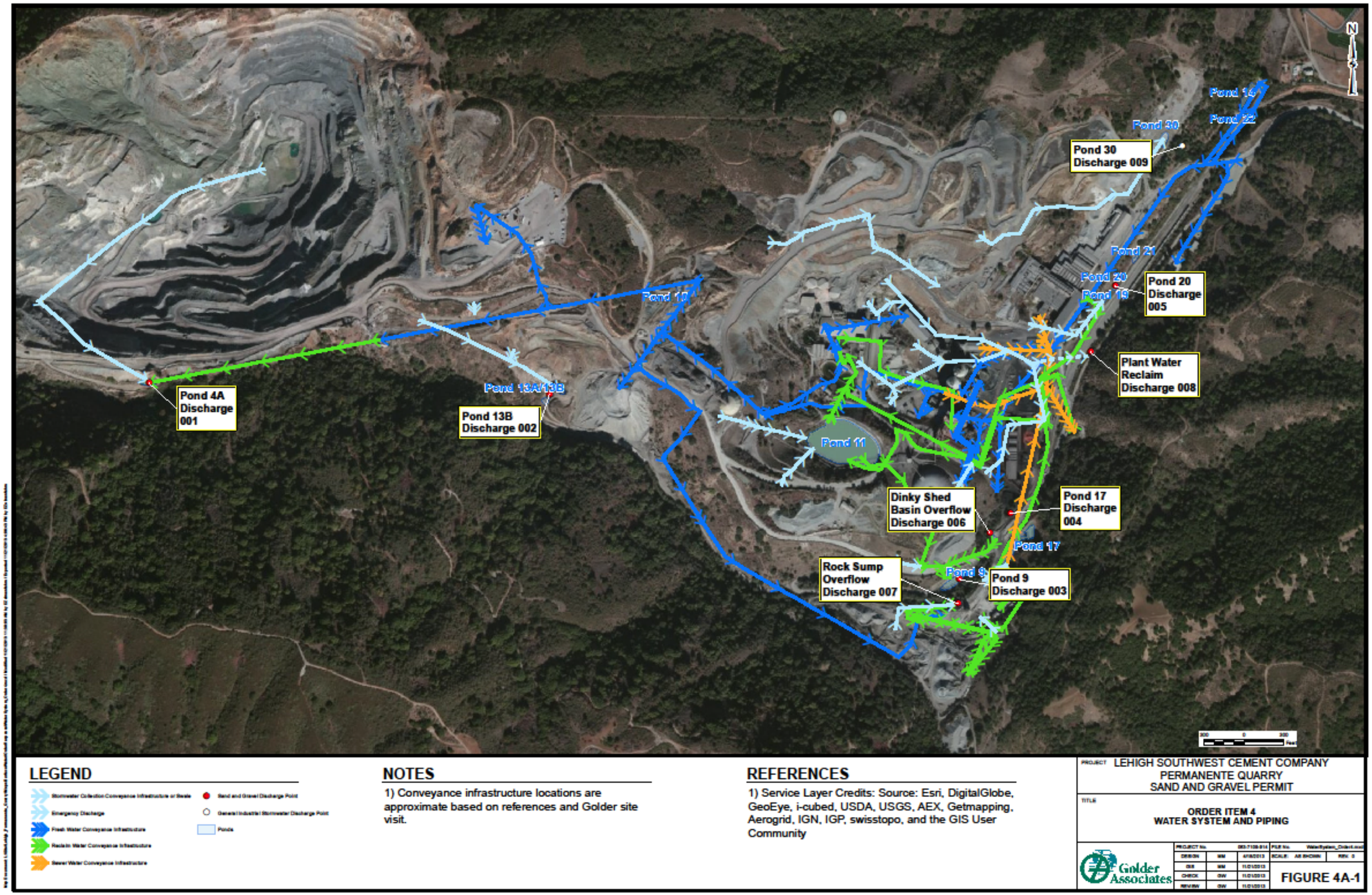
μ is the arithmetic mean of the observed values; and

n is the number of samples.

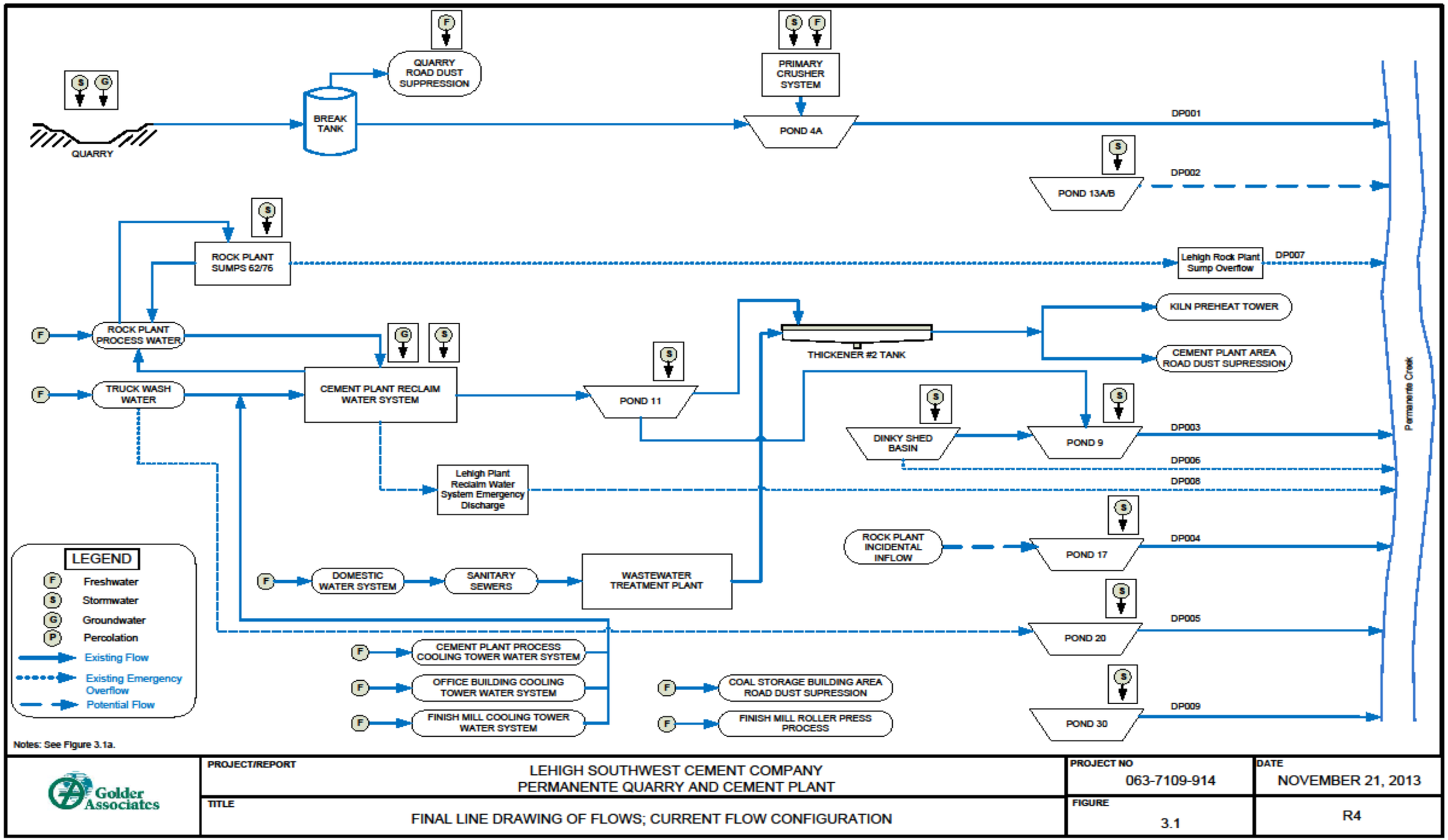
Toxicity Reduction Evaluation (TRE)
Study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of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

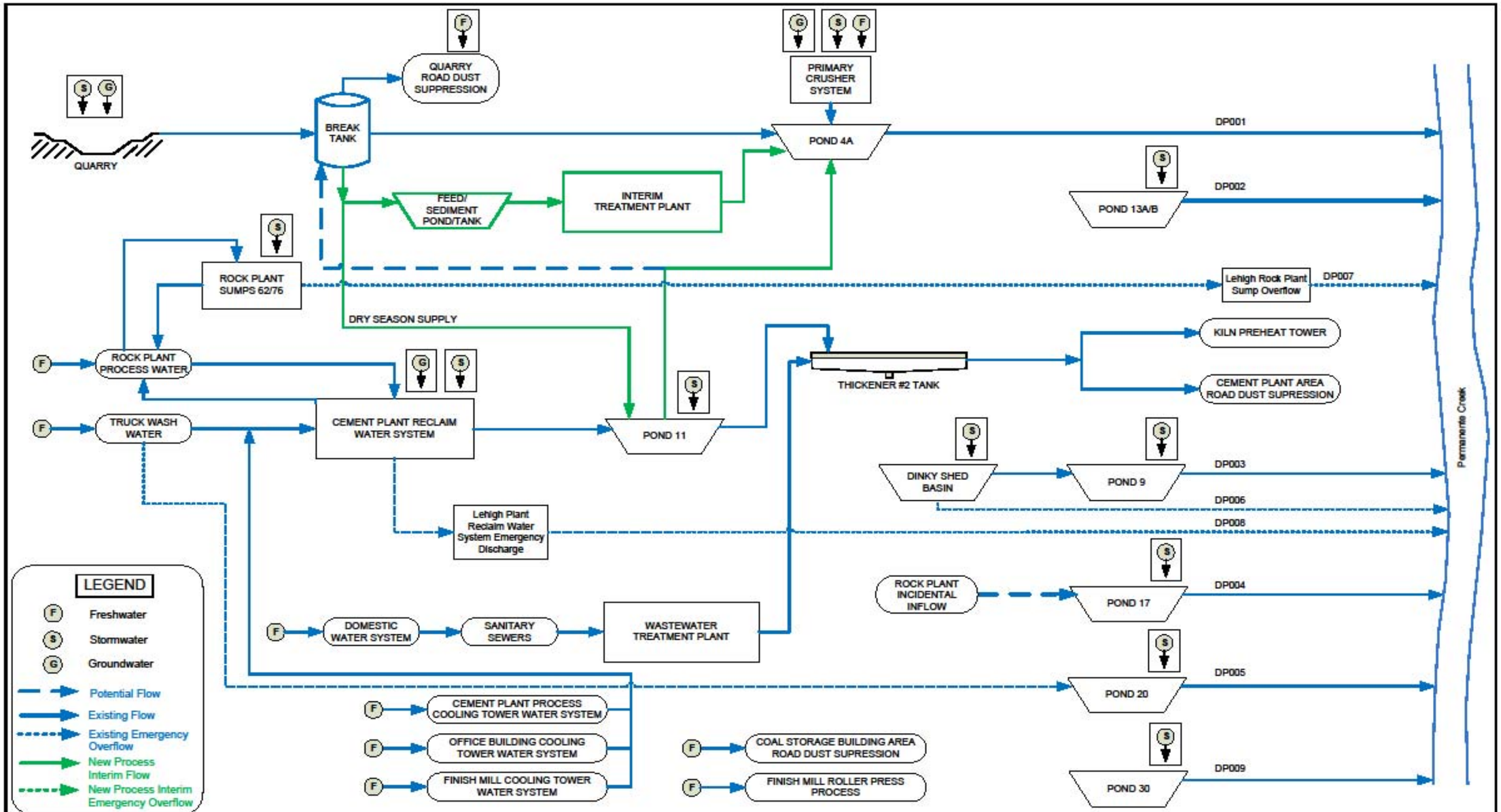
ATTACHMENT B – FACILITY MAP

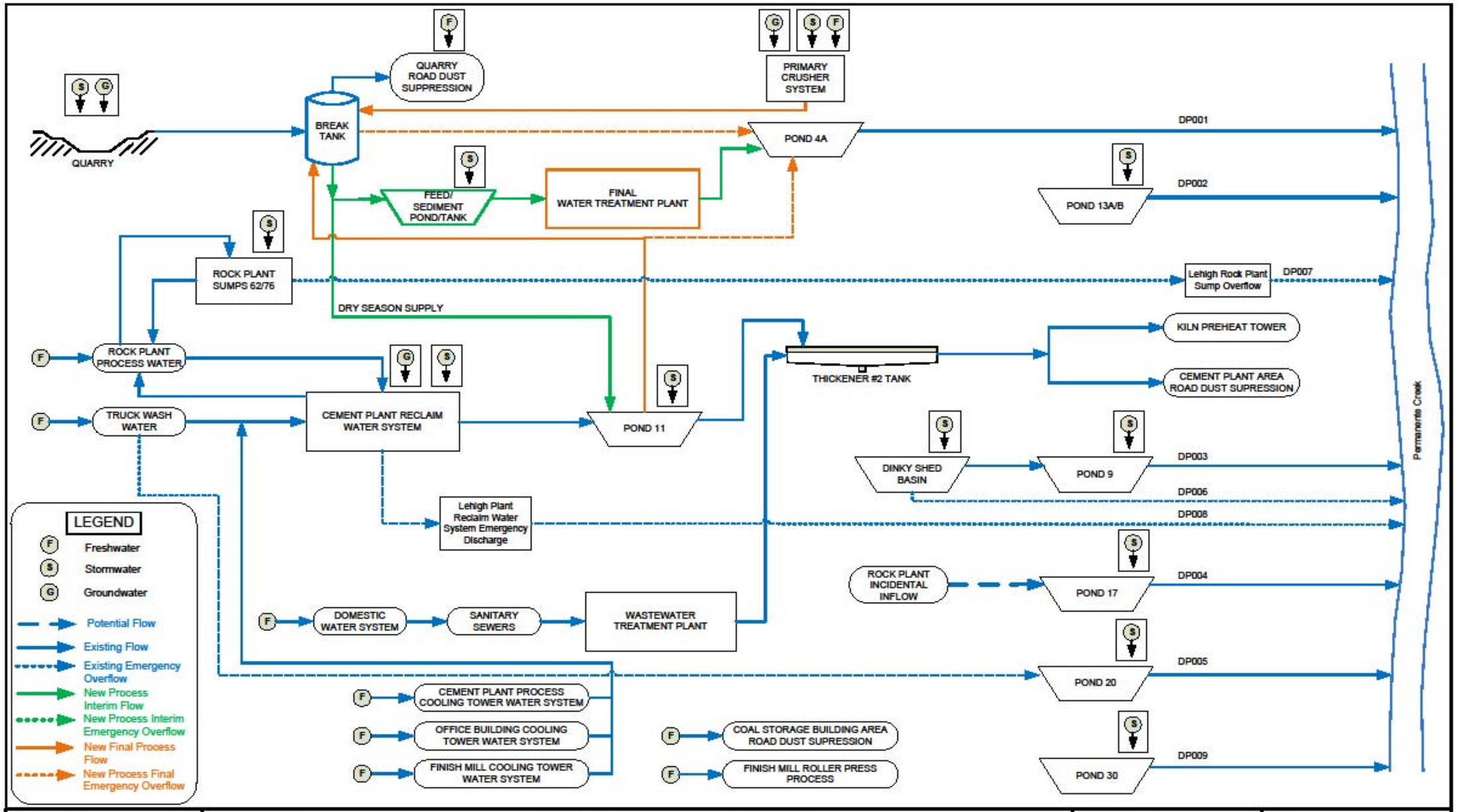



N
Pond 14
Pond 22
Pond 30
Pond 30 Discharge 009
Pond 21
Pond 20
Pond 19
Pond 20 Discharge 005
Pond 19
Pond 13A/13B
Pond 4A Discharge 001
Pond 13B Discharge 002
Plant Water Reclaim Discharge 008
Pond 11
Dinky Shed Basin Overflow Discharge 006
Pond 17 Discharge 004
Pond 17
Rock Sump Overflow Discharge 007
Pond 9
Pond 9 Discharge 003
200 0 200
Feet
LEGEND
Stormwater Collection Conveyance Infrastructure or Swale
Emergency Discharge
Fresh Water Conveyance Infrastructure
Reclaim Water Conveyance Infrastructure
Sewer Water Conveyance Infrastructure
Sand and Gravel Discharge Point
General Industrial Stormwater Discharge Point
Ponds
NOTES
1) Conveyance infrastructure locations are approximate based on references and Golder site visit.
REFERENCES
1) Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
PROJECT LEHIGH SOUTHWEST CEMENT COMPANY
PERMANENTE QUARRY
SAND AND GRAVEL PERMIT
TITLE
ORDER ITEM 4
WATER SYSTEM AND PIPING
Golder Associates
FIGURE 4A-1

ATTACHMENT C – PROCESS FLOW DIAGRAMS C-1 THROUGH C-3




QUARRY
BREAK TANK
QUARRY ROAD DUST SUPPRESSION
PRIMARY CRUSHER SYSTEM
POND 4A
DP001
POND 13A/B
DP002
FEED/ SEDIMENT POND/TANK
INTERIM TREATMENT PLANT
ROCK PLANT SUMPS 62/76
Lehigh Rock Plant Sump Overflow
DP007
DRY SEASON SUPPLY
ROCK PLANT PROCESS WATER
TRUCK WASH WATER
CEMENT PLANT RECLAIM WATER SYSTEM
POND 11
THICKENER #2 TANK
KILN PREHEAT TOWER
CEMENT PLANT AREA ROAD DUST SUPRESSION
DINKY SHED BASIN
POND 9
DP003
DP006
DP008
Lehigh Plant Reclaim Water System Emergency Discharge
ROCK PLANT INCIDENTAL INFLOW
POND 17
DP004
DOMESTIC WATER SYSTEM
SANITARY SEWERS
WASTEWATER TREATMENT PLANT
POND 20
DP005
CEMENT PLANT PROCESS COOLING TOWER WATER SYSTEM
OFFICE BUILDING COOLING TOWER WATER SYSTEM
FINISH MILL COOLING TOWER WATER SYSTEM
COAL STORAGE BUILDING AREA ROAD DUST SUPRESSION
FINISH MILL ROLLER PRESS PROCESS
POND 30
DP009
Permanente Creek
LEGEND
Freshwater
Stormwater
Groundwater
Potential Flow
Existing Flow
Existing Emergency Overflow
New Process Interim Flow
New Process Interim Emergency Overflow
Golder Associates
PROJECT/REPORT
LEHIGH SOUTHWEST CEMENT COMPANY
PERMANENTE QUARRY AND CEMENT PLANT
PROJECT NO
063-7109-914
DATE
NOVEMBER 21, 2013
TITLE
FINAL LINE DRAWINGS OF FLOWS; INTERIM TREATMENT FLOW CONFIGURATION
FIGURE
3.2
R4



Golder Associates	PROJECT/REPORT: LEHIGH SOUTHWEST CEMENT COMPANY PERMANENTE QUARRY AND CEMENT PLANT	PROJECT NO: 063-7109-914	DATE: NOVEMBER 21, 2013
	TITLE: FINAL LINE DRAWING OF FLOWS; FINAL TREATMENT FLOW CONFIGURATION	FIGURE: 3.3	R4

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

2. The Discharger shall comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants and with standards for sewage sludge use or disposal established under CWA section 405(d) within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

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

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

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

G. Bypass

1. Definitions

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

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

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

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

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

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment

should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

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

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

5. Notice

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

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

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures under 40 C.F.R. part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R. part 136 unless otherwise specified in 40 C.F.R. part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS—RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include the following:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) the analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS—REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

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

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

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

a. The authorization is made in writing by a person described in Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

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

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

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

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

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

C. Monitoring Reports

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

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

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

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

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (Alternatively, for an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1).) (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 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)

Contents

Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 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]
Effluent	EFF-001	A point in the outfall from Pond 4A (Discharge Point No. 001), following treatment and prior to the receiving water, at which all waste tributary to the outfall is present. *Latitude 37º,19',1.68" N Longitude 122º,6',41.94" W*
Effluent	EFF-001a	A point after filtration of wastewater from the Cement Plant Reclaim Water System, and before any other treatment step. *TBD*
Effluent	EFF-002	A point after Pond 13A, prior to discharge from or percolation through Pond 13B to the receiving water (Discharge Point No. 002), at which all waste tributary to the discharge point is present. *Latitude 37º,19',0.27" N Longitude 122º,6',6.01" W*
Effluent	EFF-003	A point in the outfall from Pond 9 (Discharge Point No. 003), prior to the receiving water, at which all waste tributary to the outfall is present. *Latitude 37º,18',48.21" N Longitude 122º,5',26.09" W*
Effluent	EFF-004	A point in the outfall from Pond 17 (Discharge Point No. 004), prior to the receiving water, at which all waste tributary to the outfall is present. *Latitude 37º,18',51.53" N Longitude 122º,5',20.14 W*
Effluent	EFF-005	A point in the outfall from Pond 20 (Discharge Point No. 005), prior to the receiving water, at which all waste tributary to the outfall is present. *Latitude 37º,19',12.59" N Longitude 122º,5',21.98 W*
Effluent	EFF-006	A point in the discharge from the Dinky Shed Basin (Discharge Point No. 006), prior to the receiving water, at which all waste tributary to the discharge is present. *Latitude 37º,18',51.29" N Longitude 122º,5',22.6" W*

Sampling Location Type	Monitoring Location Name	Monitoring Location Description [1]
Effluent	EFF-007	A point in the discharge from the Rock Plant Basin (Discharge Point No. 007), prior to the receiving water, at which all waste tributary to the discharge is present. *Latitude 37º,18',46.25" N Longitude 122º,5',26.65" W*
Effluent	EFF-008	A point in the discharge from the Reclaim Water System Emergency Discharge (Discharge Point No. 008), prior to the receiving water, at which all waste tributary to the discharge is present. *Latitude 37º,19',5.14" N Longitude 122º,5',21.98" W*
Effluent	EFF-009	A point in the outfall from Pond 30 (Discharge Point No. 009), prior to the receiving water, where all runoff from the East Materials Storage Area tributary to the outfall is present. *Latitude 37º,19',23.3" N Longitude 122º,5',7.9" W*
Receiving Water	RSW-001	A point in Permanente Creek within 50 feet upstream of in-stream Pond 13.
Receiving Water	RSW-001A	A point at the confluence of Wild Violet Creek and Permanente Creek upstream of Outfall 001. *Latitude 37º,19',13" N Longitude -122º,7',55" W*
Receiving Water	RSW-002	A point in Permanente Creek within 50 feet downstream of Discharge Point No. 002.
Receiving Water	RSW-003	A point in Permanente Creek within 50 feet downstream of Discharge Point No. 003.
Receiving Water	RSW-004	A point in Permanente Creek within 50 feet downstream of Discharge Point No. 009.

Footnote:

[1] Latitude and longitude information is approximate for administrative purposes.

III. EFFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor effluent at Monitoring Locations EFF-001and EFF-001a as follows.

Table E-2. Effluent Monitoring—Monitoring Locations EFF-001 and EFF-001a

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Flow [2]	MGD	Continuous	Continuous/Day
Total Suspended Solids (TSS)[3]	mg/L	Grab	1/Week
Oil and Grease [4]	mg/L	Grab	1/Month
Temperature	°C	Grab	1/Month
pH [5]	standard units	Continuous or Grab	Continuous/Day or 1/Day
Total Residual Chlorine	mg/L	Grab	1/Day [6]
Settleable Matter	mL/L-hr	Grab	1/Month
Chromium (VI)	µg/L	Grab	1/Month
Mercury	µg/L	Grab	1/Month
Nickel	µg/L	Grab	1/Month
Selenium	µg/L	Grab	1/Month
Thallium	µg/L	Grab	1/Month
Total Dissolved Solids (TDS)	mg/L	Grab	1/Week
Turbidity	NTU	Grab	1/Day [6]

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Acute Toxicity [7]	% Survival	C-24	1/ Quarter
Chronic Toxicity [8]	TUc	C-24	1/Quarter
Standard Observations [9]	---	---	1/Day [6]

Unit Abbreviations:

ºC = degrees Celsius
TUc = chronic toxicity units, equal to 100/NOEL, where NOEL = IC_{25}, EC_{25}, or NOEC
µg/L = micrograms per liter
mg/L = milligrams per liter
mL/L-hr = milliliters per liter-hour
MGD = million gallons per day
NTU = nephelometric turbidity units
% Survival = percent survival

Sample Type:

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

Sampling Frequency:

Continuous/Day = measured continuously, and recorded and reported at least daily
1/Day = once per day
1/Week = once per week
1/Month = once per month
1/Quarter = once per quarter

Footnotes:

[1] Grab samples shall be collected during daylight hours.

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

[3] TSS is to be monitored at Monitoring Location EFF-001a.

[4] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664.

[5] pH shall be monitored once per day, Monday through Friday, at Monitoring Location EFF-002. If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in self-monitoring reports.

[6] This requirement applies Monday through Friday.

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

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

[9] Standard observations are listed in Attachment G (Standard Provisions), section III.C.1, Receiving Water Observations.

B. The Discharger shall monitor effluent at Monitoring Locations EFF-002 through EFF-008 as follows.

Table E-3. Effluent Monitoring—Monitoring Locations EFF-002 through EFF-008

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Flow [2]	MG	Continuous	1/Month
Total Suspended Solids (TSS)	mg/L	Grab	1/Quarter
Oil and Grease [3]	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Settleable Matter	mL/L-hr	Grab	1/Quarter
Turbidity	NTU	Grab	1/Quarter
Conductivity	µmhos/cm	Grab	1/Quarter
Chromium (VI)	µg/L	Grab	1/Quarter

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Mercury	µg/L	Grab	1/Quarter
Nickel	µg/L	Grab	1/Quarter
Selenium	µg/L	Grab	1/Quarter
Thallium	µg/L	Grab	1/Quarter
Standard Observations [4]	---	---	Each Occurrence

Unit Abbreviations:

µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
mg/L = milligrams per liter
mL/L-hr = milliliters per liter-hour
MG = million gallons
NTU = nephelometric turbidity units

Sample Type:

Continuous = measured continuously
Grab = grab sample

Sampling Frequency:

Each Occurrence = each significant stormwater discharge, defined as a continuous discharge of stormwater for a minimum of one hour, or an intermittent discharge of stormwater for a minimum of three hours, in a 12-hour period. Visual observations are only required in daylight during scheduled facility operating hours.
1/Month = once per month
1/Quarter = once per quarter

Footnotes:

[1] Grab samples shall be collected during daylight hours.

[2] Flow shall be monitored continuously at all monitoring locations except Monitoring Location Nos. 006, 007, and 008, at which flow shall be monitored once per day when discharging. The following information shall be reported in monthly self-monitoring reports for all monitoring locations:
- Daily average flow (gpd)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)

[3] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664.

[4] Standard observations are listed in Attachment G section III.C.1, Receiving Water Observations.

C. The Discharger shall monitor effluent at Monitoring Location EFF-009 as follows.

Table E-4. Effluent Monitoring—Monitoring Location EFF-009

Parameter	Units	Sample Type [1]	Minimum Sampling Frequency
Flow [2]	MG	Continuous	1/Month
Total Suspended Solids (TSS)	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Settleable Matter	mL/L-hr	Grab	1/Quarter
Conductivity	µmhos/cm	Grab	1/Quarter
Total Organic Carbon [3]	mg/L	Grab	1/Quarter
Chromium (VI)	µg/L	Grab	1/Quarter
Mercury	µg/L	Grab	1/Quarter
Nickel	µg/L	Grab	1/Quarter
Selenium	µg/L	Grab	1/Quarter
Thallium	µg/L	Grab	1/Quarter
Standard Observations [4]	---	---	Each Occurrence

Unit Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter
mL/L-hr = milliliters per liter-hour
MG = million gallons per day
umhos/cm = micromhos per centimeter

Sample Type:

Continuous = measured continuously
Grab = grab sample

Sampling Frequency:

Each Occurrence = each significant stormwater discharge, defined as a continuous discharge of stormwater for a minimum of one hour, or an intermittent discharge of stormwater for a minimum of three hours, in a 12-hour period. Visual observations are only required in daylight during scheduled facility operating hours.
1/Month = once per month
1/Quarter = once per quarter

Footnotes:

[1] Grab samples shall be collected during daylight hours.

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

[3] Oil and grease may be substituted for total organic carbon. Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664.

[4] Standard observations are listed in Attachment G section III.C.1, Receiving Water Observations.

IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor whole effluent acute and chronic toxicity at Discharge Point No. 001 (Monitoring Location EFF-001 as described in the MRP) as follows.

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations shall be evaluated by measuring survival of test organisms exposed to 96-hour static renewal bioassays.

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

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

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

5. Bioassay water monitoring shall include, on a daily basis, residual chlorine, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If a violation of an acute toxicity limit occurs, the bioassay test shall be repeated with new fish as soon as practical and shall be repeated until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

B. Whole Effluent Chronic Toxicity

1. Monitoring Requirements

a. Sampling. The Discharger shall collect 24-hour composite effluent samples on consecutive days for critical life stage toxicity testing as indicated below.

b. Test Species. The test species shall be daphnid (*Ceriodaphnia dubia)* unless a more sensitive species is identified.

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

c. Frequency. The chronic toxicity monitoring frequency shall be as specified below.

i. The Discharger shall monitor routinely at the minimum frequency specified in Table E-2.

ii. The Discharger shall accelerate monitoring to monthly after either exceeding a three-sample median of 1.0 TUC or a single-sample maximum of 2.0 TU_c. Based on the TUc results, the Executive Officer may specify a different frequency for accelerated monitoring to ensure that accelerated monitoring provides useful information.

iii. The Discharger shall return to routine monitoring if accelerated monitoring does not exceed either trigger in ii, above.

iv. If accelerated monitoring confirms consistent toxicity in excess of either 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 both triggers in ii, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

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

d. Methodology. Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014), and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* currently fourth Edition (EPA-821-R-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, provided that the revised protocols are equally protective. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment.

e. Dilution Series. The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, 6.25%, and 0%. The "%" represents percent effluent as discharged. Test sample pH may be controlled to the level of the effluent sample as received by the laboratory prior to being salted up.

2. Reporting Requirements

a. The Discharger shall provide toxicity test results for the current reporting period in the self-monitoring report and shall include the following, at a minimum, for each test.

i. Sample date

ii. Test initiation date

iii. Test species

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

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

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

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

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

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

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

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

3. Toxicity Reduction Evaluation (TRE)

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

b. Within 30 days of exceeding either 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 either trigger in section V.B.1.c.ii, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.

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

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

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

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

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

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

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

e. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with Provision IV.A.5 of the Order).

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

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

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

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

V. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall monitor receiving waters at Monitoring Locations RSW-001 through RSW-004 (including RSW-001A) as follows.

Table E-5. Receiving Water Monitoring—Monitoring Locations RSW-001 through RSW-004

Parameter	Units	Sample Type	Minimum Sampling Frequency
Chromium (VI)	µg/L	Grab	1/Quarter
Mercury	µg/L	Grab	1/Quarter
Nickel	µg/L	Grab	1/Quarter
Selenium	µg/L	Grab	1/Quarter
Thallium	µg/L	Grab	1/Quarter
Dissolved Oxygen	mg/L and % Saturation	Grab	1/Quarter
Sulfides	mg/L	Grab	1/Quarter
Turbidity	NTU	Grab	1/Quarter
pH	Standard Units	Grab	1/Quarter
TDS	mg/L	Grab	1/Quarter
Chloride	mg/L	Grab	1/Quarter
Temperature	°C	Grab	1/Quarter
Hardness	mg/L	Grab	1/Quarter
TSS [1]	mg/L	Grab	1/Quarter
Oil and Grease [1][2]	mg/L	Grab	1/Quarter
TOC [1]	mg/L	Grab	1/Quarter
Settleable Matter [1]	mL/L-hr	Grab	1/Quarter
Conductivity [1]	µmhos/cm	Grab	1/Quarter
Standard Observations [3]	---	---	1/Month

Unit Abbreviations:

°C = degrees Celsius
µmhos/cm = micromhos per centimeter
µg/L = micrograms per liter

mg/L = milligrams per liter
mL/L-hr = milliliters per liter-hour
NTU = nephelometric turbidity units
% Saturation = percent saturation

Sampling Frequency:

1/Month = once per month
1/Quarter = once per quarter
1/5 Years = once per five years

Footnote:

[1] To be monitored at Monitoring Location RSW-001A only.

[2] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664.

[3] Standard observations are listed in Attachment G section III.C.1, Receiving Water Observations.

VI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

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

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

   a. **Monthly SMRs —** Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provisions VI.C.2 (Effluent Characterization Study and Report) and VI.C.3 (Ambient Background Study and Report) of this Order for information that must also be reported with monthly SMRs.

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

   b. **Annual SMR —** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in sections V.C.1.f of Attachment G. See also Provisions VI.C.2 (Effluent Characterization Study and Report), VI.C.3 (Ambient Background Study and Report), V.C.4.b.v, V.C.5.c, VI.C.6.a.ii, and VI.C.6.b.iii of the Order for requirements to submit reports with the annual SMR.

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

Table E-6. CIWQS Reporting

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

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

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

Table E-7. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Permit effective date	All times
1/Day	Permit effective date	Midnight through 11:59 p.m. or any 24-hour period that reasonably represents a calendar day for purposes of sampling
1/Week	Sunday following permit effective date or on permit effective date if on Sunday	Sunday through Saturday
1/Month	First day of calendar month following permit effective date or on permit effective date if on first day of month	First day of calendar month through last day of calendar month
1/Quarter	First January 1, April 1, July 1, or October 1 following or on permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1/Year	January 1	January 1 through December 31
1/5 Years	Permit effective date	Once during the permit term within 12 months prior to applying for permit reissuance

4. **RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 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.

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

C. Discharge Monitoring Reports (DMRs)

1. At any time during the term of this Order, the State Water Board or Regional Water Board may notify the Discharger to electronically submit DMRs. Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. Once notified by the State Water Board or Regional Water Board, the Discharger shall submit hard copy DMRs. The Discharger shall sign and certify DMRs as Attachment D requires. The Discharger shall submit original DMRs to one of the addresses listed below:

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

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

VII. MODIFICATIONS TO ATTACHMENT G

This MRP modifies Attachment G as indicated below.

A. Attachment G sections I.J.1 (Stormwater Pollution Prevention Plan [SWPP Plan]) and I.J.3 (Stormwater Management Controls) are deleted.

B. Attachment G section III.A.3.b is revised as follows, and section III.A.3.c (Stormwater Monitoring) is deleted.

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. Total suspended solids (TSS), settleable matter, chromium (VI), mercury,

nickel, selenium, total dissolved solids (TDS), and turbidity shall not be subject to this accelerated monitoring requirement because existing data already demonstrate the magnitude and duration of non-compliance with effluent limitations for these parameters.

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. TSS, settleable matter, chromium (VI), mercury, nickel, selenium, TDS, and turbidity shall not be subject to this accelerated monitoring requirement because existing data already demonstrate the magnitude and duration of non-compliance with effluent limitations for these parameters.

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. Stormwater Monitoring – *Deleted*

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

2) When determining compliance with an average monthly effluent limitation or maximum daily 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.

D. 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*

E. Attachment G section V.E.2 (Unauthorized Discharges from Municipal Wastewater Treatment Plants) is 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%, 50%, 25%, 12.5%, 6.25%, and 0 %, where "%" is percent effluent as discharged, or as otherwise approved the Executive Officer if different dilution ratios are needed to reflect discharge conditions.

C. The Discharger shall submit a screening phase proposal. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

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

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

Toxicity Test References:

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

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

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

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

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

Toxicity Test Reference:

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

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

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

[1] (a) Marine refers to receiving water salinities greater than 1 part per thousand (ppt) at least 95 percent of the time during a normal water year.

(b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

(c) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.

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

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

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

ATTACHMENT F - FACT SHEET

Contents

Tables

Attachment

ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 43I006267
CIWQS Place ID	273205
Discharger	Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc.
Facility Name	Permanente Plant
Facility Address	24001 Stevens Creek Blvd. Cupertino, CA 95014
	Santa Clara County
Facility Contact, Title, Phone	Alan Sabawi, Plant Manager, Lehigh Hanson Region West, 408-996-4231
Authorized Person to Sign and Submit Reports	Same as Facility Contact
Mailing Address	Lehigh Southwest Cement Company 24001 Stevens Creek Blvd. Cupertino, CA 95014
Billing Address	Same as Mailing Address
Facility Type	Industrial, SIC Codes 3241 (Hydraulic cement production), 1422 (Crushed and broken limestone)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N
Reclamation Requirements	Not Applicable
Permitted Flow	167,000 gallons per hour (gph) (Discharge Point 001)
Design Flow	167,000 gph (Discharge Point 001)
Watershed	Santa Clara Basin
Receiving Water	Permanente Creek
Receiving Water Type	Inland Surface Water (Fresh)

A. Lehigh Southwest Cement Company operates the Permanente Plant (Facility), a limestone quarry and cement production facility that also produces construction aggregate. Hanson Permanente Cement, Inc., owns the property on which the Facility is located at 24001 Stevens Creek Road. Together, Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc., are hereinafter referred to as the Discharger. Operations at this site commenced in 1939.

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 Facility discharges wastewater to Permanente Creek, a water of the United States tributary to San Francisco Bay within the Santa Clara Basin watershed. Prior to this Order, these discharges were regulated pursuant to *General Waste Discharge Requirements for Discharges of Process Wastewaters from Aggregate Mining, Sand Washing, and Sand Offloading Facilities to Surface Waters*, NPDES Permit No. CAG982001 (Order No. R2-2008-0011). The Facility also discharges stormwater runoff associated with industrial activities to Permanente Creek. Prior to this Order, these discharges were regulated pursuant to *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities,* NPDES Permit No. CAS000001 (State Water Board Order No. 97-03-DWQ). This Order terminates the Discharger's coverage under these two general permits because it regulates all these discharges. The Discharger is also currently regulated by Regional Water Board Order No. 94-038 for treatment and onsite discharge and reuse (or reclamation) of treated sanitary wastewaters. This Order does not affect Order No. 94-038.

Attachment B provides a general map of the Facility and area around the Facility. Attachment C provides flow schematics of the Facility's current and planned interim and final configurations.

Prior to making any change in the points of discharge, places of use, or purposes of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge and application for Waste Discharge Requirements (WDRs) and NPDES permit on November 30, 2011. Supplemental information was requested on March 27, 2012, and received on May 14, 2012.

II. FACILITY DESCRIPTION

The Discharger mines and processes minerals at the Facility, and produces Portland cement and construction aggregate from limestone and stone quarried onsite. It produces several types of wastewater, including quarry dewatering water, truck and equipment wash water, aggregate crushing and washing water, cement manufacture cooling and process wastewater, and industrial stormwater. This Order addresses all wastewaters (including industrial stormwater) associated with quarrying, crushed rock mining and processing, and cement manufacture at the Facility.

The Facility consists of an active mining area, a quarry pit, a cement manufacturing plant, several crushers and mills, a pre-calcining tower, and roads and a conveyor system for transporting mined raw materials. Wastewater and industrial stormwater are collected and managed through a system of berms, ditches, pipes, and ponds. The ponds discharge to Permanente Creek at several locations. Runoff also occurs as sheet flow from undisturbed areas.

A. Discharge Points and Receiving Waters

The Facility discharges to Permanente Creek, a fresh water stream tributary to San Francisco Bay. All the Facility's discharges are shallow water discharges. The discharge points are located in the Santa Clara Basin watershed, as indicated below. Although the Discharger intends to make a number of changes to the Facility during the term of this Order as described in section II.C, below,

the discharge points will remain the same. The volume and nature of the wastewater discharged at each location will change, however, and this Order reflects these planned changes.

Table F-2. Outfall Locations

Discharge Point	Latitude (North)	Longitude (West)	Receiving Water
001	37.31713°	-122.11165°	Permanente Creek
002	37.31674°	-122.10167°	Permanente Creek
003	37.31339°	-122.09058°	Permanente Creek
004	37.31431°	-122.08893°	Permanente Creek
005	37.32016°	-122.08944°	Permanente Creek
006	37.31425°	-122.08961°	Permanente Creek
007	37.31285°	-122.09074°	Permanente Creek
008	37.31809°	-122.08944°	Permanente Creek
009	37.31731°	-122.08553°	Permanente Creek

B. Existing Wastewater Treatment and Controls

Attachment C-1 provides a schematic depicting current wastewater and stormwater flows. As shown there, during normal operations, quarry dewatering water (including accumulated stormwater), and stormwater and wash water from the Primary Crusher System, are pumped to and discharged from Pond 4A (Discharge Point No. 001). Stormwater is stored in and sometimes discharged from Ponds 13A and 13B (Discharge Point No. 002). Excess Rock Plant wash water is typically pumped to the Reclaim Water System (which includes Pond 11) and reused at the cement plant, or pumped to Discharge Point No. 001. Stormwater from the Rock Plant access road and surrounding areas flows to the Dinky Shed Basin and is pumped to and discharged from Pond 9 (Discharge Point No. 003), along with stormwater from nearby roads. Additional Rock Plant stormwater is discharged from Pond 17 (Discharge Point No. 004). Stormwater from the entry road and old Aluminum Plant is discharged from Pond 20 (Discharge Point No. 005). Stormwater is also discharged from Pond 30 (Discharge Point No. 009).

Overflows of stormwater from the Dinky Shed Basin (Discharge Point No. 006) and Rock Plant Sump (Discharge Point No. 007), and of commingled stormwater and process water from the Cement Plant Reclaim Water System (Discharge Point No. 008), may occur due to large storms that produce runoff in excess of the Facility's storage capacity, or emergency conditions as defined in Attachment G, section I.C.1. Overflow Truck Wash water may also be discharged from Discharge Point No. 005 under such emergency conditions.

Natural seeps occur from hillsides at the Facility. If this water comes into contact with industrial activity, it is collected and routed to one of the water systems (e.g., the quarry or Cement Plant Reclaim Water System).

Currently, all Facility discharges are treated by settling in the ponds or sumps from which the discharges occur. In addition, the discharge from Discharge Point No. 001 is filtered prior to settling and discharge, wash water from the Primary Crusher flows through an oil skimmer before being pumped to Pond 4A and discharged at Discharge Point No. 001, and discharges from Discharge Point No. 003 flow through aggregate rock prior to discharge.

C. Future Wastewater Treatment and Controls

The Discharger plans major changes to the Facility's wastewater treatment and controls to comply with a settlement agreement with the Sierra Club in *Sierra Club v. Lehigh Southwest Cement Company, and Hanson Permanente Cement, Inc.* and the effluent limitations of this Order. The requirements of this Order are based on the planned future wastewater treatment and controls. This Order does not authorize discharges inconsistent with future treatment and controls; therefore, such discharges would violate this Order.

The Discharger has begun bench-scale and pilot-scale testing of treatment technologies to meet the effluent limitations in this Order, particularly with respect to selenium. The technologies being tested include proprietary biological treatment, reverse osmosis, and iron co-precipitation. By October 1, 2014, the Discharger will install and operate an interim treatment system that implements one or a combination of these treatment technologies, and is capable of treating up to 24,000 gallons of wastewater per hour (gph). By September 30, 2017, the Discharger will construct and operate a final treatment system capable of treating all quarry pit water, process wastewater, and stormwater commingled with process wastewater discharged from the Facility (i.e., discharges from Pond 4A, which will include quarry pit water, stormwater, primary crusher process water, cement plant process waters, truck wash water, and rock plant aggregate wash water).

Attachments C-2 and C-3 provide schematics depicting interim and final wastewater and stormwater flows. Beginning on October 1, 2014, interim flows will be as follows:

- Up to 24,000 gph of quarry dewatering water will be directed to the interim treatment system prior to discharge from Discharge Point No. 001, instead of being directly discharged at Discharge Point No. 001;

- Cement Plant Reclaim Water System wastewater will be pumped to Discharge Point No. 001 as necessary, instead of being discharged at Discharge Point No. 003;

- Rock Plant wash water will be directed to the Cement Plant Reclaim Water System;

- Truck Wash water will be directed to the Cement Plant Reclaim Water System instead of being discharged at Discharge Point No. 005.

Beginning on October 1, 2017, final flows will be as follows:

- All quarry dewatering water, Primary Crusher stormwater and wash water, and Cement Plant Reclaim Water System wastewater as necessary (including Rock Plant wash water and Truck Wash water) will be pumped to the final treatment system prior to discharge at Discharge Point No. 001 instead of being discharged as described above;

- If necessary to meet effluent limitations, the Discharger will also treat dust suppression water runoff currently flowing to Ponds 13A and 13B.

D. Summary of Existing Requirements and Monitoring Data

Prior to this Order, the Facility was regulated under two general permits, one for its quarry operations and the other for its industrial stormwater. The data from quarry operations are presented below because they characterize wastewater discharges, including stormwater from a

large portion of the Facility. The quarry operations were regulated pursuant to the *General Waste Discharge Requirements for Discharges of Process Wastewaters from Aggregate Mining, Sand Washing, and Sand Offloading Facilities to Surface Waters* (Order No. R2-2008-0011). Effluent limitations contained in that order and representative monitoring data from November 21, 2011, when coverage under that permit commenced, to March 31, 2013, are presented below. During this time, no discharge took place from Discharge Point Nos. 006 (Dinky Shed Basin) or 008 (Cement Plant Reclaim Water System).

Table F-3. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations					Monitoring Data (11/11–03/13)
		Monthly Average	Weekly Average	Daily Maximum	Instant-aneous Maximum	Instant-aneous Minimum	Highest Daily Discharge
Discharge Point No. 001 (Pond 4A)							
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	60
Turbidity	NTU		---	40	---	---	60
pH	s.u.	---	---	---	8.5	6.5	7.0 – 8.6
Settleable Matter	mL/L-hr	0.1	---	0.2	0.0	---	ND<0.1
Total Dissolved Solids	mg/L	---	---	500	---	---	1,200
Chloride	mg/L		---	250	---	---	62
Total Chlorine Residual	mg/L	---	---	---	0.0	---	ND<0.1
Acute Toxicity	% Survival	90 [1]	70 [2]	---	---	---	100%
Discharge Point No. 002 (Pond 13B)							
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	620
Turbidity	NTU		---	40	---	---	1,000
pH	s.u.	---	---	---	8.5	6.5	7.1 – 8.6
Settleable Matter	mL/L-hr	0.1	---	0.2	0.0	---	0.5
Total Dissolved Solids	mg/L	---	---	500	---	---	1,500
Chloride	mg/L		---	250	---	---	81
Total Chlorine Residual	mg/L	---	---	---	0.0	---	ND<0.1
Acute Toxicity	% Survival	90 [1]	70 [2]	---	---	---	100%
Discharge Point No. 003 (Pond 9)							
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	380
Turbidity	NTU		---	40	---	---	392
pH	s.u.	---	---	---	8.5	6.5	6.8 – 9.4
Settleable Matter	mL/L-hr	0.1	---	0.2	0.0	---	0.4
Total Dissolved Solids	mg/L	---	---	500	---	---	1,200
Chloride	mg/L		---	250	---	---	120

Parameter	Units	Effluent Limitations					Monitoring Data (11/11–03/13)
		Monthly Average	Weekly Average	Daily Maximum	Instant-aneous Maximum	Instant-aneous Minimum	Highest Daily Discharge
Total Chlorine Residual	mg/L	---	---	---	0.0	---	ND<0.1
Acute Toxicity	% Survival	90 [1]	70 [2]	---	---	---	100%
Discharge Point No. 004 (Pond 17) [3]							
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	140
Turbidity	NTU		---	40	---	---	220
pH	s.u.	---	---	---	8.5	6.5	6.5 – 8.3
Settleable Matter	mL/L-hr	0.1	---	0.2	0.0	---	0.5
Total Dissolved Solids	mg/L	---	---	500	---	---	550
Chloride	mg/L		---	250	---	---	19
Total Chlorine Residual	mg/L	---	---	---	0.0	---	ND (<0.1)
Acute Toxicity	% Survival	90 [1]	70 [2]	---	---	---	[3]
Discharge Point No. 005 (Pond 20) [4]							
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	200
Turbidity	NTU	---	---	40	---	---	94
pH	s.u.	---	---	---	8.5	6.5	7.5-8.8
Settleable Matter	mL/L-hr	0.1	---	0.2	0.0	---	1.1
Total Dissolved Solids	mg/L	---	---	500	---	---	1,200
Chloride	mg/L	---	---	250	---	---	59
Total Chlorine Residual	mg/L	---	---	---	0.0	---	ND (<0.1)
Acute Toxicity	% Survival	90 [1]	70 [2]	---	---	---	[4]
Discharge Point No. 007 (Rock Plant Sump) [5]							
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---	35
Turbidity	NTU	---	---	40	---	---	[5]
pH	s.u.	---	---	---	8.5	6.5	8.16
Settleable Matter	mL/L-hr	0.1	---	0.2	0.0	---	ND (<0.1)
Total Dissolved Solids	mg/L	---	---	500	---	---	940
Chloride	mg/L	---	---	250	---	---	[5]
Total Chlorine Residual	mg/L	---	---	---	0.0	---	ND (<0.1)
Acute Toxicity	% Survival	90 [1]	70 [2]	---	---	---	[5]

Unit Abbreviations:

mg/L = milligrams per liter

µg/L = micrograms per liter
mL/L/HR = milliliters per liter–hour
NTU = nephelometric turbidity units
% Survival = percent survival
s.u. = standard units

Footnotes:

[1] Minimum three-sample median survival

[2] Minimum single-sample survival

[3] Discharge Point No. 004 discharged from November 30 through December 3, 2012, and December 23 through 28, 2012. No acute toxicity sample was collected.

[4] Discharge Point No. 005 discharged on January 23, 2012; from November 28 through December 31, 2012; and on February 19, 2013. No acute toxicity sample was collected.

[5] Discharge Point No. 007 discharged on December 26, 2012. No turbidity, chloride, or acute toxicity samples were collected.

E. Compliance Summary

Since 1992, the Facility had been regulated under the *General Permit for Discharges of Storm Water associated with Industrial Activities Excluding Construction Activities* (NPDES Permit No. CAS000001, currently State Water Board Order No. 97-03-DWQ). Based on Facility inspections and observed permit violations, that Order was determined to be inappropriate because it prohibited non-stormwater discharges integral to the Facility's operations, including discharges of quarry bottom water, truck and equipment wash-down water, and dust suppression water. While still maintaining coverage under the industrial stormwater permit, the Discharger applied for an individual NPDES permit and enrolled under the *General Waste Discharge Requirements for Discharges of Process Wastewaters from Aggregate Mining, Sand Washing, and Sand Offloading Facilities to Surface Waters* (NPDES Permit No. CAG982001, Order No. R2-2008-0011) until an individual permit could be issued. The Discharger's violations of both orders and the Regional Water Board's enforcement actions are described below.

1. **Unauthorized Discharges Under Order No. 97-03-DWQ.** A February 10, 2010, U. S. EPA inspection found violations of Order No. 97-03-DWQ, including discharge of polluted stormwater and discharge of non-stormwater in violation of the permit. Other violations included inadequate best management practices for pollution control, source control, erosion control, and material handling and storage; inadequate stormwater pollution prevention plan; and inadequate and unrepresentative monitoring locations. On March 26, 2010, the Regional Water Board's Assistant Executive Officer issued a Notice of Violation requiring the Discharger to correct these violations. A follow-up investigation by Regional Water Board, U.S. EPA, and California Department of Fish and Game staff on May 26, 2010, found that the Discharger had not corrected the violations.

   On September 15, 2010, the Santa Clara Valley Water District forwarded to the Regional Water Board a complaint it had received about increased flows in Permanente Creek. The Regional Water Board investigated and found, through an October 4, 2010, phone conversation with the Discharger, that the increased flows likely resulted from a routine discharge through Pond 4A (Discharge Point No. 001) of water pumped from the quarry pit. Regional Water Board staff verbally informed the Discharger that Order No. 97-03-DWQ prohibited the discharge. On November 29, 2010, the Assistant Executive Officer issued the Discharger a Water Code section 13267 order requiring characterization of the non-stormwater discharges from September 2010 back through the previous three years. The

Discharger's response, received on December 13, 2010, did not meet the 13267 order's requirements.

On February 18, 2011, the Assistant Executive Officer issued a second Notice of Violation requiring the Discharger to apply for an individual NPDES permit, enroll under NPDES Permit No. CAG982001 until an individual permit could be issued, and collect and submit data characterizing the Facility's non-stormwater discharges. The Assistant Executive Officer clarified and reiterated these requirements with a third Notice of Violation and 13267 order issued June 14, 2011. The Discharger initially applied for coverage under NPDES Permit No. CAG982001 on July 18, 2011. The Discharger provided supplemental submittals over the next several months, completing the application for all outfalls on October 25, 2011. The Discharger initially applied for an individual NPDES permit on November 30, 2011, submitting a complete application on May 14, 2012. The Discharger began collecting the data required by the June 2011 13267 order, and continues to collect and report data under revisions to that order (the most recent revision, Order No. R2-2013-0005-A1, is dated June 2013).

On March 29, 2011, Regional Water Board staff inspected the Facility and observed an unauthorized discharge of sediment-laden water to Permanente Creek from an unknown pipe. The discharge was later determined to be cement manufacture process water that is normally recycled, but which on that day was diverted and discharged to Permanente Creek in violation of Order No. 97-03-DWQ. The Regional Water Board's Assistant Executive Officer issued Complaint No. 2011-0023, dated April 29, 2011, assessing a $10,000 Administrative Civil Liability (ACL). The Discharger paid the fine as set forth in ACL Settlement Agreement R2-2012-0039.

2. **Numeric Effluent Limitation Violations Under Order No. R2-2008-0011.** From November 2011 through March 2013, the Discharger violated the pH, settleable matter, total dissolved solids (TDS), total suspended solids (TSS), and turbidity limitations of Order No. R2-2008-0011. Specifically, the Discharger violated the pH limitations 76 times, the settleable matter limitations 12 times, the TDS limitation 190 times, the TSS limitations 42 times, and the turbidity limitation 79 times. These violations are tabulated in Attachment F-1. Regional Water Board staff are working with U.S. EPA staff to determine appropriate next steps.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

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

B. California Environmental Quality Act. Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act, Public Resources Code division 13, chapter 3 (commencing with § 21100). Compliance with the provisions of CEQA is only required for NPDES permit actions pertaining to new sources as defined by the federal Clean Water Act (i.e., sources constructed after New Source Performance

Standards were published). The Facility has been in operation since before February 23, 1977, when the first relevant New Source Performance Standards were published. U. S. EPA guidance states that the source of an industrial discharge is the facility generating the discharge, not the system treating it; thus, Lehigh's construction of a new treatment system does not trigger new source requirements.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The San Francisco Bay Regional Water Board (Regional Water Board) adopted *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter Basin Plan) that 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, State Water Board Resolution 88-63 established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Permanente Creek does not meet any of the exceptions under State Water Board Resolution 88-63. Therefore, the municipal or domestic supply beneficial use applies. Beneficial uses applicable to Permanente Creek are as follows.

Table F-4. Beneficial Uses

Discharge Points	Receiving Water	Beneficial Uses
001	Permanente Creek	Ground water recharge (GWR)
002		Cold freshwater habitat (COLD)
003		Warm freshwater habitat (WARM)
004		Preservation or rare, threatened or endangered species (RARE)
005		Fish spawning (SPWN)
006		Wildlife habitat (WILD)
007		Contact water recreation (REC-1)
008		Non-contact water recreation (REC-2)
009		Municipal and domestic water supply (MUN)

2. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971, and amended it on September 18, 1975. This plan contains temperature objectives for surface waters. Permanente Creek supports warm and cold water habitat beneficial uses; therefore, the Thermal Plan temperature objectives apply.

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

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

California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

5. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

6. **Safe, Clean, Affordable, and Accessible Water.** Water Code section 106.3 states that the policy of the State of California is that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

7. **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.

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

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

Permanente Creek is listed as an impaired water body. The pollutants impairing Permanente Creek are diazinon, selenium, toxicity, and trash. On May 16, 2007, U.S. EPA approved a TMDL for diazinon and pesticide-related toxicity in urban creeks. The TMDL for diazinon and pesticide-related toxicity in urban creeks is incorporated into the Basin Plan. Only municipal stormwater received an allocation for diazinon and pesticide-related toxicity under the TMDL. No available data indicate that the Facility discharges diazinon or pesticides. TMDLs have not yet been completed for selenium or trash.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

1. Prohibitions in this Order

a. Discharge Prohibition III.A (No discharge other than as described in this Order): This prohibition is based on 40 C.F.R. section 122.21(a), duty to apply, and California Water Code section 13260, which requires filing an application and Report of Waste Discharge before discharges can occur. Discharges not described in the permit application and Report of Waste Discharge, and subsequently in this Order, are prohibited. This Order authorizes only discharges consistent with the final treatment and control configuration; therefore, discharges from other configurations are not authorized and would violate this Order.

b. Discharge Prohibition III.B (No flow above 167,000 gph at Discharge Point No. 001): This prohibition ensures that wastewater flows do not exceed the design capacity of the wastewater treatment facility to be constructed.

c. Discharge Prohibition III.C (No discharge other than that due to precipitation at Discharge Point Nos. 002 through 009): This prohibition ensures that these discharge points only discharge stormwater, with minor amounts of non-stormwater commingled with stormwater discharged at Discharge Point No. 008 due to runoff in excess of Facility storage capacity or emergency conditions as defined in Attachment G, section I.C.1.

d. Discharge Prohibition III.D (No discharge of kiln exhaust cooling water): This prohibition ensures that elevated temperature wastewater will not be discharged to Permanente Creek. During normal plant operations all kiln exhaust cooling water is evaporated; therefore, this Order implements this prohibition instead of an effluent temperature limitation.

2. **Exception to Shallow Water Discharge Prohibition.** Basin Plan Table 4-1, Discharge Prohibition 1, prohibits discharges not receiving a minimum of 10:1 initial dilution. Basin Plan section 4.2 provides for exceptions under certain circumstances:

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

   The Basin Plan further states:

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

   This Order grants an exception for discharges to Permanente Creek for the following reasons:

   a. An inordinate burden would be placed on the Discharger relative to the beneficial uses protected to require the discharge to achieve 10:1 dilution in Permanente Creek. Upstream flow in Permanente Creek is insufficient to achieve 10:1 dilution consistently throughout the year, and constructing and operating a deepwater outfall to provide consistent dilution (e.g., in San Francisco Bay) would require construction and operation of a discharge pipe several miles long.

   b. Provision VI.C.5 of this Order requires the Discharger to provide an equivalent level of environmental protection by preparing and maintaining a Facility Reliability Assurance Plan and submitting reliability status reports. The plan will protect against discharge of inadequately-treated wastewater and provide protection against the potential effects of any abnormal discharge that could be caused by temporary treatment plant upset or malfunction.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Clean Water Act 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 this Order authorizes must meet minimum federal technology-based requirements based on U.S. EPA-promulgated Effluent Limit Guidelines for the Cement Manufacturing Point Source Category at 40 C.F.R. section 411 and the Mining Point Source Category at 40 C.F.R. section 436. The effluent limitations established by these codes and their applicability to the discharges permitted by this Order are summarized below and in Table F-5.

- Regulations at 40 C.F.R. section 411 subpart A (Nonleaching Subcategory) apply to Discharge Point No. 001 because this discharge contains process wastewater from nonleaching cement manufacturing. Cement manufacturing process wastewater may also be discharged from Discharge Point No 008 due to large rain events or emergency conditions as defined in Attachment G, section I.C.1, but these discharges would be dominated by stormwater.

- Regulations at 40 C.F.R. section 411 subpart C (Materials Storage Piles Runoff Subcategory) apply to Discharge Point Nos. 001 through 009 because these discharges contain runoff from raw materials, intermediate products, finished products, or waste materials.

- Regulations at 40 C.F.R. section 436 subparts B (Crushed Stone Subcategory) and C (Construction Sand and Gravel Subcategory) apply to Discharge Point Nos. 001, 004, 007, and 008 because these discharges contain mine dewatering water or wastewater associated with mining and processing crushed stone, such as the limestone used in cement manufacturing and the construction aggregate produced at the Facility.

The requirements of these Effluent Limit Guidelines are summarized below. The Basin Plan contains additional requirements for certain pollutants.

Table F-5. Technology-Based Requirements for Cement Manufacturing and Mining

Parameter	Maximum Daily Effluent Limitation
40 C.F.R. section 411 subpart A (applicable to 001)	
Total Suspended Solids (TSS) (process wastewater)	0.005 pounds per 1,000 pounds product
Temperature [1]	Not to exceed 3°C rise above inlet temperature
40 C.F.R. section 411 subpart C (applicable to 001 through 009)	
TSS (runoff) [2]	50 mg/L
pH	6.0 – 9.0 standard units
40 C.F.R. section 436 subparts B and C (applicable to 001, 007, and 008)	
pH	6.0 – 9.0 standard units

Footnotes:

[1] Because Facility cooling water is evaporated after use and not discharged, this Order does not implement this limit.

[2] Untreated overflow from facilities designed, constructed, and operated to treat the volume of runoff from materials storage associated with a 10-year 24-hour rain event is not subject to this limitation. Because none of the Facility's ponds meet these conditions, all discharges covered by this Order are subject to this limitation.

2. Effluent Limitations

Rationales for this Order's technology-based effluent limitations are presented below. Based on existing discharge data, the Discharger is unlikely to be able to comply with these limits prior to implementing its planned future treatment and controls; therefore, discharges of these pollutants could violate this Order.

a. Discharge Point No. 001

Discharges from Discharge Point No. 001 are subject to the Effluent Limitation Guidelines in 40 C.F.R. as summarized in Table F-5.

i. Total Suspended Solids (TSS). The TSS effluent limitations are based on the rate of cement production in accordance with 40 C.F.R. section 411 subpart A (Non-leaching Subcategory). The Discharger's Report of Waste Discharge reports its production rate as 11,520,000 pounds (lbs) of Portland cement per day. The maximum daily TSS limit is therefore calculated as follows:

11,520,000 lbs cement /day x 0.005 lbs TSS / 1,000 lbs cement = 58 lbs/day TSS

This Order does not contain the TSS effluent limitations in Basin Plan Table 4-2 because the Basin Plan states, "[the TSS limits] will not be used to preempt Effluent Guideline Limitations."

ii. Oil and Grease. The oil and grease effluent limitations are based on Basin Plan Table 4-2.

iii. pH. The pH effluent limitation is based on Basin Plan Table 4-2, which is more stringent than 40 C.F.R. sections 411 and 436.

iv. Total Residual Chlorine. The total residual chlorine effluent limitation is based on Basin Plan Table 4-2. Chlorine may be present when potable water is used on site as make-up Primary Crusher wash water, Rock Plant wash water, Truck Wash water, or dust suppression water.

v. Settleable Matter. The settleable matter effluent limitations are based on Basin Plan Table 4-2.

b. Discharge Point Nos. 002 through 008

Discharges from Discharge Point Nos. 002 and 008 are subject to the Effluent Limitation Guidelines in 40 C.F.R. section 411 subpart C (Materials Storage Piles Runoff Subcategory). Discharges from Discharge Point Nos. 007 and 008 are also subject to the Effluent Limitation Guidelines in 40 C.F.R. section 436 subparts B (Crushed Stone Subcategory) and C (Construction Sand and Gravel Subcategory); however, these guidelines do not include any limitations that are not also in 40 C.F.R. section 411 subpart C.

i. Total Suspended Solids (TSS). The TSS effluent limitation is based on 40 C.F.R. section 411, Subpart C (Materials Storage Piles Runoff Subcategory). This Order does not contain the TSS effluent limitations in Basin Plan Table 4-2 because the Basin Plan states, "[the TSS limits] will not be used to preempt Effluent Guideline Limitations."

ii. Oil and Grease. The oil and grease effluent limitations are based on Basin Plan Table 4-2.

iii. pH. The pH effluent limitation is based on Basin Plan Table 4-2, which is more stringent than 40 C.F.R. sections 411 and 436..

iv. Settleable Matter. The settleable matter effluent limitations are based on Basin Plan Table 4-2.

v. Turbidity. The turbidity effluent limitation is established using Order No. R2-2008-0011, which previously regulated this discharge, as guidance. The limitation in that order was based on the performance of similar facilities. No changes to the Facility that would change the nature of this discharge or its treatment are planned; thus, the turbidity limit is the same as in that Order.

c. Discharge Point No. 009

Discharges from Discharge Point No. 009 are subject to the Effluent Limitation Guidelines in 40 C.F.R. section 411 subpart C (Materials Storage Piles Runoff Subcategory).

i. Total Suspended Solids (TSS). The TSS effluent limitation is based on 40 C.F.R. section 411, Subpart C (Materials Storage Piles Runoff Subcategory). This Order does not contain the TSS effluent limitations in Basin Plan Table 4-2 because the Basin Plan states, "[the TSS limits] will not be used to preempt Effluent Guideline Limitations." Based on existing discharge data, the Discharger is unlikely to be able to comply at Discharge Point No. 009; therefore, these discharges may violate this Order.

ii. pH. The pH effluent limitation is based on Basin Plan Table 4-2, which is more stringent than 40 C.F.R. sections 411.

iii. Settleable Matter. The settleable matter effluent limitations are based on Basin Plan Table 4-2.

C. Water Quality-Based Effluent Limitations

1. Scope and Authority

This Order contains Water Quality Based Effluent Limitations (WQBELs) that implement water quality objectives that protect beneficial uses. Clean Water Act 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 Clean Water Act section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria, and protect designated uses of receiving waters as specified in the Basin Plan. This Order imposes numeric effluent limitations for pollutants with reasonable potential to cause or contribute to exceedances of water quality standards.

2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point Nos. 001 through 009 discharge to Permanente Creek. Section III.C.1, above, identifies the beneficial uses of Permanente 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 numerous pollutants and narrative water quality objectives for others, including toxicity. 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. California Toxics Rule Criteria. The California Toxics Rule specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of "water and organisms" and others are for consumption of "organisms only." The criteria applicable to "water and organisms" apply to Permanente Creek because it is considered a potential source of drinking water, as described in Fact Sheet section III.C.1, above.

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

d. Receiving Water Salinity. Basin Plan section 4.6.2 (like the California Toxics Rule and National Toxics Rule) states that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the water quality objectives are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Permanente Creek is an inland freshwater stream, as confirmed by salinity data collected in 2011 and 2013. No salinity was detected in any sample. Permanente Creek is therefore classified as freshwater, and the reasonable potential analysis and WQBELs are based on freshwater water quality criteria and objectives.

e. Receiving Water Hardness. Ambient hardness data are used to calculate freshwater water quality objectives that are hardness dependent. The water quality objectives for this Order are based on a hardness of 252 mg/L as $CaCO_3$, which is the lowest observed hardness at the confluence of Wild Violet Creek and Permanente Creek (Monitoring Location RSW-001A as defined in the Monitoring and Reporting Program; see section IV.C.3.c, below).

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. The reasonable potential analysis in this Order applies to Discharge Point No. 001, where process wastewaters are actively generated and discharged. These process wastewater discharges are subject to numeric WQBELs where reasonable potential is indicated. Discharges from the remaining outfalls consist of primarily stormwater subject to narrative WQBELs in the form of best management practices.

a. Methodology. State Implementation Policy section 1.3 sets forth the methodology used for this Order for assessing whether a pollutant has reasonable potential to exceed a water quality objective. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). State Implementation Policy section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:

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

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

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

b. Effluent Data. The reasonable potential analysis for this Order is based on the combined effluent data from Discharge Point Nos. 001 through 003 that the Discharger collected from July 2011 through March 2013. Process wastewaters are currently routinely discharged from these points. Data on discharges from the remaining points are mainly for stormwater. Relying on the data from Discharge Point Nos. 001 through 003 is a conservative approach because the resulting reasonable potential analysis and effluent limitation calculations are based on data that reflect significantly higher pollutant concentrations than the treated effluent will have when all treatment and controls are in place, and because it excludes data from less contaminated stormwater-dominated discharges.

All the Facility's process wastewaters, including those currently discharged from Discharge Point Nos. 002 and 003, will be redirected and discharged from Discharge Point No. 001 as part of planned changes to meet this Order's requirements. Therefore, while the reasonable potential analysis reflects the data from Discharge Point Nos. 002 and 003, the resulting limits apply only to Discharge Point No. 001.

.

c. Ambient Background Data. The reasonable potential analysis for this Order is based on background data collected in 2013 at Monitoring Location RSW-001A. This location was chosen based on its accessibility, geological appropriateness, likely perennial flow, and

lack of chemical influences from the Facility or other land uses (*Background Monitoring Locations Plan and Reporting, Water Code section 13267 Order No. R2-2013-1005, Order Item No. 6,* Golder Associates, March 6, 2013). Background data were reported in a background monitoring report (*Background Monitoring Report, Water Code section 13267 Order No. R2-2013-1005, Order Item No. 6,* Golder Associates, March 22, 2013) and subsequent quarterly monitoring reports.

d. Reasonable Potential 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 or no) for each pollutant. The pollutants that exhibit reasonable potential are chromium (VI), mercury, nickel, selenium, thallium, total dissolved solids (TDS), and turbidity.

Table F-6. Reasonable Potential Analysis

CTR #	Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	B or Minimum DL [1][2] (µg/L)	Result [3]
1	Antimony	6.0	2.4	< 0.02	No
2	Arsenic	10	5.7	< 0.7	No
3	Beryllium	4.0	0.14	< 0.02	No
4	Cadmium	2.3	0.85	< 0.02	No
5a	Chromium (III)	50	13	0.75	No
5b	**Chromium (VI)**	**11**	**12**	**0.75**	**Yes**
6	Copper	26	11	< 0.04	No
7	Lead	15	0.96	< 0.02	No
8	**Mercury**	**0.025**	**0.51**	**< 0.0005**	**Yes**
9	**Nickel**	**100**	**350**	**1.8**	**Yes**
10	**Selenium**	**5.0**	**75**	**< 0.07**	**Yes**
11	Silver	32	0.10	< 0.020	No
12	**Thallium**	**1.7**	**2.0**	**< 0.020**	**Yes**
13	Zinc	329	170	< 0.5	No
14	Cyanide	5.2	3.5	2.9	No
15	Asbestos	7000000	593	51	No
16	2,3,7,8-TCDD (Dioxin)	0.000000013	< 4.45x10-7	6.30E-07	U
17	Acrolein	320	< 0.50	< 0.62	No
18	Acrylonitrile	0.059	< 0.19	< 0.19	U
19	Benzene	1.0	< 0.053	< 0.053	No
20	Bromoform	4.3	< 0.093	< 0.093	No
21	Carbon Tetrachloride	0.25	< 0.11	< 0.11	No
22	Chlorobenzene	70	< 0.083	< 0.083	No
23	Chlorodibromomethane	0.401	< 0.075	< 0.075	No
24	Chloroethane	No Criteria	< 0.13	< 0.13	U
25	2-Chloroethylvinyl Ether	No Criteria	< 0.93	< 0.93	U
26	Chloroform	No Criteria	< 0.11	< 0.11	U
27	Dichlorobromomethane	0.56	< 0.095	< 0.095	No
28	1,1-Dichloroethane	5	< 0.072	< 0.072	No
29	1,2-Dichloroethane	0.38	< 0.17	< 0.17	No
30	1,1-Dichloroethylene	0.057	< 0.14	< 0.14	U
31	1,2-Dichloropropane	0.52	< 0.12	< 0.12	No
32	1,3-Dichloropropylene	0.5	< 0.06	< 0.060	No
33	Ethylbenzene	300	< 0.08	< 0.080	No
34	Methyl Bromide	48	Unavailable	Unavailable	No
35	Methyl Chloride	No Criteria	Unavailable	Unavailable	U
36	Methylene Chloride	4.7	< 0.17	< 0.48	No
37	1,1,2,2-Tetrachloroethane	0.17	< 0.086	< 0.086	No

CTR #	Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	B or Minimum DL [1][2] (µg/L)	Result [3]
38	Tetrachloroethylene	0.8	< 0.092	< 0.092	No
39	Toluene	150	< 0.092	< 0.092	No
40	1,2-Trans-Dichloroethylene	10	< 0.11	< 0.11	No
41	1,1,1-Trichloroethane	200	< 0.091	< 0.091	No
42	1,1,2-Trichloroethane	0.6	< 0.13	< 0.13	No
43	Trichloroethylene	2.7	< 0.12	< 0.12	No
44	Vinyl Chloride	0.5	< 0.060	< 0.060	No
45	Chlorophenol	120	< 0.66	< 0.66	No
46	2,4-Dichlorophenol	93	< 0.66	< 0.66	No
47	2,4-Dimethylphenol	540	< 1.2	< 1.2	No
48	2-Methyl-4,6-Dinitrophenol	13.4	< 0.75	< 0.75	No
49	2,4-Dinitrophenol	70	< 1.3	< 1.3	No
50	2-Nitrophenol	No Criteria	< 0.90	< 0.90	U
51	4-Nitrophenol	No Criteria	< 0.99	< 0.99	U
52	3-Methyl-4-Chlorophenol	No Criteria	1.6	< 0.58	U
53	Pentachlorophenol	0.28	< 1.4	< 1.4	U
54	Phenol	21000	< 0.46	< 0.46	No
55	2,4,6-Trichlorophenol	2.1	< 0.74	< 0.74	No
56	Acenaphthene	1200	< 0.57	< 0.57	No
57	Acenaphthylene	No Criteria	< 0.48	< 0.48	U
58	Anthracene	9600	< 0.39	< 0.39	No
59	Benzidine	0.00012	< 3.4	< 3.4	No
60	Benzo(a)Anthracene	0.0044	< 0.39	< 0.39	No
61	Benzo(a)Pyrene	0.0044	< 0.5	< 0.50	No
62	Benzo(b)Fluoranthene	0.0044	< 0.64	< 0.64	No
63	Benzo(ghi)Perylene	No Criteria	< 0.93	< 0.93	U
64	Benzo(k)Fluoranthene	0.0044	< 0.34	< 0.34	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	< 0.81	< 0.81	U
66	Bis(2-Chloroethyl)Ether	0.031	< 0.14	< 0.14	U
67	Bis(2-Chloroisopropyl)Ether	1400	< 0.41	< 0.41	No
68	Bis(2-Ethylhexyl)Phthalate	1.8	< 0.83	< 0.83	No
69	4-Bromophenyl Phenyl Ether	No Criteria	< 0.43	< 0.43	U
70	Butylbenzyl Phthalate	3000	< 0.64	< 0.64	No
71	2-Chloronaphthalene	1700	< 0.57	< 0.57	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	< 0.93	< 0.93	U
73	Chrysene	0.0044	< 0.76	< 0.76	No
74	Dibenzo(a,h)Anthracene	0.0044	< 0.83	< 0.83	No
75	1,2-Dichlorobenzene	600	< 0.099	< 0.099	No
76	1,3-Dichlorobenzene	400	< 0.069	< 0.069	No
77	1,4-Dichlorobenzene	5	< 0.11	< 0.11	No
78	3,3-Dichlorobenzidine	0.04	< 2	< 2.0	No
79	Diethyl Phthalate	23000	< 0.86	< 0.86	No
80	Dimethyl Phthalate	313000	< 0.68	< 0.68	No
81	Di-n-Butyl Phthalate	2700	< 0.91	< 0.91	No
82	2,4-Dinitrotoluene	0.11	< 0.68	< 0.68	U
83	2,6-Dinitrotoluene	No Criteria	< 0.54	< 0.54	U
84	Di-n-Octyl Phthalate	No Criteria	< 0.65	< 0.65	U
85	1,2-Diphenylhydrazine	0.04	< 0.3	< 0.33	U
86	Fluoranthene	300	< 0.76	< 0.76	No
87	Fluorene	1300	< 0.81	< 0.81	No
88	Hexachlorobenzene	0.00075	< 0.89	< 0.89	No
89	Hexachlorobutadiene	0.44	< 0.84	< 0.84	U
90	Hexachlorocyclopentadiene	50	< 0.45	< 0.45	No
91	Hexachloroethane	1.9	< 0.58	< 0.58	No
92	Indeno(1,2,3-cd) Pyrene	0.0044	< 0.63	< 0.63	No

CTR #	Pollutant	Governing criterion or objective (µg/L)	MEC or Minimum DL [1][2] (µg/L)	B or Minimum DL [1][2] (µg/L)	Result [3]
93	Isophorone	8.4	< 0.81	< 0.81	No
94	Naphthalene	No Criteria	< 0.66	< 0.66	U
95	Nitrobenzene	17	< 0.74	< 0.74	No
96	N-Nitrosodimethylamine	0.00069	< 1.1	< 1.1	U
97	N-Nitrosodi-n-Propylamine	0.005	< 0.85	< 0.85	U
98	N-Nitrosodiphenylamine	5	< 0.9	< 0.90	No
99	Phenanthrene	No Criteria	< 0.65	< 0.65	U
100	Pyrene	960	< 0.45	< 0.45	No
101	1,2,4-Trichlorobenzene	5	< 0.59	< 0.59	No
102	Aldrin	0.00013	< 0.004	< 0.0040	No
103	alpha-BHC	0.0039	< 0.002	< 0.0020	No
104	beta-BHC	0.014	< 0.002	< 0.0020	No
105	gamma-BHC	0.019	< 0.002	< 0.0020	No
106	delta-BHC	No Criteria	< 0.001	< 0.0010	U
107	Chlordane	0.00057	< 0.035	< 0.035	No
108	4,4-DDT	0.00059	< 0.005	< 0.0050	No
109	4,4-DDE	0.00059	< 0.003	< 0.0030	No
110	4,4-DDD	0.00083	< 0.002	< 0.0020	No
111	Dieldrin	0.00014	< 0.002	< 0.0020	No
112	alpha-Endosulfan	0.056	< 0.003	< 0.0030	No
113	beta-Endosulfan	0.056	< 0.002	< 0.0020	No
114	Endosulfan Sulfate	110	< 0.002	< 0.0020	No
115	Endrin	0.036	< 0.003	< 0.0030	No
116	Endrin Aldehyde	0.76	< 0.002	< 0.0020	No
117	Heptachlor	0.00021	< 0.002	< 0.0020	No
118	Heptachlor Epoxide	0.0001	< 0.002	< 0.0020	No
119-125	PCBs sum	0.00017	< 0.32	< 0.32	No
126	Toxaphene	0.0002	< 0.45	< 0.45	No
	Tributyltin	0.072	< 0.05	< 0.050	No
	Total PAHs	No Criteria	< 9.55	< 9.97	No
	Total Ammonia (mg/L N)	0.95 [4]	0.13	0.12	No
	Total Dissolved Solids (mg/L)	**1,000**	**1,500**	**310**	**Yes**
	Turbidity (NTU)	**5.0**	**1,000**	**1.7**	**Yes**
	Chloride (mg/L)	250	120	11	No

Footnotes:

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

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

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

[4] The total ammonia water quality objective (as nitrogen) is translated from the Basin Plan's annual median un-ionized ammonia water quality objective of 0.025 mg/L using the salinity, pH, and temperature of the receiving water according to *Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater 2013*, EPA Publication No. 822-R-13-001. U.S. EPA, April, 2013.

e. Temperature. Permanente Creek supports warm and cold water habitat beneficial uses; Basin Plan and Thermal Plan temperature objectives therefore apply. Available temperature data are insufficient to determine if the discharges to Permanente Creek cause any exceedances of temperature objectives: no effluent data are available and receiving water data cover only the first quarter of 2013. Available receiving water data do not show an impact from the Facility on the receiving water temperature, but additional data, including dry season data, are needed to fully characterize the receiving

water temperature year-round. The Monitoring and Reporting Program requires monitoring of background, effluent, and downstream receiving water temperatures to support future reasonable potential analysis.

f. Constituents with limited data. In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are unavailable. Provision VI.C.2 of this Order requires the Discharger to continue monitoring for these constituents in its effluent. When additional data become available, further analysis will be conducted to determine whether numeric effluent limitations are necessary.

g. Pollutants with No Reasonable Potential. This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, Provision VI.C.2 of this Order still requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases threaten receiving water quality.

4. Water Quality-Based Effluent Limitation Calculations

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

a. WQBEL Development. For those pollutants with reasonable potential, average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were developed as explained below.

(1) Chromium (VI)

(a) Water Quality Criteria. The most stringent chromium (VI) criteria are the Basin Plan and NTR freshwater aquatic life chronic and acute criteria of 11 and 16 µg/L. The California Department of Public Health has proposed a more stringent Maximum Contaminant Level of 10 µg/L. We have not implemented it as the water quality criterion for chromium (VI) because it has not been promulgated and may change. If a more stringent Maximum Contaminant Level is promulgated during the term of this Order, the Regional Water Board may reopen the permit or update the effluent limitation when reissuing the permit.

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for chromium (VI) because the MEC of 12 µg/L exceeds the governing criterion of 11 µg/L, demonstrating Reasonable Potential by Trigger 1.

(c) WQBELs. Effluent limitations for chromium (VI), calculated based on a default data coefficient of variation of 0.6 and no dilution credit, are an AMEL of 8.0 µg/L and an MDEL of 16 µg/L. The default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown. Based on existing discharge data, the Discharger is unlikely to be able to comply with these WQBELs prior to implementing its planned future

treatment and controls; therefore, chromium (VI) discharges may violate this Order.

(2) Mercury

(a) Water Quality Objectives. The most stringent mercury objectives are the Basin Plan freshwater aquatic life chronic and acute objectives of 0.025 and 2.4 µg/L.

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for mercury because the MEC of 0.051 µg/L exceeds the governing objective of 0.025 µg/L, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. Effluent limitations for mercury, calculated based on a default effluent data coefficient of variation of 0.6 and no dilution credit, are an AMEL of 0.020 µg/L and an MDEL of 0.041 µg/L. The default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown. Based on existing discharge data, the Discharger is unlikely to be able to comply with these WQBELs prior to implementing its planned future treatment and controls; therefore, mercury discharges may violate this Order.

(3) Nickel

(a) Water Quality Objective. The most stringent nickel objective is the Basin Plan section 3.3.22 objective for municipal supply of 100 µg/L. This is the primary Maximum Contaminant Level for drinking water in California Code of Regulations title 22.

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for nickel because the MEC of 350 µg/L exceeds the governing objective of 100 µg/L, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. Effluent limitations for nickel, calculated based on a default effluent data coefficient of variation of 0.6 and no dilution credit, are an AMEL of 82 µg/L and an MDEL of 160 µg/L. The default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown. Based on existing discharge data, the Discharger is unlikely to be able to comply with these WQBELs prior to implementing its planned future treatment and controls; therefore, nickel discharges may violate this Order.

(4) Selenium

(a) Water Quality Criteria. The most stringent selenium criteria are the NTR freshwater aquatic life chronic and acute criteria of 5.0 and 20 µg/L.

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for selenium because the MEC of 75 µg/L exceeds the governing criterion of 5.0 µg/L, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. Effluent limitations for selenium, calculated based on a default effluent data coefficient of variation of 0.6 and no dilution credit, are an AMEL of

4.1 µg/L and an MDEL of 8.2 µg/L. The default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown. Based on existing discharge data, the Discharger is unlikely to be able to comply with these WQBELs prior to implementing its planned future treatment and controls; therefore, selenium discharges may violate this Order.

(5) Thallium

(a) Water Quality Criterion. The most stringent thallium criterion is the California Toxics Rule human health criterion of 1.7 µg/L when both water and organisms are consumed from the receiving water.

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for thallium because the MEC of 2.0 µg/L exceeds the governing criterion of 1.7 µg/L, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. Effluent limitations for thallium, calculated based on a default effluent data coefficient of variation 0.6 and no dilution credit, are an AMEL of 1.7 µg/L and an MDEL of 3.4 µg/L. The default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown.

(6) Total Dissolved Solids (TDS)

(a) Water Quality Objective. The most stringent TDS objective is the Basin Plan section 3.3.22 objective for municipal supply. Basin Plan section 3.3.22 establishes the secondary Maximum Contaminant Levels at California Code of Regulations title 22, Tables 64449-A and B, as water quality objectives for municipal and agricultural water supply. For TDS, the secondary Maximum Contaminant Level is listed as a range from 500 mg/L to 1,000 mg/L. This Order uses 1,000 mg/L because the secondary Maximum Contaminant Levels are guidelines for aesthetic considerations, such as taste, color and odor, cosmetic effects, and technical effects, such as staining, scaling, and corrosion. Contaminants subject to secondary Maximum Contaminant Levels do not present human health or aquatic life risks when at concentrations below the secondary Maximum Contaminant Level.

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for TDS because the MEC of 1,500 mg/L exceeds the governing objective of 1,000 mg/L, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. For TDS, WQBELs are calculated using the State Implementation Policy as guidance. Although the secondary Maximum Contaminant Levels do not have defined averaging periods, the TDS WQBELs are calculated in a manner similar to those for human health objectives (i.e., as a long-term averages) because water used downstream for municipal supply would likely be well mixed with water from other sources over time prior to use. Effluent limitations for TDS, calculated based on a default effluent data coefficient of variation 0.6 and no dilution credit, are an AMEL of 1,000 mg/L and an MDEL of 2,000 mg/L. The

default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown. Based on existing discharge data, the Discharger is unlikely to be able to comply with these WQBELs prior to implementing its planned future treatment and controls; therefore, TDS discharges may violate this Order.

(7) Turbidity

(a) Water Quality Objective. The most stringent turbidity objective is the Basin Plan section 3.3.22 objective for municipal supply. Basin Plan section 3.3.22 establishes the secondary Maximum Contaminant Levels at California Code of Regulations title 22, Tables 64449-A and B, as water quality objectives for municipal and agricultural water supply. For turbidity, the secondary Maximum Contaminant Level is 5.0 nephelometric turbidity units (NTU).

(b) Reasonable Potential Analysis. This Order establishes effluent limitations for turbidity because the MEC of 1,000 NTU exceeds the governing objective of 5.0 NTU, demonstrating reasonable potential by Trigger 1.

(c) WQBELs. For turbidity, WQBELs are calculated using the SIP as guidance. Secondary Maximum Contaminant Levels do not have defined averaging periods; the WQBELs are calculated similar to human health objectives (i.e., as a long-term average) because water used downstream for municipal supply would receive additional treatment and would likely be mixed with water from other sources. The default coefficient of variation is used because the coefficient of variation for effluent from the planned treatment system is unknown. Effluent limitations for turbidity, calculated based on a default effluent data coefficient of variation 0.6 and no dilution credit, are an AMEL of 5.0 NTU and an MDEL of 10 NTU. Based on existing discharge data, the Discharger is unlikely to be able to comply with these WQBELs prior to implementing its planned future treatment and controls; therefore, turbidity discharges may violate this Order.

b. Calculations. The following table shows the WQBEL calculations.

Table F-7. WQBEL Calculations

PRIORITY POLLUTANTS	**Chromium (VI)**	**Mercury**	**Nickel**	**Selenium**	**Thallium**	**Total Dissolved Solids**	**Turbidity**
Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**mg/L**	**NTU**
Basis and Criteria type	BP & CTR FW Aquatic Life	BP & CTR FW Aquatic Life	Title 22 Primary MCL	CTR Chronic	Human Health	Title 22 Secondary MCL	Title 22 Secondary MCL
Criteria -Acute	16	2.4	-----	20	-----	-----	-----
Criteria -Chronic	11	0.025	-----	5.0	-----	-----	-----
SSO Criteria -Acute	-----	-----	-----	-----	-----	-----	-----
SSO Criteria -Chronic	-----	-----	-----	-----	-----	-----	-----
Water Effects ratio (WER)	1	1	1	1	1	1	1
Lowest WQO	11	0.025	100	5.0	1.7	1,000	5.0

PRIORITY POLLUTANTS	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	Total Dissolved Solids	Turbidity
Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**mg/L**	**NTU**
Site Specific Translator - MDEL	-----	-----	-----	-----	-----	-----	-----
Site Specific Translator - AMEL	-----	-----	-----	-----	-----	-----	-----
Dilution Factor (D) (if applicable)	0	0	0	0	0	0	0
No. of samples per month	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	N	N	N
HH criteria analysis required? (Y/N)	N	Y	Y	N	Y	Y	Y
Applicable Acute WQO	16	2.4		20			
Applicable Chronic WQO	11	0.025	100	5.0			
HH criteria		0.050	610		1.7	1000	5.0
Background (Maximum Conc for Aquatic Life calc)	0.75	0.00050	1.8	0.47			
Background (Average Conc for Human Health calc)		0.00050	1.0		0.020	300	6.1
Is the pollutant on the 303d list (Y/N)?	N	Y	N	Y	N	N	N
ECA acute	16	2.4		20			
ECA chronic	11	0.025	100	5.0			
ECA HH		0.050	610		1.7	1000	5.0
Number of data points <10 or at least 80% of data reported non detect? (Y/N)	Y	N	N	N	N	N	N
Avg of effluent data points	3.4	0.0075	75	33	0.35	959	25
Std Dev of effluent data points	2.5	0.011	102	25	0.40	169	73
CV calculated	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CV (Selected) - Final	0.60	0.60	0.60	0.60	0.60	0.60	0.60
ECA acute mult99	0.32	0.32	0.32	0.32			
ECA chronic mult99	0.53	0.53	0.53	0.53			
LTA acute	5.1	0.77		6.4			
LTA chronic	5.8	0.013	53	2.6			
minimum of LTAs	5.1	0.013	53	2.6			
AMEL mult95	1.6	1.6	1.6	1.6	1.6	1.6	1.6
MDEL mult99	3.1	3	3.1	3.1	3.1	3.1	3.1
AMEL (aq life)	8.0	0.020	82	4.1			

PRIORITY POLLUTANTS	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	Total Dissolved Solids	Turbidity
Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**mg/L**	**NTU**
MDEL(aq life)	16	0.041	164	8.2			
MDEL/AMEL Multiplier	2.0	2.0	2.0	2.0	2.0	2.0	2.0
AMEL (human hlth)		0.050	610		1.7	1000	5.0
MDEL (human hlth)		0.10	1224		3.4	2006	10
minimum of AMEL for Aq. life vs HH	8.0	0.020	82	4.1	1.7	1000	5.0
minimum of MDEL for Aq. Life vs HH	16	0.041	164	8.2	3.4	2006	10
Current limit in permit (30-day average)	-----	-----	-----	-----	-----	-----	-----
Current limit in permit (daily)	-----	-----	-----	-----	-----	-----	-----
Final limit - AMEL	8.0	0.020	82	4.1	1.7	1,000	5.0
Final limit - MDEL	16	0.041	160	8.2	3.4	2,000	10

5. Whole Effluent Acute Toxicity

This Order includes effluent limitations for whole effluent acute toxicity based on Basin Plan Table 4-3. The approved test species specified in the Monitoring and Reporting Program is the rainbow trout (*Oncorhynchus mykiss*), which was also the approved test species under the *General Waste Discharge Requirements for Discharges of Process Wastewaters from Aggregate Mining, Sand Washing, and Sand Offloading Facilities to Surface Waters* (Order No. R2-2008-0011).

6. Whole Effluent Chronic Toxicity

a. Water Quality Objective. Basin Plan section 3.3.18 states, "There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community."

b. Reasonable Potential Analysis. The Discharger's chronic toxicity monitoring indicates reasonable potential to cause or contribute to a violation of the Basin Plan's chronic toxicity water quality objective. Order No. R2-2013-1005 required the Discharger to monitor chronic toxicity pursuant to Water Code section 13267. The Discharger collected samples from Ponds 4A and 9, and from Permanente Creek downstream of Ponds 13A and 13B, on March 25, 27, and 29, 2013. The samples were toxic to daphnid (*Ceriodaphnia dubia)*, with results ranging from 2.5 to 27 chronic toxicity units (TU_c). The samples were not toxic to other species tested. The Discharger responded by preparing a *Toxicity Reduction Evaluation Work Plan for Ceriodaphnia dubia* (Robertson-Bryan, Inc., May 2013) and initiating accelerated monitoring in compliance with Order No. R2-2013-1005.

c. Requirements. This Order contains a narrative chronic toxicity effluent limitation based on the Basin Plan's narrative toxicity water quality objective. The Monitoring and Reporting Program also includes requirements for chronic toxicity monitoring and monitoring "triggers" for initiation of accelerated monitoring when exceeded and implementation of a chronic toxicity reduction evaluation in some circumstances. The accelerated monitoring triggers are based on Basin Plan Table 4-5. These requirements are also consistent with the State Implementation Policy.

d. Screening Phase Study and Monitoring Requirements. The Discharger's chronic toxicity test results indicate that *Ceriodaphnia dubia* is the most sensitive species of those tested. The Monitoring and Reporting Program requires the Discharger to conduct another chronic toxicity screening phase study if there is a significant change in the nature of the effluent after implementation of the final treatment system or prior to permit reissuance to ensure that the most sensitive species is used for testing.

D. Effluent Limitation Considerations

1. Anti-backsliding. This Order complies with the anti-backsliding provisions of Clean Water Act 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 previously in the permit. This Order is a new permit; it does not reissue an existing permit. Moreover, implementation of the interim and final treatment systems constitutes substantially changed circumstances from those in existence at the time coverage commenced under *General Permit for Discharges of Storm Water associated with Industrial Activities Excluding Construction Activities* and *General Waste Discharge Requirements for Discharges of Process Wastewaters from Aggregate Mining, Sand Washing, and Sand Offloading Facilities to Surface Waters* (NPDES General Permit Nos. CAS000001and CAG982001). Because the changed circumstances would constitute cause for permit modification, or revocation and reissuance, under 40 C.F.R. section 122.62, backsliding would be allowed. Moreover, with a few exceptions discussed below, the requirements of this Order are at least as stringent as those of NPDES General Permit Nos. CAS000001and CAG982001.

a. Total Dissolved Solids (TDS). Order No. R2-2008-0011 imposed a TDS MDEL of 500 mg/L. This Order imposes a TDS AMEL of 1,000 mg/L and an MDEL of 2,000 mg/L, and will not result in a violation of the water quality standards for TDS. Backsliding is permissible under Clean Water Act sections 402(o)(1) and 303(d)(4)(B) because this Order complies with antidegradation policies and the receiving water is in attainment with the TDS water quality objective. Backsliding is also permissible under Clean Water Act sections 402(o)(2)(C) and 402(o)(2)(E) because the Discharger cannot remove TDS without taking unreasonable measures that would involve greater adverse environmental consequences (e.g., using reverse osmosis would result in a brine needing off-site disposal and result in undesirable trucking and air pollution). See section IV.D.2.c, below.

b. Chloride. Order No. R2-2008-0011 imposed a chloride MDEL of 250 mg/L. This Order does not establish a chloride effluent limitation because there is no reasonable potential for the discharge to cause or contribute to a violation of the chloride water quality objective. Elimination of this limitation is consistent with State Water Board Order No. WQ 2001-16.

c. Total Suspended Solids (TSS). Order No. R2-2008-0011 imposed a TSS average weekly effluent limit of 45 mg/L and an average monthly limit of 30 mg/L. For discharges from Discharge Point No. 001, this Order imposes a mass limit of 58 lbs/day. For other discharges, this Order imposes a maximum daily limit of 50 mg/L. These limits are based on the Effluent Limit Guidelines for the Cement Manufacturing Point Source Category at 40 C.F.R. section 411. They comply with anti-backsliding regulations because the mass-based limit is not comparable to the previous concentration-based limits in Order No. R2-2008-0011, and because the concentration-based maximum daily limit is not comparable to the previous weekly and monthly limits. This finding is consistent with State Water Board Order No. WQ 2001-06.

2. Antidegradation. Federal regulations at 40 C.F.R. section 131.12 require 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. Administrative Procedures Update (APU) No. 90-004 provides guidance for implementing the antidegradation policies.

a. Potential Degradation. The discharges covered by this Order have been occurring since about 1939, well before the adoption of Resolution No. 68-16 in 1968 and the federal antidegradation policy in 1975. According to a State Water Board guidance memorandum (William Attwater, Chief Counsel, October 7, 1987), "…the federal antidegradation policy ordinarily does not apply to consideration of existing discharges, even if exceptions or variances from other applicable water quality objectives or effluent guidelines are required to permit the discharge to continue." According to the memorandum, considerations in determining whether to perform an antidegradation analysis include the following:

1. whether there are new discharges or an expansion of existing facilities,

2. whether there would be a reduction in the level of treatment of an existing discharge,

3. whether an existing outfall has been relocated,

4. whether there has been a substantial increase in mass emissions, and

5. whether there has been a change in water quality from a point source or non-point source discharge or water diversion.

None of these conditions apply to this Order.

No antidegradation analysis is required when the Regional Water Board has no reason to believe that baseline water quality will be reduced. APU No. 90-004 defines "baseline" water quality as follows:

> Baseline quality is defined as the best quality of the receiving water that has existed since 1968 when considering Resolution No. 68-16, or since

> 1975 under the federal policy, unless subsequent lowering was due to regulatory action consistent with State and federal antidegration policies. If poorer water quality was permitted, the most recent water quality resulting from permitted action is the baseline water quality to be considered in any antidegration analysis.

Existing Permanente Creek water quality is likely the best that has existed since 1968 because the Facility was already operating in 1968 and no subsequent regulatory action has allowed lowering water quality. Subsequent regulation (e.g., through NPDES General Permit Nos. CAG982001 and CAS000001) likely improved water quality somewhat. Therefore, existing water quality is the appropriate baseline for analysis. Because this Order will improve Permanente Creek water quality substantially relative to its existing quality, no degradation will occur, and no findings justifying degradation are necessary.

To the extent that an argument could be made that baseline water quality is the most recent water quality resulting from permitted action (i.e., the water quality that should have existed had the Discharger complied with previous regulatory requirements), this Order still complies with antidegradation policies. With the exception of TDS (discussed below), this Order allows no additional flow or less stringent effluent limits than those in the previous general permits; therefore, it results in no lowering of water quality compared to the water quality that would have resulted from compliance with those permits. (The TSS limitations in this Order are roughly equivalent to those in NPDES Permit No. CAG982001; they are revised here to reflect applicable Effluent Limitation Guidelines.)

The following simple antidegradation analysis for TDS is sufficient, and a complete antidegradation analysis is unwarranted, because the proposed discharge will not be adverse to the intent and purpose of the antidegradation policies. APU No. 90-004 allows a "simple" analysis when the water quality reduction would be spatially localized or limited. Any degradation this Order would allow would be spatially limited to the stretch of Permanente Creek adjacent to the Facility. APU No. 90-004 also allows a "simple" analysis when the proposed action would produce only minor effects that would not result in a significant water quality reduction. This would be the case since this Order would result in receiving water TDS concentrations in the range contemplated by the secondary Maximum Contaminant Levels for drinking water (the applicable water quality objectives).

b. Total Dissolved Solids (TDS). The potential for TDS degradation may be evaluated by comparing the receiving water quality associated with this Order to the water quality associated with compliance with the previous permits; however, the water quality associated with compliance with the previous permits is unknown due to frequent non-compliance with those permits. In lieu of such data, existing data collected upstream of the Facility may be used to represent baseline conditions for analytical purposes. Upstream data represent much better water quality and thus provide for a very conservative analysis. Upstream water quality is likely better than any water quality downstream since the Facility commenced operations. Upstream TDS data collected at Monitoring Location RSW-001A from April 2011 through June 2013 indicate concentrations from 290 mg/L to 330 mg/L. A typical concentration appears to be about 310 mg/L.

Because proposed treatment and controls are unlikely to remove much TDS from the Facility's discharges, future receiving water quality can be estimated from existing downstream conditions. Downstream TDS data collected at or below Pond 30 from July 2011 through June 2013 indicate concentrations from 700 mg/L to 1,000 mg/L. A typical concentration appears to be about 870 mg/L. Therefore, this Order could potentially allow Permanente Creek to be degraded, at most, as TDS concentrations increase from about 310 mg/L to about 870 mg/L. Any actual degradation would likely be much less because this assessment is very conservative, and this potential degradation has already occurred due to ongoing Facility operations.

As explained below, any potential TDS degradation in Permanente Creek is consistent with antidegradation policies for the following reasons:

1. beneficial uses will be fully protected;

2. any limited degradation would provide maximum benefit to the people of California and accommodate important economic and social development; and

3. best practicable treatment or control of the discharge will ensure that pollution or nuisance will not occur.

c. Beneficial Use Protection. Antidegradation policies allow degradation only for waters that are not designated as an outstanding national resource (Tier 1) and that do not violate water quality objectives (Tier 3). They allow degradation of other waters (Tier 2) to accommodate important economic or social development to the maximum benefit of the people of the State (as long as receiving waters continue to meet water quality objectives). Permanente Creek is a Tier 2 water because it is not classified as an outstanding national resource, and because it meets the Basin Plan section 3.3.22 TDS objectives for municipal supply (which range from 500 mg/L to 1,000 mg/L). Permanente Creek TDS is below 500 mg/L upstream of the Facility and below 1,000 mg/L downstream of the Facility. This Order requires water quality objectives to continue being met in Permanente Creek to fully protect beneficial uses.

d. Economic and Social Development, and Public Benefits. Assuming beneficial uses will be protected, antidegradation policies allow degradation if necessary to support important economic or social development, and when the degradation maximizes benefits for the people of California.

The potential for non-water-quality environmental impacts justifies the potential TDS degradation. Options for additional TDS removal pose significant environmental risks. Meeting a TDS effluent limit of 500 mg/L instead of 1,000 mg/L would require operating a very large reverse osmosis system. Such systems are complex, material-intensive, and energy-intensive operations. They result in relatively large volumes of a concentrated liquid brine waste (the removed TDS) that must be hauled offsite by truck for disposal. The more TDS removed, the greater the amount of brine waste produced. Operating such a complex treatment system and handling the brine waste would increase the risk of system upsets, breakdowns, and accidents, including traffic accidents, which could lead to uncontrolled releases of concentrated liquid brine waste to Permanente Creek or elsewhere. Moreover, treatment and hauling would increase carbon dioxide emissions

and other air pollution, some of which would contribute to climate change. This Order balances these competing environmental interests; it minimizes environmental impacts while protecting Permanente Creek beneficial uses.

Economic and social factors also justify any potential TDS degradation. The Facility is the largest provider of construction aggregate and cement in the San Francisco Bay area. It is located close to projects requiring these materials, facilitating construction and development, and minimizing the need for, and expense of, importing these products. The Facility produces approximately 1.2 million tons of construction aggregate and 2.2 million tons of cement-grade limestone each year, supplying the limestone for over half the cement used in the San Francisco Bay Region, including cement manufactured at its own plant (1.6 million tons per year). The San Francisco Bay Region, in addition to benefitting from the local supply of these materials, also avoids the adverse environmental impacts of importing them long distances. The nearest alternative sources are in Redding, California, and Fernley, Nevada. Having a local source of construction aggregate and cement keeps significant economic benefits within the San Francisco Bay Region. The Discharger pays significant property and sales taxes and supports significant local employment, both directly and indirectly, by supporting local development and associated economic activity. Given the San Francisco Bay Region's and the State's reliance on construction aggregate and concrete for development, and development's importance to California's economy, accommodating reasonable water quality degradation related to TDS would benefit the people of California.

e. Best Practicable Treatment or Control. This Order requires the best practicable treatment or control of the discharge in light of the adverse impacts and other considerations associated with additional TDS treatment discussed above. No Effluent Limitation Guidelines define best practicable control technology currently available (BPT) or best conventional pollutant control technology (BCT) for the TDS from this Facility. This TDS is also not amenable to source reduction since it primarily results from groundwater seeping into the mining pit. Because the TDS limits in this Order will ensure that Permanente Creek will meet TDS water quality standards, this Order will also ensure that pollution or nuisance will not occur.

3. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations 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 Clean Water Act 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 California Toxics Rule, the California Toxics Rule is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the California Toxics Rule, as implemented in accordance with the State Implementation Policy, 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 Clean Water Act" 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.1 and V.A.2 of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section V.A.3 of the Order requires compliance with federal and State water quality standards.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G contains standard provisions that supplement the federal standard provisions in Attachment D.

This Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

B. Monitoring and Reporting

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

C. Special Provisions

1. Reopener Provisions

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

2. Effluent Characterization Study and Report

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

3. Ambient Background Study and Report

This provision is necessary to provide data for future reasonable potential analyses and is authorized pursuant to Water Code section 13267.

4. Best Management Practices and Pollutant Minimization Program

This provision is based on SIP section 2.4.5.

5. Reliability Assurance Plan and Status Report

This provision is required to support the exception to Basin Plan Discharge Prohibition 1 discussed in section IV.A.2 of this Fact Sheet.

6. Stormwater Best Management Practices

Reasonable potential exists for certain pollutants in Facility stormwater, such as chromium (VI), mercury, nickel, selenium, and thallium, to cause or contribute to violations of water quality objectives based on detections of these pollutants in Facility stormwater. Provision VI.C.6 is based on Basin Plan section 4.8 and 40 C.F.R. part 122.44(k), which requires permits to establish best management practices (BMPs) to control or abate the discharge of pollutants in stormwater discharges when numeric effluent limitations are infeasible. U.S. EPA's *NPDES Permit Writers' Manual* (EPA-833-K-10-001, September 2010, page 9-4) indicates that numeric effluent limits are infeasible "when the types of pollutants vary greatly over time." For many pollutants at Discharge Point Nos. 002 through 009, numeric WQBELs are infeasible because the pollutants in stormwater vary greatly over time. Storms occur irregularly, unpredictably, uncontrollably, and occasionally in large volumes for short periods, so the resulting types of pollutants mobilized by storm runoff vary greatly.

This Order addresses these discharges with BMP requirements modeled on the State Water Board's *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities,* NPDES Permit No. CAS000001 (State Water Board Order No. 07-03-DWQ) and U.S. EPA's NPDES Stormwater Multi-Sector General Permit for Industrial Activities (2008). Most of the action levels are modeled on those permits' benchmark concentrations. For pollutants with reasonable potential but no benchmark concentration, the water quality objective is the action level. The action level for chromium (VI) is the Basin Plan chronic water quality objective, and the one for thallium is the Basin Plan human health water quality objective.

Action levels are not effluent limitations. Their purpose is to facilitate implementation of the Facility's SWPPP by allowing the Discharger to evaluate the effectiveness of its BMPs in reducing or preventing pollutant discharges. Provision VI.C.6.c requires the Discharger to review and, if possible, improve its BMPs if the action levels are exceeded. Action levels will be evaluated and, if necessary, may be revised in future permit reissuances based on effluent monitoring data.

VII. 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. **Effluent Monitoring.** Effluent flow monitoring is necessary at Monitoring Location EFF-001 to evaluate compliance with Prohibition III.B and to understand Facility operations. Monitoring at Monitoring Location EFF-001a is necessary to evaluate compliance with the TSS effluent limitation at Discharge Point No. 001. The waste stream from the Cement Plant Reclaim Water System is diluted by other waste streams conveyed to Discharge Point No. 001, and solids must be removed to a low level prior to the intermediate or final treatment system. Hence, TSS monitoring for this pollutant is to be done after filtration and before any other treatment. Effluent flow monitoring is necessary at Monitoring Locations EFF-002 through EFF-009 to evaluate the Discharger's management of Facility stormwater. Monitoring for the other parameters is necessary at Monitoring Locations EFF-001 through EFF-009 to evaluate compliance with this Order's effluent limitations. Monitoring is also needed at Monitoring Locations EFF-002 through EFF-009 to evaluate the effectiveness of the Discharger's stormwater BMPs and to compare discharge concentrations with the action levels in Provision VI.C.6.c.ii. Provision VI.C.2 requires monitoring for additional priority pollutants at Monitoring Location EFF-001 for which there are no effluent limits to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality.

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

3. **Receiving Water Monitoring.** Receiving water monitoring is necessary to characterize the receiving water (e.g., to provide background values for future reasonable potential analyses, particularly at Monitoring Location RSW-001A) and the effects of the discharges on the receiving water (i.e., to determine compliance with receiving water limitations). Monitoring Location RSW-001A was chosen to monitor background water quality based on the *Background Monitoring Report* (Golder Associates, March 22, 2013), which found that Monitoring Location RSW-001A was unaffected by Facility operations, was accessible for sampling, and had similar geologic conditions as the discharge locations. Monitoring Locations RSW-001, RSW-002, and RSW-003 were chosen to monitor downstream of the most frequently used discharge points (Discharge Point Nos. 001, 002, and 003); Monitoring

Location RSW-004 was chosen to monitor downstream of the remaining discharge points, which typically discharge as a result of precipitation. Provision VI.C.3 requires monitoring for additional priority pollutants at Monitoring Location RSW-001A to inform the next permit reissuance.

B. Monitoring Requirements Summary

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

Table F-8. Monitoring Requirements Summary

Parameter	Effluent EFF-001 and EFF-001a	Effluent EFF-002 through 008	Effluent EFF-009	Receiving Water RSW-001A	Receiving Water RSW-001 through -004
Flow	Continuous[1]	1/Month[1]	1/Month [1]		
TSS	1/Week[2]	1/Quarter	1/Quarter	1/Quarter	
Oil and Grease	1/Month	1/Quarter		1/Quarter	
Total Organic Carbon			1/Quarter	1/Quarter	
Temperature	1/Month			1/Quarter	1/Quarter
pH	Continuous or 1/Day	1/Quarter	1/Quarter	1/Quarter	1/Quarter
Total Residual Chlorine	1/Day				
Settleable Matter	1/Month	1/Quarter	1/Quarter	1/Quarter	
Turbidity	1/Day	1/Quarter		1/Quarter	1/Quarter
Conductivity		1/Quarter	1/Quarter	1/Quarter	
Metals[3]	1/Month	1/Quarter	1/Quarter	1/Quarter	
TDS	1/Week			1/Quarter	1/Quarter
Chloride					1/Quarter
Acute Toxicity	1/Quarter				
Chronic Toxicity	1/Quarter				
Dissolved Oxygen				1/Quarter	1/Quarter
Sulfides				1/Quarter	1/Quarter
Hardness				1/Quarter	1/Quarter
Other priority pollutants	1/Year				
Standard Observations	1/Day	Each Occurrence	Each Occurrence		1/Month

Footnotes:

[1] For Monitoring Location EFF-001, the following flow information is to be reported:

- Daily average flow (gpd)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)

For Monitoring Locations EFF-002 through EFF-009, total monthly flow volume (MG) is to be reported.

[2] TSS is to be monitored at EFF-001a.

[3] The metals are chromium (VI), mercury, nickel, selenium, and thallium.

VIII. PUBLIC PARTICIPATION

The Regional Water Board considered the issuance of this Order that will serve as an NPDES permit for the Facility. As a step in the Order adoption process, Regional Water Board staff developed a tentative Order and encouraged public participation in the Order 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 *Cupertino Courier*. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at http://www.waterboards.ca.gov/sanfranciscobay.

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

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by **5:00 p.m. on December 23, 2013.**

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, February 12, 2014
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: John H. Madigan, (510) 622-2405, JMadigan@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 wasrequested to be in writing.

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

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

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

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

E. Information and Copying. The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.

F. Register of Interested Persons. Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.

G. Additional Information. Requests for additional information or questions regarding this Order should be directed to John H. Madigan, (510) 622-2405, JMadigan@waterboards.ca.gov.

ATTACHMENT F-1

Lehigh Permanente Facility
Violations of Order No. R2-2008-0011
Fourth Quarter 2011 through First Quarter 2013

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
Discharge Point No. 001 (Pond 4A)					
12/26/2012	pH	Daily Maximum	s.u.	8.50	8.56
12/1/2011	TDS	Daily Maximum	mg/L	500	1,000
12/5/2011	TDS	Daily Maximum	mg/L	500	970
12/14/2011	TDS	Daily Maximum	mg/L	500	905
12/19/2011	TDS	Daily Maximum	mg/L	500	950
12/27/2011	TDS	Daily Maximum	mg/L	500	1,000
1/3/2012	TDS	Daily Maximum	mg/L	500	860
1/10/2012	TDS	Daily Maximum	mg/L	500	930
1/17/2012	TDS	Daily Maximum	mg/L	500	1,000
1/20/2012	TDS	Daily Maximum	mg/L	500	1,200
1/28/2012	TDS	Daily Maximum	mg/L	500	760
1/30/2012	TDS	Daily Maximum	mg/L	500	880
2/6/2012	TDS	Daily Maximum	mg/L	500	890
2/13/2012	TDS	Daily Maximum	mg/L	500	920
2/14/2012	TDS	Daily Maximum	mg/L	500	850
2/21/2012	TDS	Daily Maximum	mg/L	500	840
2/27/2012	TDS	Daily Maximum	mg/L	500	860
3/5/2012	TDS	Daily Maximum	mg/L	500	860
3/6/2012	TDS	Daily Maximum	mg/L	500	950
3/12/2012	TDS	Daily Maximum	mg/L	500	960
3/14/2012	TDS	Daily Maximum	mg/L	500	820
3/19/2012	TDS	Daily Maximum	mg/L	500	860
3/26/2012	TDS	Daily Maximum	mg/L	500	920
4/2/2012	TDS	Daily Maximum	mg/L	500	1,100
4/9/2012	TDS	Daily Maximum	mg/L	500	1,100
4/16/2012	TDS	Daily Maximum	mg/L	500	920
4/23/2012	TDS	Daily Maximum	mg/L	500	950
4/30/2012	TDS	Daily Maximum	mg/L	500	910
5/7/2012	TDS	Daily Maximum	mg/L	500	900
5/14/2012	TDS	Daily Maximum	mg/L	500	950
5/21/2012	TDS	Daily Maximum	mg/L	500	890
5/29/2012	TDS	Daily Maximum	mg/L	500	790
6/4/2012	TDS	Daily Maximum	mg/L	500	940
6/11/2012	TDS	Daily Maximum	mg/L	500	920
6/18/2012	TDS	Daily Maximum	mg/L	500	1,000
6/25/2012	TDS	Daily Maximum	mg/L	500	930
7/2/2012	TDS	Daily Maximum	mg/L	500	940
7/9/2012	TDS	Daily Maximum	mg/L	500	870

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
7/16/2012	TDS	Daily Maximum	mg/L	500	970
7/23/2012	TDS	Daily Maximum	mg/L	500	930
7/30/2012	TDS	Daily Maximum	mg/L	500	940
8/6/2012	TDS	Daily Maximum	mg/L	500	920
8/13/2012	TDS	Daily Maximum	mg/L	500	920
8/20/2012	TDS	Daily Maximum	mg/L	500	930
8/27/2012	TDS	Daily Maximum	mg/L	500	940
9/4/2012	TDS	Daily Maximum	mg/L	500	950
9/10/2012	TDS	Daily Maximum	mg/L	500	940
9/17/2012	TDS	Daily Maximum	mg/L	500	990
9/24/2012	TDS	Daily Maximum	mg/L	500	950
10/1/2012	TDS	Daily Maximum	mg/L	500	1,000
10/8/2012	TDS	Daily Maximum	mg/L	500	1,100
10/15/2012	TDS	Daily Maximum	mg/L	500	1,000
10/22/2012	TDS	Daily Maximum	mg/L	500	1,000
10/29/2012	TDS	Daily Maximum	mg/L	500	1,100
11/6/2012	TDS	Daily Maximum	mg/L	500	1,100
11/12/2012	TDS	Daily Maximum	mg/L	500	960
11/19/2012	TDS	Daily Maximum	mg/L	500	940
11/26/2012	TDS	Daily Maximum	mg/L	500	1,000
12/5/2012	TDS	Daily Maximum	mg/L	500	790
12/10/2012	TDS	Daily Maximum	mg/L	500	1,100
12/17/2012	TDS	Daily Maximum	mg/L	500	1,200
12/26/2012	TDS	Daily Maximum	mg/L	500	900
1/2/2013	TDS	Daily Maximum	mg/L	500	1,100
1/7/2013	TDS	Daily Maximum	mg/L	500	1,100
1/14/2013	TDS	Daily Maximum	mg/L	500	1,100
1/24/2013	TDS	Daily Maximum	mg/L	500	990
1/28/2013	TDS	Daily Maximum	mg/L	500	1,100
2/4/2013	TDS	Daily Maximum	mg/L	500	960
2/12/2013	TDS	Daily Maximum	mg/L	500	900
2/19/2013	TDS	Daily Maximum	mg/L	500	980
2/27/2013	TDS	Daily Maximum	mg/L	500	960
3/7/2013	TDS	Daily Maximum	mg/L	500	1,100
3/13/2013	TDS	Daily Maximum	mg/L	500	1,000
3/20/2013	TDS	Daily Maximum	mg/L	500	1,100
3/27/2013	TDS	Daily Maximum	mg/L	500	1,100
3/14/2013	TSS	Weekly Average	mg/L	45	60
1/21/2012	Turbidity	Daily Maximum	NTU	40	44
3/7/2013	Turbidity	Daily Maximum	NTU	40	60
3/28/2013	Turbidity	Daily Maximum	NTU	40	47
Discharge Point No. 002 (Pond 13B)					
5/7/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.5
5/31/2012	Settleable Matter	Monthly Average	mL/L-hr	0.1	0.2

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
6/11/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.3
7/2/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.4
8/20/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.3
10/22/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.8
10/31/2012	Settleable Matter	Monthly Average	mL/L-hr	0.1	0.8
2/14/2012	TDS	Daily Maximum	mg/L	500	690
4/2/2012	TDS	Daily Maximum	mg/L	500	640
4/9/2012	TDS	Daily Maximum	mg/L	500	1,000
4/16/2012	TDS	Daily Maximum	mg/L	500	860
4/23/2012	TDS	Daily Maximum	mg/L	500	940
4/30/2012	TDS	Daily Maximum	mg/L	500	1,000
5/7/2012	TDS	Daily Maximum	mg/L	500	760
5/14/2012	TDS	Daily Maximum	mg/L	500	1,100
5/21/2012	TDS	Daily Maximum	mg/L	500	1,100
5/29/2012	TDS	Daily Maximum	mg/L	500	1,100
6/4/2012	TDS	Daily Maximum	mg/L	500	630
6/11/2012	TDS	Daily Maximum	mg/L	500	570
6/18/2012	TDS	Daily Maximum	mg/L	500	1,200
7/2/2012	TDS	Daily Maximum	mg/L	500	680
7/9/2012	TDS	Daily Maximum	mg/L	500	650
8/13/2012	TDS	Daily Maximum	mg/L	500	790
8/20/2012	TDS	Daily Maximum	mg/L	500	610
8/27/2012	TDS	Daily Maximum	mg/L	500	1,200
10/22/2012	TDS	Daily Maximum	mg/L	500	1,500
11/28/2012	TDS	Daily Maximum	mg/L	500	910
12/6/2012	TDS	Daily Maximum	mg/L	500	780
12/10/2012	TDS	Daily Maximum	mg/L	500	1,300
12/17/2012	TDS	Daily Maximum	mg/L	500	920
12/26/2012	TDS	Daily Maximum	mg/L	500	890
1/3/2013	TDS	Daily Maximum	mg/L	500	1,200
1/7/2013	TDS	Daily Maximum	mg/L	500	980
1/14/2013	TDS	Daily Maximum	mg/L	500	1,100
1/24/2013	TDS	Daily Maximum	mg/L	500	1,100
1/28/2013	TDS	Daily Maximum	mg/L	500	1,200
2/4/2013	TDS	Daily Maximum	mg/L	500	1,200
2/12/2013	TDS	Daily Maximum	mg/L	500	1,100
2/19/2013	TDS	Daily Maximum	mg/L	500	1,100
2/27/2013	TDS	Daily Maximum	mg/L	500	1,100
3/7/2013	TDS	Daily Maximum	mg/L	500	980
3/13/2013	TDS	Daily Maximum	mg/L	500	1,100
3/20/2013	TDS	Daily Maximum	mg/L	500	1,100
3/27/2013	TDS	Daily Maximum	mg/L	500	1,200
1/23/2012	TSS	Weekly Average	mg/L	45	120
1/31/2012	TSS	Monthly Average	mg/L	30	120

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
2/29/2012	TSS	Monthly Average	mg/L	30	38
3/31/2012	TSS	Monthly Average	mg/L	30	45
5/7/2012	TSS	Weekly Average	mg/L	45	140
5/31/2012	TSS	Monthly Average	mg/L	30	47
6/4/2012	TSS	Weekly Average	mg/L	45	230
6/11/2012	TSS	Weekly Average	mg/L	45	210
6/18/2012	TSS	Weekly Average	mg/L	45	88
6/30/2012	TSS	Monthly Average	mg/L	30	132
7/2/2012	TSS	Weekly Average	mg/L	45	250
7/9/2012	TSS	Weekly Average	mg/L	45	70
7/31/2012	TSS	Monthly Average	mg/L	30	160
8/13/2012	TSS	Weekly Average	mg/L	45	160
8/20/2012	TSS	Weekly Average	mg/L	45	170
8/31/2012	TSS	Monthly Average	mg/L	30	113
10/22/2012	TSS	Weekly Average	mg/L	45	160
10/31/2012	TSS	Monthly Average	mg/L	30	160
11/28/2012	TSS	Weekly Average	mg/L	45	300
11/30/2012	TSS	Monthly Average	mg/L	30	158
12/5/2012	TSS	Weekly Average	mg/L	45	120
12/10/2012	TSS	Weekly Average	mg/L	45	56
12/17/2012	TSS	Weekly Average	mg/L	45	150
12/26/2012	TSS	Weekly Average	mg/L	45	82
12/31/2012	TSS	Monthly Average	mg/L	30	102
2/13/2013	TSS	Weekly Average	mg/L	45	61
2/20/2013	TSS	Weekly Average	mg/L	45	60
2/28/2013	TSS	Monthly Average	mg/L	30	34
3/8/2013	TSS	Weekly Average	mg/L	45	620
3/31/2013	TSS	Monthly Average	mg/L	30	159
4/2/2012	Turbidity	Daily Maximum	NTU	40	45
4/4/2012	Turbidity	Daily Maximum	NTU	40	262
4/10/2012	Turbidity	Daily Maximum	NTU	40	44
4/12/2012	Turbidity	Daily Maximum	NTU	40	84
4/13/2012	Turbidity	Daily Maximum	NTU	40	239
5/7/2012	Turbidity	Daily Maximum	NTU	40	166
5/8/2012	Turbidity	Daily Maximum	NTU	40	42
5/17/2012	Turbidity	Daily Maximum	NTU	40	67
5/22/2012	Turbidity	Daily Maximum	NTU	40	194
5/23/2012	Turbidity	Daily Maximum	NTU	40	98
6/4/2012	Turbidity	Daily Maximum	NTU	40	308
6/11/2012	Turbidity	Daily Maximum	NTU	40	233
6/18/2012	Turbidity	Daily Maximum	NTU	40	71
6/19/2012	Turbidity	Daily Maximum	NTU	40	125
6/21/2012	Turbidity	Daily Maximum	NTU	40	142
6/22/2012	Turbidity	Daily Maximum	NTU	40	110

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
6/28/2012	Turbidity	Daily Maximum	NTU	40	142
7/2/2012	Turbidity	Daily Maximum	NTU	40	392
7/6/2012	Turbidity	Daily Maximum	NTU	40	98
7/9/2012	Turbidity	Daily Maximum	NTU	40	108
7/19/2012	Turbidity	Daily Maximum	NTU	40	273
7/20/2012	Turbidity	Daily Maximum	NTU	40	241
7/25/2012	Turbidity	Daily Maximum	NTU	40	374
8/13/2012	Turbidity	Daily Maximum	NTU	40	258
8/20/2012	Turbidity	Daily Maximum	NTU	40	302
8/21/2012	Turbidity	Daily Maximum	NTU	40	239
8/24/2012	Turbidity	Daily Maximum	NTU	40	223
8/29/2012	Turbidity	Daily Maximum	NTU	40	73
8/30/2012	Turbidity	Daily Maximum	NTU	40	78
8/31/2012	Turbidity	Daily Maximum	NTU	40	139
9/19/2012	Turbidity	Daily Maximum	NTU	40	105
10/3/2012	Turbidity	Daily Maximum	NTU	40	162
10/10/2012	Turbidity	Daily Maximum	NTU	40	179
10/22/2012	Turbidity	Daily Maximum	NTU	40	460
11/28/2012	Turbidity	Daily Maximum	NTU	40	390
11/30/2012	Turbidity	Daily Maximum	NTU	40	138
12/6/2012	Turbidity	Daily Maximum	NTU	40	268
2/12/2013	Turbidity	Daily Maximum	NTU	40	140
2/19/2013	Turbidity	Daily Maximum	NTU	40	110
3/8/2013	Turbidity	Daily Maximum	NTU	40	1,000
Discharge Point No. 003 (Pond 9)					
12/6/2011	pH	Daily Maximum	s.u.	8.50	8.58
12/7/2011	pH	Daily Maximum	s.u.	8.50	8.75
12/8/2011	pH	Daily Maximum	s.u.	8.50	8.87
12/9/2011	pH	Daily Maximum	s.u.	8.50	8.89
12/15/2011	pH	Daily Maximum	s.u.	8.50	9.30
3/29/2012	pH	Daily Maximum	s.u.	8.50	8.70
4/18/2012	pH	Daily Maximum	s.u.	8.50	8.58
4/19/2012	pH	Daily Maximum	s.u.	8.50	8.57
4/20/2012	pH	Daily Maximum	s.u.	8.50	8.57
9/7/2012	pH	Daily Maximum	s.u.	8.50	8.56
9/11/2012	pH	Daily Maximum	s.u.	8.50	8.66
9/12/2012	pH	Daily Maximum	s.u.	8.50	8.81
9/13/2012	pH	Daily Maximum	s.u.	8.50	8.92
9/14/2012	pH	Daily Maximum	s.u.	8.50	8.65
9/26/2012	pH	Daily Maximum	s.u.	8.50	8.69
9/27/2012	pH	Daily Maximum	s.u.	8.50	8.77
9/28/2012	pH	Daily Maximum	s.u.	8.50	8.72
10/2/2012	pH	Daily Maximum	s.u.	8.50	8.71
10/3/2012	pH	Daily Maximum	s.u.	8.50	8.79

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
10/4/2012	pH	Daily Maximum	s.u.	8.50	9.26
10/5/2012	pH	Daily Maximum	s.u.	8.50	9.30
10/8/2012	pH	Daily Maximum	s.u.	8.50	9.19
10/9/2012	pH	Daily Maximum	s.u.	8.50	9.27
10/10/2012	pH	Daily Maximum	s.u.	8.50	8.62
10/13/2012	pH	Daily Maximum	s.u.	8.50	9.14
10/14/2012	pH	Daily Maximum	s.u.	8.50	9.23
10/16/2012	pH	Daily Maximum	s.u.	8.50	8.61
10/19/2012	pH	Daily Maximum	s.u.	8.50	8.73
10/22/2012	pH	Daily Maximum	s.u.	8.50	9.03
10/29/2012	pH	Daily Maximum	s.u.	8.50	8.77
10/30/2012	pH	Daily Maximum	s.u.	8.50	8.73
10/31/2012	pH	Daily Maximum	s.u.	8.50	8.77
11/1/2012	pH	Daily Maximum	s.u.	8.50	8.66
11/2/2012	pH	Daily Maximum	s.u.	8.50	8.56
11/7/2012	pH	Daily Maximum	s.u.	8.50	8.60
11/9/2012	pH	Daily Maximum	s.u.	8.50	8.68
11/15/2012	pH	Daily Maximum	s.u.	8.50	8.68
11/16/2012	pH	Daily Maximum	s.u.	8.50	8.67
11/17/2012	pH	Daily Maximum	s.u.	8.50	8.59
11/18/2012	pH	Daily Maximum	s.u.	8.50	8.74
11/20/2012	pH	Daily Maximum	s.u.	8.50	8.64
11/23/2012	pH	Daily Maximum	s.u.	8.50	8.60
12/6/2012	pH	Daily Maximum	s.u.	8.50	8.60
1/14/2013	pH	Daily Maximum	s.u.	8.50	8.94
1/24/2013	pH	Daily Maximum	s.u.	8.50	8.57
2/6/2013	pH	Daily Maximum	s.u.	8.50	8.93
2/7/2013	pH	Daily Maximum	s.u.	8.50	8.72
2/10/2013	pH	Daily Maximum	s.u.	8.50	8.71
2/12/2013	pH	Daily Maximum	s.u.	8.50	8.92
2/13/2013	pH	Daily Maximum	s.u.	8.50	9.04
2/14/2013	pH	Daily Maximum	s.u.	8.50	9.11
2/17/2013	pH	Daily Maximum	s.u.	8.50	9.15
2/19/2013	pH	Daily Maximum	s.u.	8.50	9.03
2/20/2013	pH	Daily Maximum	s.u.	8.50	9.08
2/21/2013	pH	Daily Maximum	s.u.	8.50	9.01
2/24/2013	pH	Daily Maximum	s.u.	8.50	9.01
2/25/2013	pH	Daily Maximum	s.u.	8.50	9.00
2/26/2013	pH	Daily Maximum	s.u.	8.50	8.87
3/1/2013	pH	Daily Maximum	s.u.	8.50	8.81
3/2/2013	pH	Daily Maximum	s.u.	8.50	8.75
3/3/2013	pH	Daily Maximum	s.u.	8.50	8.58
3/4/2013	pH	Daily Maximum	s.u.	8.50	9.01
3/5/2013	pH	Daily Maximum	s.u.	8.50	8.90

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
3/6/2013	pH	Daily Maximum	s.u.	8.50	8.77
3/7/2013	pH	Daily Maximum	s.u.	8.50	8.90
3/9/2013	pH	Daily Maximum	s.u.	8.50	8.66
3/10/2013	pH	Daily Maximum	s.u.	8.50	8.85
3/13/2013	pH	Daily Maximum	s.u.	8.50	8.93
3/15/2013	pH	Daily Maximum	s.u.	8.50	9.17
3/16/2013	pH	Daily Maximum	s.u.	8.50	9.02
3/17/2013	pH	Daily Maximum	s.u.	8.50	8.99
3/18/2013	pH	Daily Maximum	s.u.	8.50	8.78
3/19/2013	pH	Daily Maximum	s.u.	8.50	8.98
3/24/2013	pH	Daily Maximum	s.u.	8.50	8.71
10/31/2011	TDS	Daily Maximum	mg/L	500	820
11/14/2011	TDS	Daily Maximum	mg/L	500	850
11/16/2011	TDS	Daily Maximum	mg/L	500	820
11/21/2011	TDS	Daily Maximum	mg/L	500	770
12/5/2011	TDS	Daily Maximum	mg/L	500	920
12/14/2011	TDS	Daily Maximum	mg/L	500	785
1/10/2012	TDS	Daily Maximum	mg/L	500	980
1/30/2012	TDS	Daily Maximum	mg/L	500	830
2/6/2012	TDS	Daily Maximum	mg/L	500	960
2/13/2012	TDS	Daily Maximum	mg/L	500	930
2/14/2012	TDS	Daily Maximum	mg/L	500	780
2/21/2012	TDS	Daily Maximum	mg/L	500	840
2/27/2012	TDS	Daily Maximum	mg/L	500	1,000
3/5/2012	TDS	Daily Maximum	mg/L	500	840
3/6/2012	TDS	Daily Maximum	mg/L	500	1,000
3/12/2012	TDS	Daily Maximum	mg/L	500	1,000
3/14/2012	TDS	Daily Maximum	mg/L	500	780
3/19/2012	TDS	Daily Maximum	mg/L	500	640
3/26/2012	TDS	Daily Maximum	mg/L	500	630
4/2/2012	TDS	Daily Maximum	mg/L	500	650
4/9/2012	TDS	Daily Maximum	mg/L	500	820
4/16/2012	TDS	Daily Maximum	mg/L	500	800
4/23/2012	TDS	Daily Maximum	mg/L	500	890
4/30/2012	TDS	Daily Maximum	mg/L	500	900
5/7/2012	TDS	Daily Maximum	mg/L	500	870
5/14/2012	TDS	Daily Maximum	mg/L	500	970
5/21/2012	TDS	Daily Maximum	mg/L	500	1,000
5/29/2012	TDS	Daily Maximum	mg/L	500	1,000
6/4/2012	TDS	Daily Maximum	mg/L	500	1,000
6/11/2012	TDS	Daily Maximum	mg/L	500	1,100
6/18/2012	TDS	Daily Maximum	mg/L	500	1,100
6/25/2012	TDS	Daily Maximum	mg/L	500	1,100
7/2/2012	TDS	Daily Maximum	mg/L	500	1,100

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
7/9/2012	TDS	Daily Maximum	mg/L	500	1,100
7/16/2012	TDS	Daily Maximum	mg/L	500	1,200
7/23/2012	TDS	Daily Maximum	mg/L	500	1,100
7/30/2012	TDS	Daily Maximum	mg/L	500	1,200
8/6/2012	TDS	Daily Maximum	mg/L	500	1,200
8/13/2012	TDS	Daily Maximum	mg/L	500	1,200
8/20/2012	TDS	Daily Maximum	mg/L	500	1,200
8/27/2012	TDS	Daily Maximum	mg/L	500	1,200
9/4/2012	TDS	Daily Maximum	mg/L	500	1,100
9/10/2012	TDS	Daily Maximum	mg/L	500	1,100
9/17/2012	TDS	Daily Maximum	mg/L	500	1,100
9/24/2012	TDS	Daily Maximum	mg/L	500	1,000
10/1/2012	TDS	Daily Maximum	mg/L	500	1,000
10/8/2012	TDS	Daily Maximum	mg/L	500	560
10/15/2012	TDS	Daily Maximum	mg/L	500	630
10/29/2012	TDS	Daily Maximum	mg/L	500	1,100
11/6/2012	TDS	Daily Maximum	mg/L	500	950
11/12/2012	TDS	Daily Maximum	mg/L	500	1,000
11/19/2012	TDS	Daily Maximum	mg/L	500	560
11/26/2012	TDS	Daily Maximum	mg/L	500	600
12/3/2012	TDS	Daily Maximum	mg/L	500	950
12/10/2012	TDS	Daily Maximum	mg/L	500	1,100
12/17/2012	TDS	Daily Maximum	mg/L	500	1,100
12/26/2012	TDS	Daily Maximum	mg/L	500	620
1/2/2013	TDS	Daily Maximum	mg/L	500	740
1/7/2013	TDS	Daily Maximum	mg/L	500	780
1/14/2013	TDS	Daily Maximum	mg/L	500	720
1/24/2013	TDS	Daily Maximum	mg/L	500	760
1/28/2013	TDS	Daily Maximum	mg/L	500	1,100
2/3/2013	TDS	Daily Maximum	mg/L	500	1,100
2/10/2013	TDS	Daily Maximum	mg/L	500	720
2/17/2013	TDS	Daily Maximum	mg/L	500	830
2/26/2013	TDS	Daily Maximum	mg/L	500	810
3/7/2013	TDS	Daily Maximum	mg/L	500	760
3/13/2013	TDS	Daily Maximum	mg/L	500	740
3/20/2013	TDS	Daily Maximum	mg/L	500	740
3/27/2013	TDS	Daily Maximum	mg/L	500	1,100
11/19/2011	TSS	Weekly Average	mg/L	45	199
11/30/2011	TSS	Monthly Average	mg/L	30	135
1/28/2012	TSS	Weekly Average	mg/L	45	110
1/31/2012	TSS	Monthly Average	mg/L	30	56
3/8/2013	TSS	Weekly Average	mg/L	45	61
3/14/2013	TSS	Weekly Average	mg/L	45	62
3/31/2013	TSS	Monthly Average	mg/L	30	33

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
11/11/2011	Turbidity	Daily Maximum	NTU	40	78
11/14/2011	Turbidity	Daily Maximum	NTU	40	59
11/15/2011	Turbidity	Daily Maximum	NTU	40	64
11/21/2011	Turbidity	Daily Maximum	NTU	40	127
1/22/2012	Turbidity	Daily Maximum	NTU	40	223
1/23/2012	Turbidity	Daily Maximum	NTU	40	223
3/29/2012	Turbidity	Daily Maximum	NTU	40	91
3/30/2012	Turbidity	Daily Maximum	NTU	40	71
4/13/2012	Turbidity	Daily Maximum	NTU	40	254
4/17/2012	Turbidity	Daily Maximum	NTU	40	94
10/3/2012	Turbidity	Daily Maximum	NTU	40	49
10/22/2012	Turbidity	Daily Maximum	NTU	40	220
10/23/2012	Turbidity	Daily Maximum	NTU	40	149
11/17/2012	Turbidity	Daily Maximum	NTU	40	173
11/18/2012	Turbidity	Daily Maximum	NTU	40	146
11/19/2012	Turbidity	Daily Maximum	NTU	40	70
11/21/2012	Turbidity	Daily Maximum	NTU	40	236
11/30/2012	Turbidity	Daily Maximum	NTU	40	926
12/3/2012	Turbidity	Daily Maximum	NTU	40	173
12/4/2012	Turbidity	Daily Maximum	NTU	40	125
12/5/2012	Turbidity	Daily Maximum	NTU	40	326
12/6/2012	Turbidity	Daily Maximum	NTU	40	184
12/7/2012	Turbidity	Daily Maximum	NTU	40	43
12/17/2012	Turbidity	Daily Maximum	NTU	40	71
12/19/2012	Turbidity	Daily Maximum	NTU	40	42
12/20/2012	Turbidity	Daily Maximum	NTU	40	49
12/26/2012	Turbidity	Daily Maximum	NTU	40	96
12/27/2012	Turbidity	Daily Maximum	NTU	40	76
12/28/2012	Turbidity	Daily Maximum	NTU	40	69
1/7/2013	Turbidity	Daily Maximum	NTU	40	68
2/18/2013	Turbidity	Daily Maximum	NTU	40	60
3/6/2013	Turbidity	Daily Maximum	NTU	40	51
3/8/2013	Turbidity	Daily Maximum	NTU	40	57
Discharge Point No. 004 (Pond 17)					
11/30/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.5
11/30/2012	Settleable Matter	Monthly Average	mL/L-hr	0.1	0.5
12/3/2012	TDS	Daily Maximum	mg/L	500	550
11/30/2012	TSS	Weekly Average	mg/L	45	140
11/30/2012	TSS	Monthly Average	mg/L	30	140
11/30/2012	Turbidity	Daily Maximum	NTU	40	220
Discharge Point No. 005 (Pond 20)					
2/19/2013	pH	Daily Maximum	s.u.	8.50	8.85
1/23/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	0.5
1/31/2012	Settleable Matter	Monthly Average	mL/L-hr	0.1	0.5

Date	Pollutant	Limit Description	Unit	Effluent Limit	Reported Value
12/17/2012	Settleable Matter	Daily Maximum	mL/L-hr	0.2	1.1
1/23/2012	TDS	Daily Maximum	mg/L	500	700
11/28/2012	TDS	Daily Maximum	mg/L	500	1,200
12/3/2012	TDS	Daily Maximum	mg/L	500	980
12/10/2012	TDS	Daily Maximum	mg/L	500	1,200
12/17/2012	TDS	Daily Maximum	mg/L	500	980
12/26/2012	TDS	Daily Maximum	mg/L	500	960
2/19/2013	TDS	Daily Maximum	mg/L	500	570
1/23/2012	TSS	Weekly Average	mg/L	45	200
1/31/2012	TSS	Monthly Average	mg/L	30	200
11/28/2012	Turbidity	Daily Maximum	NTU	40	50
2/19/2013	Turbidity	Daily Maximum	NTU	40	94
Discharge Point No. 007 (Rock Plant Sump)					
12/26/2012	TDS	Daily Maximum	mg/L	500	940

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

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

1. Stormwater Pollution Prevention Plan (SWPP Plan)

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

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

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

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

2. Source Identification

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

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

b. A site map showing the following:

   1) Stormwater conveyance, drainage, and discharge structures;

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

   3) Paved areas and buildings;

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

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

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

   7) Vehicle service areas.

c. A narrative description of the following:

   1) Wastewater treatment process activity areas;

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

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

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

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

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

3. Stormwater Management Controls

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

a. Stormwater pollution prevention personnel

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

b. Good housekeeping

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

c. Spill prevention and response

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

d. Source control

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

e. Stormwater management practices

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

f. Sediment and erosion control

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

g. Employee training

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

h. Inspections

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

i. Records

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

4. Annual Verification of SWPP Plan

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

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

1. Use of Certified Laboratories

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

2. Use of Appropriate Minimum Levels

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

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

3. Frequency of Monitoring

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

   a. Timing of Sample Collection

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

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

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

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

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

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

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

b. Conditions Triggering Accelerated Monitoring

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

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

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

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

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

6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for 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. Stormwater Monitoring

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

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

2) Measure (or estimate) the total volume of stormwater discharge, collect grab samples of stormwater discharge from at least two storm events that produce significant stormwater discharge, and analyze the samples for oil and grease, pH, 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-stormwater discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all stormwater discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

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

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

d. Receiving Water Monitoring

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

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

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

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

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

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

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

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

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

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

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

1. Receiving Water Observations

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

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

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

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

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

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

f. *Weather conditions*:

1) Air temperature; and

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

2. Wastewater Effluent Observations

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

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

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

3. Beach and Shoreline Observations

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

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

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

4. Land Retention or Disposal Area Observations

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

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

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

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

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

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

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

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

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

IV. STANDARD PROVISIONS – RECORDS

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

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

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

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

1. Analytical Information

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

2. Flow Monitoring Data

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

a. Total volume for each day; and

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

3. Wastewater Treatment Process Solids

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

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

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

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

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

2) Solids content of the dewatered biosolids; and

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

4. Disinfection Process

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

a. For bacteriological analyses:

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

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

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

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

2) Chlorine dosage (kg/day); and

3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

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

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

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

6. Treatment Facility Overflows

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

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

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

1. Self Monitoring Reports

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

a. Transmittal letter

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

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

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

3) Causes of violations;

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

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

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

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

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

b. Compliance evaluation summary

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

c. Results of analyses and observations

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

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

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

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

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

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

Dioxin-TEQ = Σ (C_x x TEF_x x BEF_x)

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

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

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

d. Data reporting for results not yet available

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

e. Flow data

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

f. Annual self monitoring report requirements

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

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

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

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

4) List of approved analyses, including the following:

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

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

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

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

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

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

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board
San Francisco Bay Region

1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

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

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

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

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

D. Compliance Schedules – Not supplemented

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

1. Spill of Oil or Other Hazardous Material Reports

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

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

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

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

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

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

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

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

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

11) Persons or agencies notified.

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

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and 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;

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.

[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.

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:

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

   or

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

14. Untreated waste is raw wastewater.

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

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[5]	Minimum Levels[6] (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)[7]	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)[8]												
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)[9]	0100.2 [10]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										

[5] 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.

[6] 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.

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

[8] 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).

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

[10] 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[5]	Minimum Levels[6] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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[5]	Minimum Levels[6] (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)[11]	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											

[11] 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[5]	Minimum Levels[6] (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											