ORDER No. R2-2018-0048
NPDES No. CA0029947

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

Table 1. Discharger Information

Discharger	Browning-Ferris Industries
Facility Name	Corinda Los Trancos (Ox Mountain) Landfill
Facility Address	12310 San Mateo Road Half Moon Bay, CA 94019 San Mateo County
CIWQS Place Number	215718

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Groundwater	37.492778	-122.411667	Corinda Los Trancos Creek

Table 3. Administrative Information

This Order was adopted on:	**November 14, 2018**
This Order shall become effective on:	**January 1, 2019**
This Order shall expire on:	**December 31, 2023**
CIWQS Regulatory Measure Number	**426490**
The Discharger shall file a Report of Waste Discharge for updated WDRs in accordance with California Code of Regulations, title 23, and as an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**April 5, 2023**
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:	Minor

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

Digitally signed by Bruce H. Wolfe
Date: 2018.11.19 11:41:35 -08'00'

Bruce H. Wolfe, Executive Officer

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Attachments

I. FACILITY INFORMATION

Information describing the Corinda Los Trancos (Ox Mountain) Landfill (Facility) is summarized in Table 1 and Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

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

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

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

C. Provisions and Requirements Implementing State Law. None of the provisions of this Order implements State law only.

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

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

THEREFORE, IT IS HEREBY ORDERED that Order No. R2-2013-0012 (previous order) is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous order.

III. DISCHARGE PROHIBITIONS

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

B. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D sections I.G.

C. Discharge of treated groundwater greater than 115,200 gallons per day (gpd) is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				Monitoring Location
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	mg/L	37	140	---	---	EFF-001
Total Suspended Solids (TSS)	mg/L	27	88	---	---	EFF-001
Total Dissolved Solids (TDS)	mg/L	3,000	5,500			EFF-001
Oil and Grease	mg/L	10	20	---	---	EFF-001
pH [1]	standard units	---	---	6.5	8.5	EFF-001
Copper, Total	µg/L	24	48	---	---	EFF-001
Cyanide, Total	µg/L	4.3	5.2	---	---	EFF-001 [2]
Benzene	µg/L	---	0.50	---	---	EFF-001A
Phenol	µg/L	---	0.50	---	---	EFF-001A
Vinyl Chloride	µg/L	--	0.50	---	---	EFF-001A
Zinc, Total	µg/L	110	200			EFF-001
Total Ammonia	mg/L as N	15	40	---	---	EFF-001
Chlorine, Total Residual	mg/L	---	---	---	0.0	EFF-001

Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
ml/l-hr = milliliters per liter per hour

Footnote:

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

[2] The Discharger may perform a holding time study as described in American Society of Testing and Materials (ASTM) D7365 09a (*Standard Practice for Sampling, Preservation and Mitigating Interferences in Water Samples for Analysis of Cyanide*) and ASTM D4841 (*Standard Practice for Estimation of Holding Time for Water Samples Containing Organic and Inorganic Constituents)* to determine a matrix-specific holding time for unpreserved cyanide samples that will prevent cyanide loss prior to analysis. The Discharger may collect and analyze split preserved and unpreserved cyanide samples using the matrix-specific holding time for unpreserved samples. The Regional Water Board may, at its discretion, assess compliance based on the unpreserved samples.

B. Whole Effluent Acute Toxicity. The discharge at Discharge Point No. 001 shall meet the following acute toxicity effluent limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

1. Eleven-sample median of not less than 90 percent survival; and

2. Eleven-sample 90th percentile of not less than 70 percent survival.

These acute toxicity limitations are defined as follows:

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

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

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

V. RECEIVING WATER LIMITATIONS

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

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

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

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

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

5. Alteration of temperature beyond present natural background levels unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses;

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

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

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

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

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

1. Dissolved Oxygen 5.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the

dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

2. Dissolved Sulfide — Natural background levels

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

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

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

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all "Standard Provisions" in Attachment D.

2. The Discharger shall comply with all applicable provisions of the "Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits" (Attachment G).

3. The Discharger shall comply with all applicable provisions of "Stormwater Provisions, Monitoring, and Reporting Requirements" (Attachment S). By August 1, 2019, the Discharger shall submit an updated Stormwater Pollution Prevention Plan that includes all of the elements listed in Attachment S.

B. Monitoring and Reporting

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

C. Special Provisions

1. Reopener Provisions

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

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

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

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

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

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

f. Or as otherwise authorized by law.

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

2. Effluent Characterization Study and Report

a. Study Elements. The Discharger shall continue to characterize and evaluate the discharge from Discharge Point No. 001, as required by the MRP, to verify that the "no" or "unknown" reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance.

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

b. Reporting Requirements

i. Routine Reporting. The Discharger shall report the identity of pollutants detected at or above applicable water quality criteria (see Fact Sheet Table F-8 for the criteria)

and the detected concentrations of those pollutants in the transmittal letter for the self-monitoring report for the month in which the samples were collected.

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

3. Pollutant Minimization Program

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ii. Quarterly monitoring for the reportable priority pollutants in the influent to the treatment facilities. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

v. Inclusion of the following specific items within the annual report required by Provision VI.C.3.b above:

(a) All Pollutant Minimization Program monitoring results for the previous year;
(b) List of potential sources of the reportable priority pollutants;
(c) Summary of all actions undertaken pursuant to the control strategy; and

(d) Description of actions to be taken in the following year.

4. Bioassessment Monitoring Report

The Discharger shall conduct bioassessment monitoring of a representative reach of Corinda Los Trancos Creek downstream of the grade control structure identified in *Field Monitoring Report, Ox Mountain Landfill, Bioassessment and Physical Habitat Monitoring* (Applied Marine Sciences, October 13, 2017) once during this Order's term. The study shall be completed at least 12 months prior to applying for permit reissuance. The Discharger shall report the data in electronic format to the California Environmental Data Exchange Network (CEDEN) and submit a bioassessment report with the application for permit reissuance. The Discharger shall submit raw data in CEDEN-approved Excel templates (found at http://www.ceden.org/ceden_datatemplates.shtml) that it has checked for errors and corrected prior to submission. The San Francisco Estuary Institute (SFEI) is the CEDEN Regional Data Center for the San Francisco Bay Region. Once the data have been transferred to SFEI, the Discharger shall confirm that the data are published on the CEDEN web site.

The bioassessment shall be in accordance with Surface Water Ambient Monitoring Program (SWAMP) Standard Operating Procedures and shall include collection and reporting of in-stream biological and physical habitat data according to the *SWAMP Standard Operating Procedures for Bioassessment*, including benthic macroinvertebrates, benthic algae, water chemistry, and full characterization of physical habitat.[1,2,3] The "reachwide benthos" sampling procedure, as described in the standard operating procedures, is the required sampling method for ambient bioassessment. The Discharger may modify these sampling procedures if SWAMP procedures change during the Order term. In such case, the Discharger shall notify the Regional Water Board and follow the updated procedures.

The Discharger shall identify and classify macroinvertebrates according to the *Standard Taxonomic Effort Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT)*[4] (except chironomids shall be identified to subfamily), using the most current SWAMP-approved method and a fixed count of 600 organisms per sample. For algae, the assessment shall include mass (ash-free dry weight), chlorophyll a, pebble count algae information, and reach-wide algal percent cover. Diatom and soft algae taxonomy are

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[1] Ode, P.R. *et. al.*, May 2016. *Standard Operating Procedures (SOP) for the Collection of Field Data for Bioassessments of California Wadeable Streams: Benthic Macroinvertebrates, Algae, and Physical Habitat*, State Water Board Surface Water Ambient Monitoring Program (SWAMP), located at https://www.waterboards.ca.gov/water_issues/programs/swamp/bioassessment/docs/combined_sop_2016.pdf.

[2] Current methods are set forth in (1) *SWAMP Standard Operating Procedure (SOP) and Interim Guidance on Quality Assurance for SWAMP Bioassessments, Memorandum to SWAMP Roundtable from Beverly H. van Buuren and Peter R. Ode, May 21, 2007*, and (2) *Amendment to SWAMP Interim Guidance on Quality Assurance for SWAMP Bioassessments, Memorandum to SWAMP Roundtable from Beverly H. Van Buuren and Peter R. Ode, September 17, 2008*.

[3] Guidance on algae sampling and evaluation is available in the following: Fetscher, A. and K. McLaughlin, May 16, 2008. *Incorporating Bioassessment Using Freshwater Algae into California's Surface Water Ambient Monitoring Program (SWAMP), Technical Report 563;* and current SWAMP-approved updates to standard operating procedures therein, available at http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/563_periphyton_bioassessment.pdf.

[4] The current SAFIT Standard Taxonomic Effort Levels (March 1, 2011) list requirements for both Level I and Level II taxonomic efforts, and are located at http://safit.org/Docs/STE_1_March_2011_7MB.pdf. When SAFIT publishes new editions, the new editions will supersede all previous editions.

not required. The physical habitat assessment shall include the SWAMP full physical habitat characterization method.

Sampling shall occur between May 1 and June 30 of the same calendar year. The sampling crew shall be trained by a SWAMP-approved trainer and possess a Memorandum of Understanding or Scientific Collection Permit from the California Department of Fish and Wildlife.

The laboratory shall follow the *SWAMP Standard Operating Procedures for Laboratory Processing and Identification of Benthic Macroinvertebrates in California.*[5] In general, quality assurance and quality control steps specified in the *SWAMP Quality Assurance Program Plan*[6] shall be performed; however, duplicate field samples and benthic macroinvertebrate laboratory duplicates are not required.

The Discharger shall compare the monitoring results at Corinda Los Trancos Creek with an appropriate least-impacted reference location, such as SWAMP monitoring site 202SPE090 (sampled in 2009); monitoring site 202CLT100 for the comparison of nutrients; and an impacted site, such as SWAMP monitoring site 202PS0134 (sampled in 2011). Bioassessment and physical habitat data are available from CEDEN (http://www.ceden.org).

In conducting the required bioassessment monitoring, the Discharger shall take precautions to prevent the introduction or spread of aquatic invasive species. At a minimum, the Discharger shall follow the recommendations of the California Department of Fish and Wildlife to minimize the introduction or spread of the New Zealand mudsnail.[7]

5. Corinda Los Trancos Creek Temperature Study

The Discharger shall study the effect of its discharge on the temperature of Corinda Los Trancos Creek downstream of Discharge Point No. 001.

a. Work Plan. By June 30, 2019, the Discharger shall submit a Work Plan that describes the scope and schedule of the planned study and explains how the Discharger will assess the amount its discharge affects the temperature in Corinda Los Trancos Creek. The Work Plan shall include the following:

i. Proposal to collect temperature data from Discharge Point No. 001 (Monitoring Location EFF-001) upstream and downstream of the discharge (Monitoring Locations RSW-001 and RSW-002), at a far background monitoring location unaffected by the discharge (Monitoring Location RSW-003), and at the sedimentation basin discharge riser, at minimum;

ii. Explanation of how the timing and number of samples will allow the Discharger to analyze temperature variations due to seasonal and operational changes (such as commencing or terminating discharge); and,

[5] http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/standard-operating-procedures.

[6] http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

[7] Instructions for controlling the spread of New Zealand mudsnails, including decontamination methods, can be found at http://www.dfg.ca.gov/invasives/mudsnail/. More information on aquatic invasive species can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/ais/.

iii. Proposal to evaluate the use of automatic data loggers for long-term, synchronized data collection.

iv. Evaluation of methods to control discharge temperature, if the discharge causes a temperature increase in Corinda Los Trancos Creek exceeding the Basin Plan's water quality objective of 2.8 degrees Centigrade [5 degrees Fahrenheit]) (Basin Plan § 3.3.17).

b. Final Report. With its application for permit reissuance (see Table 3), the Discharger shall submit a final report that reflects any feedback the Executive Officer may provide in response to the Work Plan and presents the results of the study. The results shall include the following analyses:

i. Temperature variation at all background monitoring locations;

ii. Upstream and downstream temperature variation during discharge and no-discharge periods, and during the wet season and dry season;

iii. Determination of whether the discharge causes a measurable, non-natural temperature change in Corinda Los Trancos Creek; and

iv. Determination of whether any temperature change exceeds the temperature water quality objective at Basin Plan section 3.3.17 (i.e., is greater than 2.8 degrees Centigrade [5 degrees Fahrenheit]).

v. If the Discharger determines that the discharge causes a temperature change exceeding the Basin Plan water quality objective, analysis of methods to cool the discharge to prevent such exceedances. The report shall include tasks and a schedule to implement the most feasible method.

ATTACHMENT A – DEFINITIONS

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

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

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

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

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

Carcinogenic
Known to cause cancer in living organisms.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Method Detection Limit (MDL)
Minimum concentration of a substance that can be measured and reported with 99 percent confidence that the measured analyte concentration is distinguishable from method blank results greater than zero, as defined in in 40 C.F.R. part 136, Appendix B.

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:

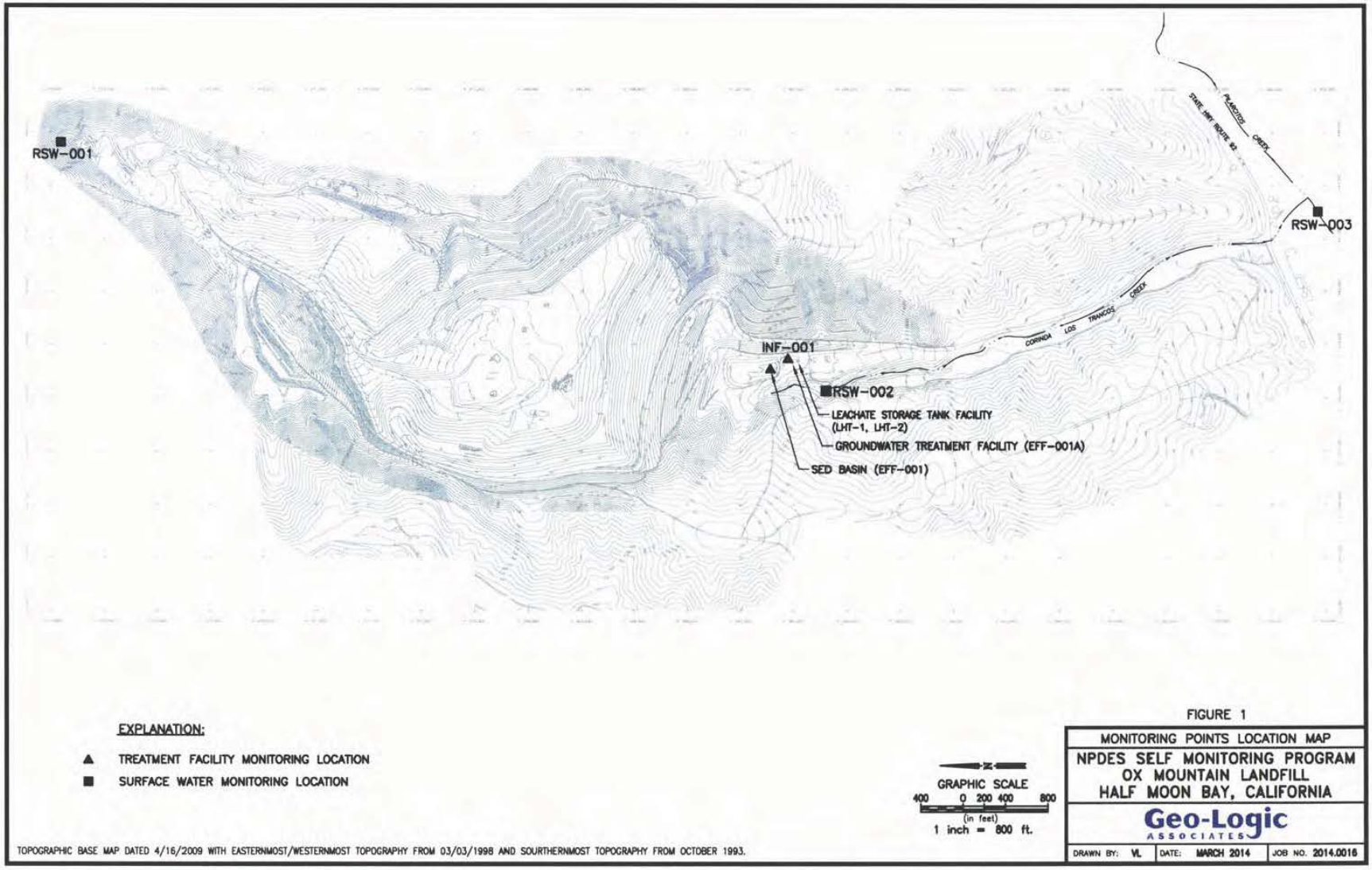
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

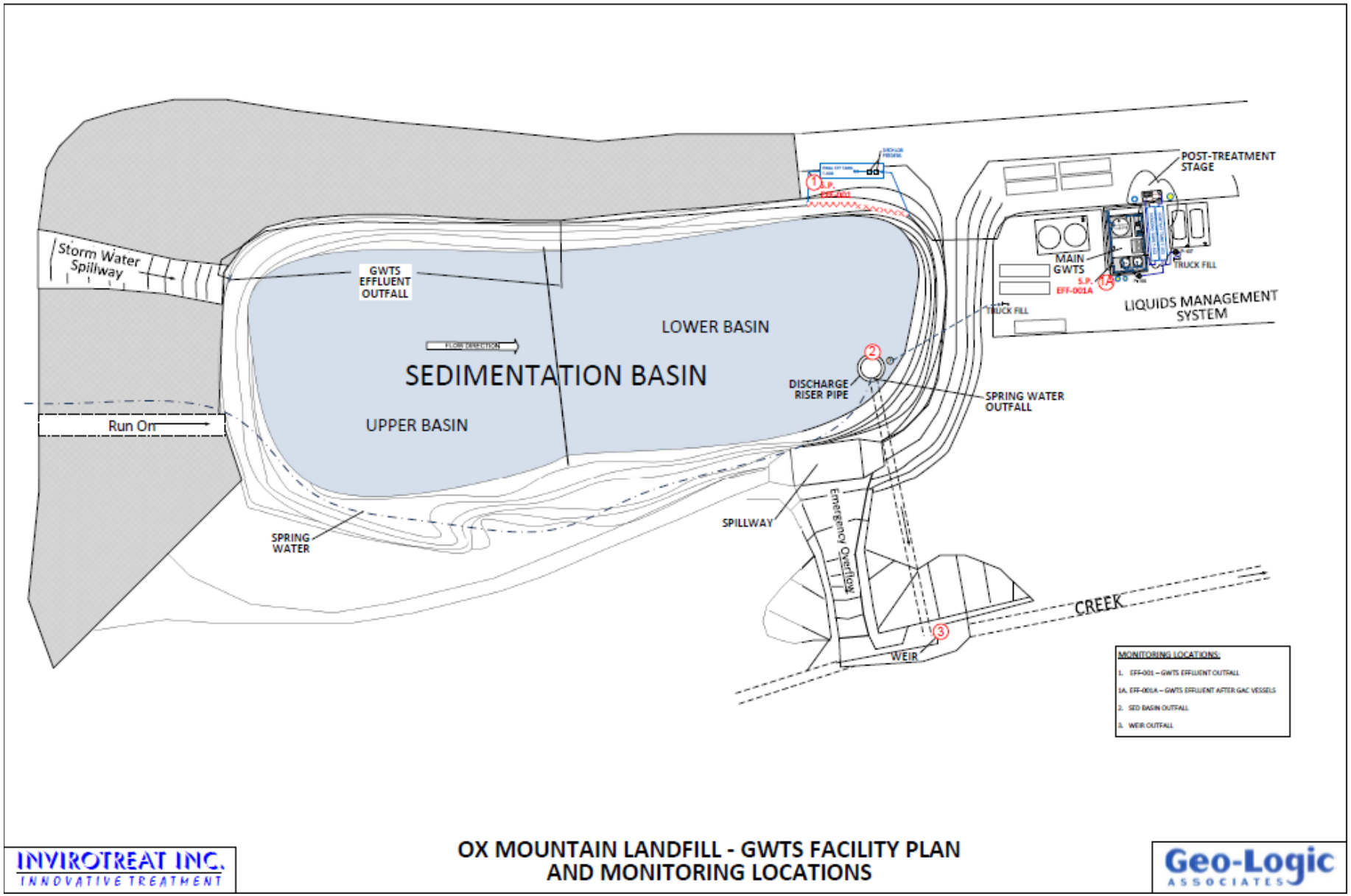
where:

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 MAPS



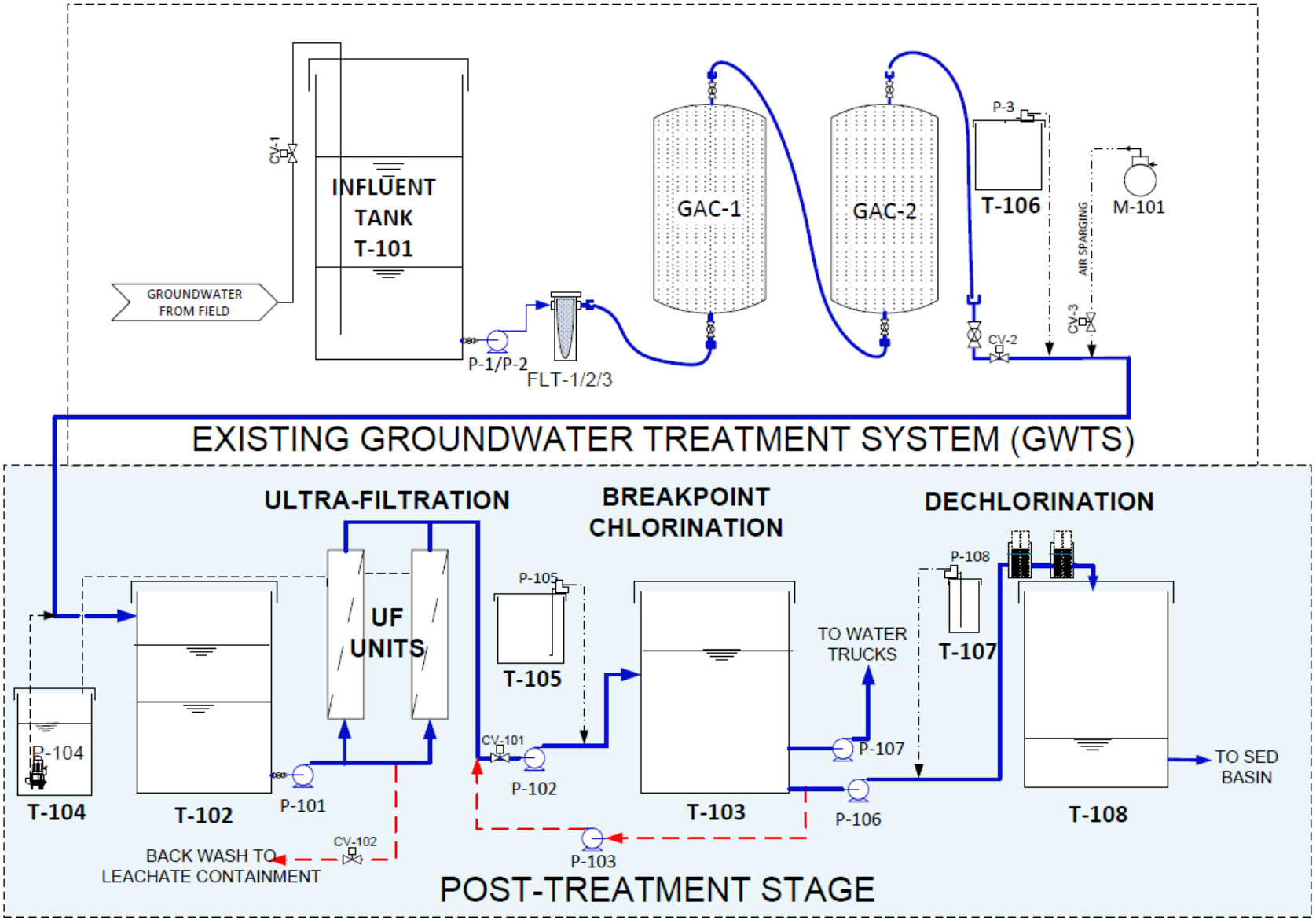


INVIROTREAT INC. INNOVATIVE TREATMENT

OX MOUNTAIN LANDFILL - GWTS FACILITY PLAN AND MONITORING LOCATIONS

Geo-Logic ASSOCIATES

ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS—PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

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

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

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

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

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

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

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

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

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS—PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS—MONITORING

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

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or

required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

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

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

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

IV. STANDARD PROVISIONS—RECORDS

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

B. Records of monitoring information shall include the following:

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

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

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

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

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

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

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

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

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

V. STANDARD PROVISIONS—REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions—Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)

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

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

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

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

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

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

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

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

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

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

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

C. Monitoring Reports

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

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

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

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

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

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

F. Planned Changes

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

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions—Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provisions—Reporting V.E above. For noncompliance related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

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

J. Initial Recipient for Electronic Reporting Data

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

VI. STANDARD PROVISIONS—ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13268, 13350, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

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

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

d. The level established by the Regional Water Board in accordance with section 40 C.F.R. 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 40 C.F.R. 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)

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

I. GENERAL MONITORING PROVISIONS

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

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

C. The Discharger shall ensure that results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814

D. The Discharger shall implement a Quality Assurance-Quality Control Program for any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory. The Discharger shall keep a manual onsite containing the steps followed in this program and must demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

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
Influent	INF-001	A point in the groundwater collection system immediately prior to treatment.
Effluent	EFF-001	A point after dechlorination and prior to the sedimentation basin at which all waste tributary to the sedimentation basin is present (previously at the sedimentation basin riser pipe).
Effluent	EFF-001A	A point immediately following treatment by the granular activated carbon vessels and prior to any other treatment.

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Receiving Water	RSW-001	A point in Corinda Los Trancos Creek or its source upstream of the landfill and prior to its diversion to the sedimentation basin riser pipe. For flow, this location may be after diversion to the sedimentation basin but prior to the sedimentation basin riser pipe.
Receiving Water	RSW-002	A point in Corinda Los Trancos Creek approximately 200 feet downstream from the outlet of the discharge culvert to Corinda Los Trancos Creek (i.e., approximately 400 feet downstream from Discharge Point No. 001).
Receiving Water	RSW-003	A point in Pilarcitos Creek between 100 feet and 200 feet downstream from the confluence of Corinda Los Trancos Creek and Pilarcitos Creek.

III. INFLUENT MONITORING REQUIREMENTS

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

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Dissolved Solids (TDS)	mg/L	Grab	2/Year
pH	standard units	Grab	2/Year
Temperature	°C	Grab	2/Year
Copper	µg/L	Grab	2/Year
Cyanide	µg/L	Grab	2/Year
Ammonia, Total	mg/L	Grab	2/Year
Benzene	µg/L	Grab	2/Year
Vinyl Chloride	µg/L	Grab	2/Year
Priority and other pollutants	µg/L	Grab	Once

Abbreviations:

°C = degrees Celsius
mg/L = milligrams per liter
µg/L = micrograms per liter

Sample Type:

Grab = grab sample

Sampling Frequencies:

2/Year = twice per year
Once = once per permit term

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001

The Discharger shall monitor treated effluent from the groundwater treatment system at Monitoring Location EFF-001 as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow [1]	gal or gpd	Continuous	Continuous/D

Parameter	Units	Sample Type	Minimum Sampling Frequency
Biochemical Oxygen Demand (5-day @ 20°C) (BOD_5)	mg/L	Grab	1/Quarter
Chemical Oxygen Demand (COD)	mg/L	Grab	1/Quarter
TSS	mg/L	Grab	1/Quarter
Total Dissolved Solids (TDS)	mg/L	Grab	1/Quarter
Oil and Grease	mg/L	Grab	1/Quarter
pH [2]	standard units	Grab	1/Quarter
Electrical Conductivity	µmhos/cm	Grab	1/Quarter
Temperature	ºC	Grab	1/Quarter
Nitrite	mg/L as N	Grab	1/Quarter
Nitrate	mg/L as N	Grab	1/Quarter
Hardness as $CaCO_3$	mg/L	Grab	1/Quarter
Copper, Total	µg/L	Grab	1/Quarter
Cyanide, Total [3]	µg/L	Grab	1/Quarter
Zinc, Total	µg/L	Grab	1/Year
Acute Toxicity [4]	% survival	Grab	1/Quarter
Chronic Toxicity [5]	TU_c	Grab	1/Quarter
Ammonia, Total [6]	mg/L as N	Grab	1/Quarter
Chlorine, Total Residual	mg/L	Grab	1/Week [7]
Priority and Other Pollutants [8]	µg/L	Grab	1/Year

Abbreviations:

% = percent
gal = gallons
gpd = gallons per day
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
ºC = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
TU_c = chronic toxicity units

Sample Types:

Grab = grab sample
Continuous = measured continuously

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily
1/Week = once per week
1/Quarter = once per quarter
1/Year = once per year

Footnotes:

[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (gpd)
- Total monthly flow volume (gal)

[2] If pH is monitored continuously, the minimum, maximum, and average pH for each day shall be reported in self-monitoring report.

[3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition.

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

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

[6] Monitoring for total ammonia shall occur concurrently with temperature and pH to allow for calculation of the un-ionized ammonia fraction. If pH or temperature is monitored continuously, the daily average may be used to calculate the un-ionized ammonia fraction.

[7] The Discharger may reduce this frequency to once per month when discharge to Corinda Los Trancos Creek is not occurring.

[8] The Discharger shall monitor for the pollutants listed in Attachment G, Table B, and Basin Plan, Table 3-5, except for color, odor, corrosivity, oil and grease, and radionuclides.

B. Monitoring Location EFF-001A

The Discharger shall monitor treated effluent from the groundwater treatment system at Monitoring Location EFF-001A as follows:

Table E-4. Effluent Monitoring at Monitoring Location EFF-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow [1]	gal/gpd	Continuous	1/Day
α-Terpineol	mg/L	Grab	1/Year
Benzene	µg/L	Grab	1/Quarter
Benzoic acid	mg/L	Grab	1/Year
ρ-Cresol	mg/L	Grab	1/Year
Phenol	mg/L	Grab	1/Year
Vinyl Chloride	µg/L	Grab	1/Quarter

Abbreviations:

gal = gallons
gpd = gallons per day
mg/L = milligrams per liter
µg/L = micrograms per liter

Sample Types:

Continuous = measured continuously
Grab = grab sample

Sampling Frequencies:

1/Day = once per day
1/Quarter = once per quarter
1/Year = once per year

Footnote:

[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (gpd)
- Total monthly flow volume (gal)

V. TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Compliance with the acute toxicity effluent limitations shall be evaluated at Monitoring Location EFF-001 by measuring survival of test organisms exposed to 96-hour static-renewal bioassays.

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

3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving*

Water to Freshwater and Marine Organisms, 5th Edition (EPA-821-R-02-012). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

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

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

B. Chronic Toxicity

1. Monitoring Requirements

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

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

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

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

i. The Discharger shall monitor routinely once per quarter.

ii. The Discharger shall accelerate monitoring to monthly after exceeding a three-sample median of 1.0 TU_c (100/NOEL) or a single sample maximum of 2.0 TU_c (100/NOEL). Based on the TU_c results, the Executive Officer may specify a different frequency for accelerated monitoring to ensure that accelerated monitoring provides useful information.

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

iv. If accelerated monitoring confirms consistent toxicity in excess of the trigger in ii, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section V.B.3, below.

v. The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE and either the toxicity drops below the trigger in ii, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

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

d. Methodology. Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. Bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms,* currently first edition (EPA/600/R-95-136), *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth edition (EPA-821-R2-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. The adjustment shall not remove the influence of other substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration must be obtained prior to any such adjustment.

e. Dilution Series. The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged and using a dilution factor $\geq$ 0.5. Test sample pH in each dilution in the series may be buffered using the biological buffer MOPS (3-[N-Morpholino]propanesulfonic Acid) to control pH drift and ammonia toxicity caused by increasing the pH during the test.

2. Reporting Requirements

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

a. Sample date

b. Test initiation date

c. Test species

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

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

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

g. TU_c values (100/NOEL).

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

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

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

3. Toxicity Reduction Evaluation (TRE)

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

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

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

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

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

ii. Tier 2 shall consist of evaluation of treatment process, 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 a toxicity source evaluation.

v. Tier 5 shall consist of a toxicity control evaluation, including options for modifications of in-plant treatment processes.

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

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

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

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

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

VI. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001

The Discharger shall monitor ambient receiving water conditions in Corinda Los Trancos Creek at Monitoring Location RSW-001 as follows:

Table E-5. Receiving Water Monitoring at Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow [1]	MGD	Continuous	Continuous/D
Total Dissolved Solids (TDS)	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
Temperature	ºC	Grab	1/Quarter
Hardness as $CaCO_3$	mg/L	Grab	1/Quarter
Ammonia, Total (as N)	mg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Sulfides	mg/L	Grab	1/Quarter
Priority and Other Pollutants [2]	µg/L	Grab	1/Year
Standard Observations [3]	---	---	1/Quarter

Abbreviations:

ºC = degrees Celsius
µg/L = micrograms per liter
mg/L = milligrams per liter
MGD = million gallons per day
ppt = parts per thousand

Sample Types:

Continuous = measured continuously
Grab = grab sample

Sampling Frequencies:

Continuous/D = measured continuously, recorded daily
1/Quarter = once per quarter
1/Year = once per year

Footnotes:

[1] The following flow information shall be reported in monthly self-monitoring reports:
- Daily average flow (MGD)
- Total monthly flow volume (MGD)

[2] The Discharger shall monitor for the pollutants listed in Attachment G, Table B, and Basin Plan, Table 3-5, except for color, odor, corrosivity, oil and grease, and radionuclides.

[3] Standard observations are specified in Attachment G section III.B.1.

B. Monitoring Locations RSW-002 and RSW-003

The Discharger shall monitor ambient receiving water conditions in Corinda Los Trancos Creek at monitoring locations RSW-002 and RSW-003 as follows:

Table E-6. Receiving Water Monitoring at Monitoring Locations RSW-002 and RSW-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Dissolved Solids (TDS)	mg/L	Grab	2/Year
pH	standard units	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	2/Year
Temperature	ºC	Grab	1/Quarter
Hardness as $CaCO_3$	mg/L	Grab	2/Year
Ammonia, Total (as N)	mg/L	Grab	1/Quarter
Total Sulfides	mg/L	Grab	2/Year
Priority and Other Pollutants [1]	µg/L	Grab	1/Year
Standard Observations [2]	---	---	1/Quarter

Abbreviations:

ºC = degrees Celsius
mg/L = milligrams per liter

Sample Types and Frequencies:

Grab = grab sample

Sampling Frequencies:

1/Quarter = once per quarter
1/Year = once per year
2/Year = twice per year

Footnotes:

[1] The Discharger shall monitor for the pollutants listed in Attachment G, Table B, and Basin Plan, Table 3-5, except for color, odor, corrosivity, oil and grease, and radionuclides.

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

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

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

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

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

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

   b. **Annual SMR.** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in Attachment G sections V.C.1.f. See also Provisions VI.C.2.b.(ii) (Annual Reporting) of this Order for requirements to submit reports with the annual SMR.

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

Table E-7. CIWQS Reporting

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	

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

Footnotes:

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

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

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

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

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

Table E-8. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous Continuous/D	Order effective date	All times
1/Day	Order effective date	Any 24-hour period that reasonably represents a calendar day for sampling purposes (e.g., beginning at midnight and continuing through 11:59 p.m.)
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month

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

Footnote:

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

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 RL.

C. Discharge Monitoring Reports (DMRs)

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

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 IC25 is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

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

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Appendix E-2 (attached).

b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

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

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

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

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

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

Toxicity Test References:

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

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

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

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

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

Toxicity Test Reference:

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

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

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

Footnotes:

[1] (a) Marine refers to receiving water salinities greater than 10 parts per thousand (ppt) at least 95 percent of the time during a normal water year.

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

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

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

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

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

ATTACHMENT F - FACT SHEET

Contents

Tables

ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	2 417053002
CIWQS Place ID	215718
Discharger	Browning-Ferris Industries
Facility Name	Corinda Los Trancos (Ox Mountain) Landfill
Facility Address	12310 San Mateo Road Half Moon Bay, CA 94019 San Mateo County
Facility Contact, Title, Phone	Agustin Moreno, Division Manager, (650) 713-3620
Authorized Person to Sign and Submit Reports	Lochlin Caffey, Environmental Manager, (925) 890-6504
Mailing Address	12310 San Mateo Road, Half Moon Bay, CA 94019
Billing Address	Same as Mailing Address
Facility Type	Class III Solid Waste Disposal Site
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	B
Pretreatment Program	No
Reclamation Requirements	No
Facility Permitted Flow	115,200 Gallons per Day (gpd)
Facility Design Flow	115,200 gpd
Watershed	San Mateo Coastal Basin
Receiving Water	Corinda Los Trancos Creek
Receiving Water Type	Freshwater

A. Browning-Ferris Industries (Discharger) owns the Corinda Los Trancos (Ox Mountain) Landfill (Facility), which discharges treated groundwater to Corinda Los Trancos Creek, a tributary to Pilarcitos Creek.

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

B. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0029947. The Discharger was previously subject to Order No. R2-2013-0012 (previous order). The Discharger filed a Report of Waste Discharge and applied for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on December 18, 2017.

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

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

II. FACILITY DESCRIPTION

The Facility is a Class III municipal refuse disposal site located in Corinda Los Trancos Canyon, approximately 3 miles east of Half Moon Bay. It has operated since 1976 and covers 2,870 acres, with approximately 191 acres permitted for solid waste disposal. The Facility includes two solid waste disposal sections, an old section and a new section. Only the new section is currently active. The old section has no flexible membrane liner because it was constructed prior to the effective date of Resource Conservation and Recovery Act Subtitle D and 40 C.F.R part 258 requirements. The new section includes a flexible membrane liner, required for active municipal solid waste landfills as of October 9, 1993.

Landfills of this type may generate several types of wastewater, including leachate, landfill gas condensate, truck and equipment wash water, stormwater, and polluted groundwater. This Order addresses only the discharge of extracted and treated naturally-occurring groundwater polluted by infiltration within the landfill or by exposure to pollutants released from the landfill liner system.

A. Groundwater Treatment System

An underdrain system collects groundwater from beneath the old and new sections of the landfill and directs it through a single influent line to a treatment system. The treatment system has a design capacity of 115,200 gpm and consists of the following:

- a 13,000-gallon holding tank for influent storage and equalization;
- three bag filters in series;
- two 5,000-pound granular activated carbon (GAC) vessels in series;
- a sodium hydroxide injection system to control pH;
- in-pipe air sparging to oxidize and promote precipitation of dissolved iron;
- ultrafiltration to remove suspended solids;
- breakpoint chlorination to remove ammonia; and
- dechlorination to remove residual chlorine.

The groundwater treatment system effluent flows to a sedimentation basin, which discharges to Corinda Los Trancos Creek. According to the Discharger's 2017 Annual Report, the treatment system discharged an average of 55,000 gpd with a maximum flow of 105,000 gpd.

B. Sedimentation Basin

The sedimentation basin has an operational capacity of approximately 3.0 million gallons, the approximate volume at which the basin begins to discharge. In addition to treated effluent, the sedimentation basin receives stormwater and road-wash water, which are regulated under State Water Board Order 2014-0057-DWQ, *General Permit for Storm Water Discharges Associated with Industrial Activity* (Industrial General Permit). The sedimentation basin is lined with low-permeability soil and separated into an upper and lower section by a sheet-pile wall to improve solids removal from stormwater; water flows by gravity from the upper to the lower section. In November 2017, the Discharger improved its treatment plant by adding ultrafiltration and ceased to rely on the sedimentation basin for removing solids from extracted groundwater. This Order requires extracted groundwater to comply with its effluent limits before it reaches the sedimentation basin. The sedimentation basin continues to provide residence time for treated effluent and to contribute to treatment system reliability, as discussed in Fact Sheet section IV.B.

The sedimentation basin previously received the diverted flow of Corinda Los Trancos Creek; however, in July 2012, the Discharger re-routed the diverted creek flow directly into the sedimentation basin riser, bypassing the sedimentation basin. Thus, the sedimentation basin is entirely separate from Corinda Los Trancos Creek. The sedimentation basin riser pipe (i.e., Discharge Point No. 001) and the receiving water (i.e., Corinda Los Trancos Creek) are described in Fact Sheet section II.C, below.

C. Discharge Point No. 001 and Receiving Waters

Corinda Los Trancos Creek is a perennial freshwater stream tributary to Pilarcitos Creek fed by a spring above the landfill, which forms Corinda Los Trancos Creek's headwaters. This flow is diverted from its natural course (obstructed by the old landfill section) through a 6-inch high-density polyethylene pipe directly to Discharge Point No. 001.

Discharge Point No. 001 is located at the inlet to the perforated riser pipe in the sedimentation basin (effectively a drop inlet); water is discharged through it when the level in the sedimentation basin reaches the riser pipe perforations. This riser pipe extends vertically down and connects at a 90-degree angle to an approximately 72-inch diameter, 200-foot long culvert that terminates in an outlet to the bed of Corinda Los Trancos Creek; the outlet is equipped with a weir for flow measurement. Treated wastewater, stormwater, and road-wash water are discharged by gravity through Discharge Point No. 001 and combine with the waters of Corinda Los Trancos Creek in the culvert; the combined flow is discharged to the bed of Corinda Los Trancos Creek at the culvert outlet.

The creek bed at the culvert outlet is initially a built-up concrete drainage structure extending about 150 feet downstream from the weir before draining into a more natural watercourse. Upgradient sources of water to Corinda Los Trancos Creek, other than the spring waters and sedimentation basin discharge, are negligible during dry weather.

D. Previous Requirements and Monitoring Data

The table below presents the previous order's effluent limitations and representative monitoring data from the previous order term:

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations		Monitoring Data (12/2013 – 01/2018)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	mg/L	37	140	37	37
Total Suspended Solids (TSS)	mg/L	27	88	152	590
Oil and Grease	mg/L	10	20	2.1	2.1
Settleable Matter	ml/l-hr	0.1	0.2	<0.10	<0.10
pH	standard units	6.5 - 8.5		6.7 - 8.2 [1]	
Lead, Total	µg/L	1.7	3.5	7.5	9.6
Mercury, Total	µg/L	0.013	0.041	0.045	0.045
Selenium, Total	µg/L	3.1	9.1	0.66 DNQ	0.66 DNQ
Zinc, Total	µg/L	110	200	14	14
Cyanide, Total	µg/L	4.3	5.2	11	11
Benzene	µg/L	---	1.0	---	1.0
Phenol	µg/L	15	26	66 DNQ [2]	66 DNQ [2]
Vinyl Chloride	µg/L	---	0.50	0.35	0.35
Total Ammonia	mg/L as N	16	44	7.8	33
Acute Toxicity	% survival	[3]		95 [4]	90 [4]
Chronic Toxicity	TU_c	[5]		<1.0	<1.0

Abbreviations:

ºC = degrees Celsius
DNQ = detected, but not quantified
mg/L = milligrams per liter
mg/L as N = milligrams per liter as nitrogen
ml/l-hr = milliliters per liters per hour
µg/L = micrograms per liter

Footnotes:

[1] Range of lowest and highest pH values.

[2] Section VII of the previous order states "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." DNQ results are not greater than or equal to the Reporting Level, thus are not violations. Furthermore, the analytical method used for this result, U.S. EPA Method 420.1, measures phenolic compounds, not specifically phenol; therefore, this result may not represent the phenol concentration. All analytical results for phenol using U.S. EPA Method 8270, which measures phenol, were non-detect.

[3] Limits were a 3-sample median value of not less than 90 percent survival and a single-sample value of not less than 70 percent survival.

[4] The lowest percent survival reported was 90 percent on November 30, 2015; the lowest 3-sample median reported was 95 percent on December 12, 2012, and December 4, 2017.

[5] The chronic toxicity limit was a narrative limit: "The discharge from Discharge Point 001 shall not contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water."

E. Compliance Summary

1. **Effluent Limitation Violations.** The Discharger violated its numeric effluent limitations 34 times from July 2013 through January 2018:

Table F-3. Numeric Effluent Limitation Violations

Date of Violation	Parameter	Units	Effluent Limitation	Reported Concentration	Enforcement Action
4/23/2014	Cyanide, Maximum Daily	µg/L	5.2	11	Administrative Civil Liability
4/30/2014	Cyanide, Average Monthly	µg/L	4.3	11	Administrative Civil Liability
11/24/2014	Lead, Maximum Daily	µg/L	3.5	7.5	Administrative Civil Liability
11/24/2014	Mercury, Maximum Daily	µg/L	0.041	0.045	Administrative Civil Liability
11/30/2014	Lead, Average Monthly	µg/L	1.7	7.5	Administrative Civil Liability
11/30/2014	Mercury, Average Monthly	µg/L	0.013	0.045	Administrative Civil Liability
12/20/2014	Lead, Maximum Daily	µg/L	3.5	9.6	Administrative Civil Liability
12/22/2014	Lead, Maximum Daily	µg/L	3.5	5.3	Administrative Civil Liability
12/23/2014	Lead, Maximum Daily	µg/L	3.5	4.0	Administrative Civil Liability
12/31/2014	TSS, Average Monthly	mg/L	27	70	Administrative Civil Liability
12/31/2014	Lead, Average Monthly	µg/L	1.7	3.5	Administrative Civil Liability
11/30/2015	Ammonia, Average Monthly	mg/L	16	18	Administrative Civil Liability
11/30/2015	TSS, Average Monthly	mg/L	27	28	Administrative Civil Liability
12/31/2015	TSS, Average Monthly	mg/L	27	75	Administrative Civil Liability
1/5/2016	TSS, Maximum Daily	mg/L	88	230	Administrative Civil Liability
1/6/2016	TSS, Maximum Daily	mg/L	88	590	Administrative Civil Liability
1/7/2016	TSS, Maximum Daily	mg/L	88	160	Administrative Civil Liability
1/8/2016	TSS, Maximum Daily	mg/L	88	130	Administrative Civil Liability
1/18/2016	TSS, Maximum Daily	mg/L	88	520	Administrative Civil Liability
1/19/2016	TSS, Maximum Daily	mg/L	88	430	Administrative Civil Liability
1/20/2016	TSS, Maximum Daily	mg/L	88	260	Administrative Civil Liability
1/21/2016	TSS, Maximum Daily	mg/L	88	150	Administrative Civil Liability
1/22/2016	TSS, Maximum Daily	mg/L	88	130	Administrative Civil Liability
1/31/2016	TSS, Average Monthly	mg/L	27	152	Administrative Civil Liability
7/18/2016	Ammonia, Average Monthly	mg/L	16	17	Administrative Civil Liability
7/18/2016	TSS, Average Monthly	mg/L	27	33	Administrative Civil Liability
8/31/2016	Ammonia, Average Monthly	mg/L	16	23	Administrative Civil Liability
3/31/2017	TSS, Average Monthly	mg/L	27	36	Non-serious and non-chronic
4/7/2017	TSS, Maximum Daily	mg/L	88	96	Non-serious and non-chronic
4/10/2017	TSS, Maximum Daily	mg/L	88	130	Administrative Civil Liability
4/11/2017	TSS, Maximum Daily	mg/L	88	94	Administrative Civil Liability
4/12/2017	TSS, Maximum Daily	mg/L	88	150	Administrative Civil Liability
4/13/2017	TSS, Maximum Daily	mg/L	88	100	Administrative Civil Liability
4/30/2017	TSS, Average Monthly	mg/L	27	61.9	Administrative Civil Liability

Abbreviations:

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

The Regional Water Board issued administrative civil liability (ACL) Order No. R2-2015-1027 on January 15, 2015, assessing mandatory minimum penalties (MMPs) of $27,000 for the April 2014 cyanide violations and November and December 2014 lead violations. The Discharger attributed the November and December 2014 lead violations to an increased sediment load to the sedimentation basin due to heavy rainfall and a break in a stormwater

drain. In response, the Discharger repaired the damaged stormwater drain by January 2015. There have been no further lead or cyanide violations.

The Regional Water Board issued ACL Order No. R2-2016-1021 on September 20, 2016, assessing MMPs of $36,000 for the December 2014 TSS monthly average violation, November 2015 ammonia violation, and December 2015 through January 2016 TSS violations. The December 2014 TSS violation was associated with the November and December 2014 lead violations discussed above, with the same cause and corrective action. The TSS violations from December 2015 through January 2016 were due to slope erosion and an increased sediment load during heavy rains; work to close a portion of the landfill resulted in more exposed soil than usual, and a plugged drain resulted in significant slope erosion. Repairs could not be made until the rainfall subsided. Following the December 2015 through January 2016 TSS violations, the Discharger hired a stormwater specialist to perform a site audit and make recommendations for Best Management Practices (BMPs) to reduce suspended solids. The Discharger implemented the following BMPs in 2016:

- added track-walking of bare slopes to its stormwater pollution prevention plan (SWPPP),
- installed 4 gabion baskets and 8 silt checks (hay bales) in the upper stockpile drainage area on the old landfill,
- installed 12 silt checks (hay bales) on the old equipment haul road and western slope of the old landfill,
- installed reinforced silt fencing in key drainage channels on the eastern and western sides of the new landfill, and
- placed 6 to 12 inches of mulch on all exposed slopes on the western and southern sides of the new landfill.

These BMPs have been effective at eliminating TSS violations caused by inadequate or failed erosion control measures.

The Regional Water Board issued ACL Order No. R2-2017-1020 on April 18, 2017, assessing MMPs of $6,000 for the July 2016 ammonia and TSS violations and the August 2016 ammonia violation. The Discharger attributed the initial ammonia violations to the presence of waterfowl in the sedimentation basin; it attributed the TSS violation to algae build-up in the sedimentation basin. The Discharger responded by improving the filaments placed across the pond surface to discourage birds and by removing clay, silt, and sand built up in the upper section of the sedimentation basin. There have been no further ammonia violations; corrective actions for the TSS violations are discussed below.

The Regional Water Board issued ACL Order No. R2-2017-1035 on October 30, 2017, assessing MMPs of $9,000 for the April 10, 12, and 30, 2017, TSS violations; no MMP was assessed for the March 31 and April 7, 2017, TSS violations because they were non-serious and non-chronic under California Water Code section 13385. The Discharger also attributed these violations to an algae bloom. Corrective actions for these violations are discussed below.

The Regional Water Board issued ACL Order No. R2-2018-1015 on July 6, 2018, assessing MMPs of $9,000 for the November 2014 mercury violations and additional April 2017 TSS violations. No MMP was assessed for the November 24, 2014, mercury violation or the

April 7, 2017, TSS violation because they were non-serious and non-chronic under California Water Code section 13385. The November 2014 mercury violations were associated with the November and December 2014 lead violations caused by a broken storm drain and increased sediment load. The April 11 and 13, 2017, TSS violations were associated with the other April 2017 TSS violations attributed to algae blooms. Since the April 2017 TSS violations, the Discharger has improved its treatment plant by adding ultrafiltration in November 2017 and has complied with all effluent limitations since April 2017.

F. Planned Changes

The Discharger does not anticipate any Facility changes during the term of this Order.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260) for discharges to land and/or waters of the State. 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 authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

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 (CEQA), Public Resources Code division 13, chapter 3 (commencing with § 21100). Provisions and requirements in this Order implementing State law only are further exempt from CEQA pursuant to the categorical exemption for existing facilities (Cal. Code Regs., tit. 40, § 15301).

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The table below lists beneficial uses applicable to Corinda Los Trancos Creek:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Corinda Los Trancos Creek	Municipal and Domestic Supply (MUN) Cold Freshwater Habitat (COLD) Preservation of Rare and Endangered Species (RARE) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)

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

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 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. 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 Resolution No. 68-16. (See Fact Sheet § IV.E.2 Antidegradation.)

5. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. (See Fact Sheet § IV.E.1.)

6. **Domestic Water Quality.** In accordance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and

accessible water adequate for human consumption, cooking, and sanitary purposes. This Order complies with 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. **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 July 30, 2015, U.S. EPA approved a list of impaired water bodies 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 water bodies 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 water bodies. Corinda Los Trancos Creek is not on the 303(d) list, nor is Pilarcitos Creek to which Corinda Los Trancos Creek is tributary.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

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

2. **Discharge Prohibition III.B (No bypass to waters of United States):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D § I.G).

3. **Discharge Prohibition III.C (No discharge greater than 115,200 gallons per day):** This Order prohibits flow greater than the Facility's design capacity (i.e., its historical and tested treatment reliability) of 115,200 gpd. Exceeding this flow could result in lower treatment reliability and greater potential to violate water quality requirements.

B. Shallow Water Discharge and Basin Plan Discharge Prohibition 1

Basin Plan Table 4-1, Discharge Prohibition 1, prohibits wastewater discharges with particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water. In accordance with the Basin Plan, this Order continues to grant the Discharger an exception to this discharge prohibition for discharges to Corinda Los Trancos Creek. The basis is described below:

The Basin Plan section 4.2 provides for exceptions to Discharge Prohibition 1 under certain circumstances:

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

The Basin Plan further states the following:

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

This Order continues to grant an exception to Prohibition 1 for discharges to Corinda Los Trancos Creek as explained below:

1. An inordinate burden would be placed on the Discharger relative to the beneficial uses protected to require the discharge to achieve a 10:1 dilution. To provide 10:1 dilution would require constructing and operating a deepwater outfall in the Pacific Ocean roughly 2.7 miles from the Facility.

2. The Discharger has improved its treatment process and its effluent handing and management to provide a level of environmental protection equivalent to Prohibition 1. The Discharger also continues to send treated wastewater to the sedimentation basin prior to the receiving water. The sedimentation basin contains the effluent in case of possible upsets and allows it to be re-routed to the treatment system prior to discharge. The sedimentation basin also provides 10:1 dilution during wet weather when the effluent mixes with stormwater. The Discharger upgraded the treatment system as follows:

- Added an automated pH control system with sodium hydroxide injection to improve pH control;

- Added effluent aeration (air sparging) of GAC effluent to convert dissolved iron to iron hydroxide precipitate;

- Added ultrafiltration to remove iron-hydroxide precipitate and other solids;

- Added a breakpoint chlorination process to remove ammonia and dechlorination before discharge to the sedimentation basin;

- Re-routed spring water to the sedimentation basin riser pipe, bypassing the sedimentation basin as described in Fact Sheet section II.B; and

- Added flow monitoring in the spring water pipe, thus providing an accurate measurement of upstream flow. (Previously, both spring water flow and sedimentation basin flow were measured at the weir.)

C. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.

- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD_5, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and the cost effectiveness of additional industrial treatment beyond BPT.

- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

Where U.S. EPA has not yet developed technology-based standards for a particular industry or pollutant, CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of best professional judgment to derive technology-based effluent limits on a case-by-case basis. When best professional judgment is used, the permit must reflect specific factors outlined at

40 C.F.R. section 125.3. The technology-based effluent limits in this Order are based on best professional judgment, except for those based on Basin Plan Table 4-2 as discussed below.

2. Effluent Limitations Derived from Effluent Limitations Guidelines

U.S. EPA has not promulgated technology-based limits and standards (i.e., effluent limitations guidelines [ELGs]) for discharges of treated extracted groundwater associated with landfills. Therefore, the Regional Water Board may establish technology-based effluent limits by best professional judgement under 40 C.F.R. § 125.3(c)(2), because no U.S. EPA-promulgated effluent limits apply to discharges of treated groundwater associated with landfills. U.S. EPA found that such discharges were adequately controlled by corrective actions under Resource Conservation and Recovery Act or state cleanup actions while developing *Effluent Limitations Guidelines for the Landfills Point Source Category* (40 C.F.R. part 445). The Landfills Point Source ELGs are used as guidance in developing the technology-based limits in this Order based on best professional judgment.

The ELGs set forth the following technology-based requirements for pollutants of concern in municipal landfill discharges:

Table F-5. ELGs for Municipal Landfill Discharges

Parameters	Units	Maximum Daily	Maximum Monthly Average
BOD_5	mg/L	140	37
TSS	mg/L	88	27
Ammonia (as N)	mg/L	10	4.9
α-Terpineol	mg/L	0.033	0.016
Benzoic acid	mg/L	0.12	0.071
ρ-cresol	mg/L	0.025	0.014
Phenol	mg/L	0.026	0.015
Zinc	µg/L	200	110
pH	standard units	6.0 – 9.0	

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

a. BOD_5, TSS, and Zinc. This Order establishes the above technology-based limits for BOD_5, TSS, and zinc based on best professional judgement. These pollutants are subject to BPT control (40 C.F.R. § 445.21). BOD_5 and TSS are also subject to BCT control (40 C.F.R. § 445.22). Zinc is also subject to BAT control (40 C.F.R. § 445.23).

b. Ammonia. This Order does not establish the technology-based limitations in Table F-5 for ammonia. The Discharger submitted a report on the feasibility of adding ammonia treatment at the Facility (*Feasibility Study to Remove Ammonia from Groundwater as an Upgrade to the Groundwater Treatment System to Meet Permit Limits*, February 27, 2013) that concluded that adding biological nitrification, ion exchange, or air stripping of ammonia is infeasible. However, the Discharger recently installed ammonia treatment by breakpoint chlorination. Performance data will be evaluated during the next permit reissuance to determine whether this treatment is sufficient to meet technology-based limits derived from the ELGs. At this time, too few ammonia results from Monitoring

Location EFF-001 are available since the new treatment system began operating to conclude that it can reliably comply with limits derived from the ELGs: results range from 0.71 to 12 mg/L ammonia as N. Therefore, this Order imposes water quality-based effluent limits for ammonia (see Fact Sheet § IV.D.4.b).

c. α-Terpineol, Benzoic acid, and ρ-Cresol. This Order does not establish the above technology-based limitations for α-terpineol, benzoic acid, or p- cresol because monitoring has detected none of these pollutants in the discharge. Instead, this Order requires continued monitoring for these pollutants.

d. Phenol. This Order does not establish the above technology-based limitation on phenol because phenol is subject to a more stringent technology-based effluent limit as explained below.

e. pH. This Order does not establish the above technology-based limitation for pH because pH is subject to a more stringent water quality-based effluent limit based on Basin Plan section 3.3.9 (see Fact Sheet § IV.D.4.d).

3. Effluent Limitations Derived from Other Guidance

The Discharger removes benzene, phenol, and vinyl chloride using GAC. Nationwide, U.S. EPA reports that GAC adsorption systems are the most commonly used groundwater treatment method (Virginia State Water Control Board, *USEPA Model General Permit and the Fact Sheet for Permit No. VAG83*, December 1997). GAC can achieve pollutant removal efficiencies between 95 and 99.5 percent for groundwater pump-and-treat waste streams (U.S. EPA, *A Citizen's Guide to Activated Carbon Treatment*, USEPA 542-F-12-001, September 2012). When properly designed and operated, GAC can lower benzene, phenol, and vinyl chloride concentrations to levels below analytical detection limits. Therefore, this Order establishes maximum daily effluent limits for benzene, phenol, and vinyl chloride of 0.50 µg/L, equal to the lowest State Implementation Plan minimum reporting levels for these pollutants, based on best professional judgement. The Discharger's effluent data indicate that it is feasible for its current treatment technology to meet these limits when the Discharger operates its GAC vessels properly. These limits are consistent with those imposed through Order No. R2-2017-0048, the *Volatile Organic Carbons and Fuel General Permit*.

4. Effluent Limitations Based on Basin Plan

a. Oil and Grease. This Order establishes limits of 10 mg/L (average monthly) and 20 mg/L (maximum daily) for oil and grease based on Basin Plan Table 4-2.

b. Chlorine. This Order establishes a limit for total residual chlorine of 0.0 mg/L (instantaneous maximum) based on Basin Plan Table 4-2.

5. Factors Considered for Effluent Limits Established by Best Professional Judgment

Code of Federal Regulations, chapter 40, section 125.3(c)(2)(i) requires that the Regional Water Board consider the appropriate technology for the category or class of point sources of which the applicant is a member and any unique factors relating to the applicant. As

discussed in Fact Sheet section IV.C.2 above, the Discharger is not part of a category or class of point sources for which U.S. EPA has promulgated ELGs. The Discharger does employ appropriate technologies (GAC adsorption and ultrafiltration) commonly used to treat the pollutants for which this Order establishes technology-based effluent limits by best professional judgement.

When using best professional judgment to impose technology-based effluent limitations based on BPT, BCT, and BAT controls, 40 C.F.R. section 125.3(d) requires that the Regional Water Board consider the following factors:

Table F-6. Factors Considered Pursuant to 40 C.F.R. section 125.3(d)

Factors	Considerations
Cost relative to pollution reduction benefits	The cost of imposing these limits is reasonable because the treatment system already exists and does not require upgrades to meet the limits; thus, no capital costs will be incurred. Treatment costs will be limited to those for ongoing operations and maintenance.
Age of equipment and facilities	The 5,000-lb GAC vessels, bag filters, pH control system, and air sparging system have been in place since at least 2011; the ultrafiltration system, and breakpoint chlorination and dechlorination system, were installed in 2017.
Process employed	The existing treatment system employs flow equalization / settling, bag filtration, GAC filtration, sodium hydroxide injection, in-pipe air sparging, ultrafiltration, breakpoint chlorination, and dechlorination to control pH and remove volatile organic compounds, TSS, ammonia, and residual chlorine.
Engineering aspects of various controls	The existing controls are practicable and capable of meeting the imposed limits. GAC filtration to remove volatile organic compounds from extracted groundwater; settling, bag filtration, and ultrafiltration to remove TSS; sodium hydroxide application to control pH; and dechlorination using sodium disulfide are commonly used processes. Breakpoint chlorination to remove ammonia is feasible, while other treatment (e.g., activated sludge) is not. The existing controls also adequately address BOD_5 and zinc.
Process changes	No additional changes are necessary.
Non-water quality environmental impacts	There will be little or no change in non-water quality environmental impacts because energy, chemical, and material requirements will be the same as, or similar to, those of the previous requirements.
Reasonableness of relationship between costs of attaining a reduction in effluent and effluent reduction benefits derived	The cost of imposing these limits is reasonable given that the Discharger can comply without further modifying its treatment processes.
Comparison of cost and pollutant level of reduction of BOD_5 and TSS from the discharge from publicly-owned treatment works to cost and level of reduction of BOD_5 and TSS from landfill-polluted groundwater treatment systems to meet BCT requirements.	The type of treatment (settling, bag filtration, and ultrafiltration) is less costly than the treatment publicly-owned treatment works employ to comply with secondary treatment standards. The required level of pollutant reduction is less than that for secondary treatment standards for publicly-owned treatment works.

Factors	Considerations
The cost of achieving effluent reduction to meet BAT requirements	The cost of attaining the limits on phenol, zinc, and vinyl chloride is reasonable given that the Discharger can meet these limits with the existing treatment system; costs are thus limited to those for ongoing operations and maintenance.

D. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point No. 001 discharges to Corinda Los Trancos Creek. Fact Sheet section III.C.1 identifies the beneficial uses of Corinda Los Trancos Creek. Water quality criteria and objectives to protect these beneficial uses are described below:

a. Basin Plan Objectives. The Basin Plan specifies numerous water quality objectives, such as numeric objectives for 10 priority pollutants, un-ionized ammonia, and temperature, and narrative objectives for toxicity and bioaccumulation. Because Corinda Los Trancos Creek has the MUN beneficial use under State Water Board Resolution No. 88-63 (see Fact Sheet § III.C.1), the maximum contaminant levels (MCLs) in Basin Plan Table 3-5 also apply as water quality objectives.

i. Ammonia. Basin Plan section 3.3.20 contains a water quality objective for un-ionized ammonia of 0.025 mg/L as an annual median for San Francisco Bay Region receiving waters. Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature of the receiving water.

The un-ionized fraction of the total ammonia was calculated using the following equations:

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

Where:

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

The median un-ionized ammonia fraction was then used to express the annual average un-ionized objective as chronic total ammonia criteria. This approach is consistent with U.S. EPA guidance on translating dissolved metal water quality objectives to total recoverable metal water quality criteria (U.S. EPA, 1996, *The Metals Translator: Guidance for Calculating a Total Recoverable Limit form a Dissolved Criterion*, EPA Publication 823-B96-007). The equivalent chronic total ammonia criterion is 3.5 mg/L.

ii. Chronic Toxicity. The narrative toxicity objective (Basin Plan section 3.3.18) 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... . There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Attainment of this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, or toxicity tests…or other methods selected by the Water Board.

This narrative objective is translated into a numeric criterion of 1.0 chronic toxicity unit (TU_c). At 1.0 TU_c, there is no observable detrimental effect when the indicator organism is exposed to 100 percent effluent; therefore, 1.0 TU_c is a direct translation of the narrative objective into a number. Moreover, in U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001; see section 3.3.3, "Step 3: Decision Criteria for Permit Limit Development"), U.S. EPA recommends that 1.0 TU_c be used as a criterion continuous concentration (typically a four-day average). It further states that reasonable potential is shown where an effluent is projected to cause an excursion above the criterion continuous concentration. This document applies here as guidance because it directly addresses effluent characterization for toxicity.

iii. Temperature. Corinda Los Trancos Creek supports warm water and cold water habitat beneficial uses; therefore, the temperature water quality objectives in Basin Plan section 3.3.17 apply:

- The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.

- The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F [degrees Fahrenheit] (2.8°C [degrees Celsius]) above natural receiving water temperature.

b. CTR Criteria. The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of "water and organisms" and others are for consumption of "organisms only." The criteria applicable to "water and organisms" apply to Corinda Los Trancos Creek because its existing beneficial uses include municipal and domestic supply of water.

c. NTR Criteria. The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including the receiving water for this Discharger. The NTR criteria apply to Corinda Los Trancos Creek.

d. Receiving Water Salinity. Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in 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 criteria (the latter calculated based on ambient hardness) for each substance.

Corinda Los Trancos Creek is freshwater based on salinity data collected at Monitoring Location RSW-001 between September 2013 and December 2017. During that period, the average salinity was 0.21 ppt, with a range from 0.17 ppt to 0.28 ppt. Because the salinity was less than 1 ppt in 100 percent of the samples, the reasonable potential analysis and effluent limitations in this Order are based on freshwater water quality objectives.

e. Receiving Water Hardness. Ambient hardness data were used to calculate freshwater water quality objectives that are hardness dependent. A hardness value of 120 mg/L as calcium carbonate was used to determine those objectives. This is the geometric mean hardness value observed at Monitoring Location RSW-001 from September 2013 through December 2017.

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

specific translators can account for site-specific conditions, thereby preventing overly stringent water quality objectives. The Discharger has not developed site-specific translators; therefore, default translators established by U.S. EPA in the CTR at 40 C.F.R. section 131.38(b)(2), Table 2, were used for determining the need for and calculating WQBELs.

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

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

a. Available Information. This Order's reasonable potential analysis is based on effluent monitoring data collected from Monitoring Locations EFF-001 and, for some organic pollutants, EFF-001A and ambient background data collected from Monitoring Location RSW-001. Effluent data collected from November 2017 through April 2018 were used to determine reasonable potential for conventional pollutants and lead and mercury, because the upgraded treatment system, described in Fact Sheet section II.A, began operating in November 2017. Therefore, those data are representative of the Facility's upgraded treatment ability for those pollutants. For phenol, results obtained using U.S. EPA Method 420.1 were excluded because they may include concentrations of phenolic compounds, not phenol. The reasonable potential analysis is based only on phenol results obtained using U.S. EPA Method 8270, collected from December 2015 to April 2018. For other pollutants, including other metals, on which the upgraded treatment system had no apparent effect, effluent data from September 2013 through April 2018 were used.

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

b. Priority and Other Pollutants, Including Ammonia

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

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

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

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

ii. Analysis. The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the analysis are presented in the following table, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. The following table contains the CTR priority pollutants and, when data are available, other pollutants for which water quality objectives exist to protect the municipal supply beneficial use. Reasonable potential was found for ammonia, benzene, copper, cyanide, and total dissolved solids (TDS):

Table F-7. Reasonable Potential Analysis

CTR No.	Pollutant	C or governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
1	Antimony	6.0	0.22	0.34	No
2	Arsenic	10	5.4	0.78	No
3	Beryllium	4.0	<0.14	<0.14	No
4	Cadmium	2.8	<0.11	<0.11	No
5a	Chromium (III)	50	<5.0	<5.0	No
5b	Chromium (VI)	10	<0.031	0.059	No
6	**Copper**	**11**	**17**	**1.1**	**Yes**
7	Lead	4.0	0.10	0.36	No
8	Mercury	0.025	0.0019	0.0045	No
9	Nickel	61	21	1.0	No
10	Selenium	5.0	0.66	0.90	No
11	Silver	5.6	<0.10	<0.10	No
12	Thallium	1.7	<0.10	<0.10	No
13	Zinc	140	14	5.8	No
14	**Cyanide**	**5.2**	**11**	**<1.4**	**Yes**
15	Asbestos (Fibers/L)	7,000,000	<2.0	4.9	No
16	2,3,7,8-TCDD	1.3E-08	<2.3E-07	<1.6E-07	No
17	Acrolein	320	<7.9	<2.0	No
18	Acrylonitrile	0.059	<1.2	<1.2	No
19	**Benzene**	**1.0**	**1.0**	**<0.083**	**Yes**
20	Bromoform	4.3	<0.27	<0.30	No
21	Carbon Tetrachloride	0.25	<0.18	<0.18	No
22	Chlorobenzene	70	<0.093	<0.093	No
23	Chlorodibromomethane	0.40	<0.13	<0.13	No
24	Chloroethane	No Criteria	<0.14	<0.14	U
25	2-Chloroethylvinyl ether	No Criteria	<2.4	<2.4	U
26	Chloroform	0.19	<0.12	<0.12	No
27	Dichlorobromomethane	0.56	<0.14	<0.14	No

CTR No.	Pollutant	C or governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
28	1,1-Dichloroethane	5.0	<0.11	<0.11	No
29	1,2-Dichloroethane	0.38	<0.17	<0.17	No
30	1,1-Dichloroethylene	0.057	<0.18	<0.18	No
31	1,2-Dichloropropane	0.52	<0.13	<0.13	No
32	1,3-Dichloropropylene	0.50	Unavailable	Unavailable	U
33	Ethylbenzene	300	<0.098	<0.098	No
34	Methyl Bromide	48	<0.25	<0.25	No
35	Methyl Chloride	No Criteria	<0.14	<0.14	U
36	Methylene Chloride	4.7	Unavailable	Unavailable	U
37	1,1,2,2-Tetrachloroethane	0.17	Unavailable	Unavailable	U
38	Tetrachloroethylene	0.80	<0.13	<0.13	No
39	Toluene	150	<0.093	0.11	No
40	1,2-Trans-Dichloroethylene	10	Unavailable	Unavailable	U
41	1,1,1-Trichloroethane	200	<0.11	<0.11	No
42	1,1,2-Trichloroethane	0.60	<0.16	<0.16	No
43	Trichloroethylene	2.7	<0.085	<0.085	No
44	Vinyl Chloride	0.50	0.35	<0.12	No
45	2-Chlorophenol	120	<0.65	<0.65	No
46	2,4-Dichlorophenol	93	<0.60	<0.60	No
47	2,4-Dimethylphenol	540	<0.52	<0.52	No
48	2-Methyl- 4,6-Dinitrophenol	13	<2.2	<2.2	No
49	2,4-Dinitrophenol	70	<2.4	<2.4	No
50	2-Nitrophenol	No Criteria	<0.42	<0.42	U
51	4-Nitrophenol	No Criteria	<1.7	<1.7	U
52	3-Methyl 4-Chlorophenol	No Criteria	<0.67	<0.68	U
53	Pentachlorophenol	0.28	<0.45	<0.45	No
54	Phenol	1.0	<0.49	<0.37	No
55	2,4,6-Trichlorophenol	2.1	<0.43	<0.43	No
56	Acenaphthene	1,200	<0.48	<0.48	No
57	Acenaphthylene	No Criteria	<0.64	<0.64	U
58	Anthracene	9,600	<0.79	<0.79	No
59	Benzidine	0.00012	<2.7 [4]	<2.7	No
60	Benzo(a)Anthracene	0.0044	<0.52 [4]	<0.52	No
61	Benzo(a)Pyrene	0.0044	<0.73 [4]	<0.73	No
62	Benzo(b)Fluoranthene	0.0044	<0.66 [4]	<0.66	No
63	Benzo(ghi)Perylene	No Criteria	<0.94	<0.94	U
64	Benzo(k)Fluoranthene	0.0044	<0.80 [4]	<0.80	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.58	<0.58	U
66	Bis(2-Chloroethyl)Ether	0.031	<0.52	<0.52	No
67	Bis(2-Chloroisopropyl)Ether	1,400	<0.73	<0.73	No
68	Bis(2-Ethylhexyl)Phthalate	1.8	<1.1	<1.1	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<0.69	<0.69	U
70	Butylbenzyl Phthalate	3,000	<0.59	<0.59	No

CTR No.	Pollutant	C or governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
71	2-Chloronaphthalene	1,700	<0.50	<0.50	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<0.68	<0.68	U
73	Chrysene	0.0044	<0.73 [4]	<0.73	No
74	Dibenzo(a,h)Anthracene	0.0044	<0.92 [4]	<0.92	No
75	1,2-Dichlorobenzene	600	<0.58	<0.58	No
76	1,3-Dichlorobenzene	400	<0.66	<0.66	No
77	1,4-Dichlorobenzene	5.0	<0.53	<0.53	No
78	3,3 Dichlorobenzidine	0.040	<0.88 [4]	<0.88	No
79	Diethyl Phthalate	23,000	<0.85	<0.85	No
80	Dimethyl Phthalate	313,000	<0.55	<0.55	No
81	Di-n-Butyl Phthalate	2,700	<0.74	<0.74	No
82	2,4-Dinitrotoluene	0.11	<0.99 [4]	<0.99	No
83	2,6-Dinitrotoluene	No Criteria	<0.74	<0.74	U
84	Di-n-Octyl Phthalate	No Criteria	<0.85	<0.85	U
85	1,2-Diphenyhydrazine	0.040	<0.70 [4]	<0.70	No
86	Fluoranthene	300	<0.70	<0.70	No
87	Fluorene	1,300	<0.73	<0.73	No
88	Hexachlorobenzene	0.00075	<0.71	<0.71	No
89	Hexachlorobutadiene	0.44	<0.59 [4]	<0.59	No
90	Hexachlorocyclopentadiene	50	<0.26	<0.30	No
91	Hexachloroethane	1.9	<0.52	<0.52	No
92	Indeno(1,2,3-cd)Pyrene	0.0044	<0.92	<0.92	No
93	Isophorone	8.4	<0.51	<0.51	No
94	Naphthalene	No Criteria	<0.62	<0.62	U
95	Nitrobenzene	17	<0.55	<0.55	No
96	N-Nitrosodimethylamine	0.00069	<0.45	<0.45	No
97	N-Nitrosodi-n-Propylamine	0.0050	<0.59	<0.59	No
98	N-Nitrosodiphenylamine	5.0	<0.80	<0.80	No
99	Phenanthrene	No Criteria	<0.60	<0.60	U
100	Pyrene	960	<0.62	0.90	No
101	1,2,4-Trichlorobenzene	5.0	<0.67	<0.67	No
102	Aldrin	0.00013	<0.80 [4]	<0.80	No
103	Alpha-BHC	0.0039	<0.50 [4]	<0.50	No
104	Beta-BHC	0.014	<0.48 [4]	<0.48	No
105	Gamma-BHC	0.019	<0.56 [4]	<0.56	No
106	Delta-BHC	No Criteria	<0.60	<0.60	U
107	Chlordane	0.00057	<0.15 [4]	<0.048	No
108	4,4'-DDT	0.00059	<0.27 [4]	<0.27	No
109	4,4'-DDE	0.00059	<0.58 [4]	<0.58	No
110	4,4'-DDD	0.00083	<0.50 [4]	<0.50	No
111	Dieldrin	0.00014	<0.52 [4]	<0.52	No
112	Alpha-Endosulfan	0.056	<0.0024	Unavailable	U
113	beta-Endosulfan	0.056	<0.0030	Unavailable	U

CTR No.	Pollutant	C or governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) [1][2]	B or Minimum DL (µg/L) [1][2]	RPA Results [3]
114	Endosulfan Sulfate	110	<0.58	<0.58	No
115	Endrin	0.036	<0.54 [4]	<0.54	No
116	Endrin Aldehyde	0.76	<0.86 [4]	<0.86	No
117	Heptachlor	0.00021	<0.60 [4]	<0.60	No
118	Heptachlor Epoxide	0.00010	<0.63 [4]	<0.63	No
119-125	PCBs sum	0.00017	<0.048	<0.10	No
126	Toxaphene	0.00020	<0.20	<0.20	No
	Tributyltin	0.0072	<0.0050	<0.0050	No
	Ammonia, Total as N (mg/L)	**3.5**	**12**	**Unavailable**	**Yes**
	Total Dissolved Solids (mg/L)	**1,000**	**2,700**	**Unavailable**	**Yes**
	Electrical Conductivity (mmhos/cm)	1,600	4.1	0.485	No
	Asbestos (million fibers per liter)	7.0	<2.0	490	No
	Nitrate + Nitrite (as N) (mg/L)	10	1.4	Unavailable	U
	Nitrite (as N) (mg/L)	1.0	0.68	Unavailable	No
	Sulfate (mg/L)	500	Unavailable	Unavailable	U
	Oil & Grease	No Criteria	2.1	Unavailable	U
	Trihalomethanes	100	<0.13	<0.13	U
	Methoxychlor	30	<0.0038	<0.0011	U

Abbreviations:

B = background concentration
C = water quality criterion or objective
DL = detection level
MEC = maximum effluent concentration
µg/L = micrograms per liter
mg/L = milligrams per liter
RPA = reasonable potential analysis

Footnotes:

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

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

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

[4] Per SIP § 1,3, a water quality-based effluent limit is not required for a pollutant that is not detected in the effluent but has a detection level exceeding the water quality objective if that pollutant is also not detected in the receiving water.

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

d. Chronic Toxicity. There is no reasonable potential for the discharge to cause or contribute to exceedances of the chronic toxicity water quality objective. The previous order required quarterly chronic toxicity monitoring using the fathead minnow (*Pimephales promelas*). From December 2013 through April 2018, the Discharger

reported that no chronic toxicity results exceeded the numeric criterion of 1.0 TU_c. This Order requires chronic toxicity monitoring (see Fact Sheet § VII.A.3).

e. Temperature. Temperature data collected upstream and downstream of the discharge are insufficient to determine reasonable potential for the discharge to cause or contribute to exceedances of Basin Plan water quality objectives for temperature. This Order therefore does not establish an effluent limit for temperature and instead requires a temperature study (see Provision VI.C.5).

Based on available data, the temperature at Monitoring Location EFF-001 typically exceeds the temperatures upstream (at Monitoring Location RSW-001) and downstream (at Monitoring Location RSW-002) of the discharge. The temperature at Monitoring Location RSW-001 typically exceeds the temperature at Monitoring Location RSW-002. On average, the receiving water temperature appears to increase about 3.2°C. However, the extent to which the discharge, versus other factors (e.g., natural variation), causes or contributes to the temperature increase is unknown. This Order requires a temperature study to obtain sufficient information to complete a reasonable potential analysis and, if necessary, to evaluate methods to control discharge temperature.

f. pH. There is reasonable potential for this discharge to cause or contribute to exceedances of the water quality objective for pH (Basin Plan § 3.3.9), because treatment system influent pH is frequently less than or equal to 6.5, and treatment is needed to achieve the water quality objectives. Moreover, the Discharge once exceeded the pH objective of 8.5 in April 2015.

4. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. Except for acute toxicity (discussed below), the WQBELs in this Order are based on the procedure specified in SIP section 1.4, which is required for priority pollutants. SIP section 1.4 is used as guidance for other pollutants.

a. Mixing Zones and Dilution Credits. This Order grants mixing zones for ammonia, copper, cyanide, and TDS in accordance with SIP section 1.4.2.2. The SIP defines a completely mixed discharge as one where no more than a 5 percent difference in the concentration of a pollutant exists across a transect of the receiving water at a point within two stream or river widths from the discharge point. At spring water flow and discharge effluent discharge rates such as those prevailing during the mixing zone study described below, mixing would have to be rapid for this discharge to be completely mixed. Because the discharge point does not have a diffuser or other structure that would promote rapid mixing, the discharge is incompletely mixed. This Order satisfies Basin Plan section 4.6.1.2 conditions for granting dilution credits for incompletely mixed shallow-water discharges through Provision VI.C.3 (Pollutant Minimization Program), MRP section VI (Receiving Water Monitoring Requirements) and the mixing zone analysis below.

The Discharger completed a mixing zone study (*NPDES Permit Reissuance Program Mixing Zone Study Final Report*, Geo-Logic Associates, April 2018) as part of its permit reissuance application. The mixing zone study consisted of a tracer study on discharges from the treatment system to the creek, conducted on January 24, 2018, with tracer concentrations and water quality data collected at Monitoring Location EFF-001 and several locations through the sedimentation basin, flow measurement weir, and downstream Corinda Los Trancos Creek. Based on data provided in the Mixing Zone Study, a mixing zone extending 400 feet downstream from Discharge Point No. 001 (the riser pipe) would correspond to a dilution ratio of at least 4.4:1. Such a mixing zone would extend 200 feet below the flow measurement weir. The actual dilution would be considerably greater during wet weather, when most discharges occur, because higher creek flows would cause more flushing and mixing.

Ammonia, copper, cyanide, and TDS mixing zones extending as far downstream as 400 feet from Discharge Point No. 001 (200 feet from the flow measurement weir) would meet SIP section 1.4.2.2.A requirements because they do the following:

i. **Maintain the integrity of the entire water body.** The mixing zones would be small relative to size of Corinda Los Trancos Creek and would not compromise the integrity of the entire water body. A 400-foot distance from Discharge Point No. 001 (200 feet from the weir) is a relatively small fraction of the approximately 5,000-foot length of Corinda Los Trancos Creek before its confluence with Pilarcitos Creek.

ii. **Prevent acutely toxic conditions to aquatic life passing through the mixing zones.** Ammonia, copper, cyanide, and TDS would not cause acutely toxic conditions inside the mixing zones. Acute toxicity bioassays of the discharge have detected no acutely toxic effects, with survival of 90 to 100 percent of test organisms. Furthermore, the maximum effluent concentrations for copper and cyanide do not exceed their acute criterions, while TDS is non-toxic, and ammonia degrades rapidly in the receiving water.

iii. **Allow passage of aquatic life.** The mixing zones would not interfere with the movement of aquatic species or restrict the passage of aquatic life because they would not create a zone of acute toxicity or other objectionable water quality condition that aquatic life would avoid. As noted above, bioassay results show the discharge is not acutely toxic.

iv. **Protect biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws.** The Basin Plan establishes preservation of rare or endangered species (RARE) as a beneficial use of Corinda Los Trancos Creek. The mixing zones would not adversely affect biologically sensitive or critical habitats because no biologically sensitive or critical habitats are known to be located within the mixing zones. The mixing zones would extend 400 feet from Discharge Point No. 001 (i.e., though the 200-foot discharge culvert and 200 feet downstream from the weir). The concrete discharge structure extends 150 feet downstream from the weir. Thus, the culvert and concrete discharge structure would account for the first 350 feet of the mixing zones; these structures have no biologically sensitive or critical habitats. The bioassessment

required by the previous order (*Field Monitoring Report, Ox Mountain Landfill, Bioassessment and Physical Habitat Monitoring*, Applied Marine Sciences, October 13, 2017) evaluated an approximately 330-foot reach of the natural Corinda Los Trancos Creek channel, including the remaining 50 feet of the mixing zones below the concrete discharge structure. The biologists conducting the bioassessment reported no sensitive or critical habitats. (The bioassessment report findings are discussed further in Fact Sheet § VI.C.4.) Furthermore, based on acute and chronic bioassay results, the discharge would not create a zone of acute or chronic toxicity or otherwise impact the RARE beneficial use.

v. **Prevent undesirable or nuisance aquatic life.** The mixing zones would not produce undesirable or nuisance aquatic life, because the discharge of nutrients (including ammonia) has not caused undesirable or nuisance aquatic life thus far, and existing discharges are not expected to increase. Intermittent ammonia discharges during wet weather cannot support or sustain algal growth or other nuisance aquatic life due to their brief and infrequent nature. Copper, cyanide, and TDS are not nutrients; therefore, they cannot contribute to undesirable or nuisance aquatic life. Furthermore, this Order imposes receiving water limitations that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

vi. **Prevent floating debris, or scum.** The mixing zones would not result in floating debris, oil, or scum because the treatment system removes debris, oil, and scum. Furthermore, section V.A of this Order imposes receiving water limits that prohibit floating debris, oil, and scum caused by the discharge at any place or time.

vii. **Prevent objectionable color, odor, taste, or turbidity.** The mixing zones would not produce objectionable color, odor, taste, or turbidity because the discharge does not contain ammonia, copper, or cyanide in concentrations that would cause such effects; any such effects from TDS would be restricted to well within its mixing zone. The break-point chlorination treatment unit removes ammonia, and treatment system effluent does not contain copper or cyanide above the drinking water maximum contaminant levels (reasonable potential for those pollutants is based on aquatic toxicity). Any color, odor, taste, or turbidity would be restricted to within the mixing zones, which would be larger than necessary, particularly for copper, cyanide, and TDS, as described below. In addition, no drinking water intakes would be in or near the mixing zones, and significant dilution, including of TDS, would occur in the discharge culvert and creek. Furthermore, the receiving water limits imposed by section V.A of this Order prohibit alteration of color and turbidity in receiving waters beyond natural background levels; the Discharger has not observed objectionable color, odor, taste or turbidity resulting from the discharge. Based on this Order's requirements and the Discharger's ability to operate the treatment system in compliance with this Order, discharge of ammonia, copper, cyanide, and TDS in amounts that would cause objectionable color, odor, taste, or turbidity is not expected.

viii. **Prevent objectionable bottom deposits.** The mixing zones would not cause objectionable bottom deposits because the treatment system removes suspended particles that could contribute to receiving water bottom deposits; the ultrafiltration

step of the treatment system further reduces suspended solids. In addition, section V.A of this Order imposes receiving water limits that prohibit bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

ix. **Do not dominate the receiving water or overlap a mixing zone from a different outfall.** The mixing zones would not dominate the receiving water because they are small compared to the approximately 5,000-foot length of Corinda Los Trancos Creek below the discharge point. The mixing zones would not overlap a mixing zone from another outfall because the Regional Water Board has not granted any other mixing zones in Corinda Los Trancos Creek. Furthermore, the mixing zones do not account for the additional stormwater discharge from the sedimentation basin; they are based only on dilution occurring due to upstream base flows.

x. **Do not exist near any drinking water intake.** Although Corinda Los Trancos Creek is considered a potential source of drinking water pursuant to State Water Board Resolution No. 88-63, the mixing zones would not be located at or near any existing or proposed drinking water intake.

SIP section 1.4.2.2.B calls for mixing zones to protect beneficial uses. The mixing zones described above would protect beneficial uses because ammonia, cyanide, and TDS are not carcinogenic, mutagenic, teratogenic, persistent, or bioaccumulative. Copper, while persistent, is not carcinogenic, mutagenic, teratogenic, or bioaccumulative and would not persist in concentrations impacting beneficial uses, because downstream concentrations beyond the mixing zone would meet the copper water quality objectives.

SIP section 1.4.2.2 requires that mixing zones be as small as practicable. Mixing zones extending 400 feet downstream from Discharge Point No. 001 (200 feet downstream of the flow measurement weir) would correspond to a dilution ratio of 4.4:1 (D=3.4). However, if the Discharger can comply with limits based on less dilution, then smaller mixing zones are practicable. Monitoring data show that the Discharger can comply with smaller mixing zones for ammonia, copper, cyanide, and TDS. Therefore, measured from Discharge Point No. 001, this Order establishes a 345-foot length mixing zone for ammonia, a 260-foot length mixing zone for copper and TDS, and a 25-foot mixing zone for cyanide. These mixing zones correspond to dilution ratios of 4:1 (D=3) for ammonia, 3:1 (D=2) for copper and TDS, and 2:1 (D=1) for cyanide.

b. WQBEL Calculations. For those pollutants with reasonable potential, average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were calculated as shown in the table below. This Order does not impose the WQBEL for benzene because it instead imposes the more stringent technology-based limit discussed in Fact Sheet section IV.C.3.

Table F-8. WQBEL Calculations

PRIORITY POLLUTANTS	Copper	Cyanide	Benzene	Ammonia	Total Dissolved Solids (TDS)
Units	**µg/L**	**µg/L**	**µg/L**	**mg/L**	**mg/L**
Basis and Criteria type	CTR Criterion	CTR Criterion	Title 22 Primary MCLs	Basin Plan Aquatic Life	Title 22 Primary MCLs
Criteria -Acute	17	22	---	----	-----
Criteria -Chronic	11	5.2	---	3.5	-----
SSO Criteria -Acute	---	---	---	---	-----
SSO Criteria -Chronic	---	---	---	---	-----
Water Effects ratio (WER)	1	1	1	1	1
Lowest WQO	11	5.2	1.0	3.5	1,000
Site Specific Translator – MDEL	---	---	---	---	-----
Site Specific Translator – AMEL	---	---	---	---	-----
Dilution Factor (D) (if applicable)	2	1	0	3	2
No. of samples per month	4	4	4	30	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	Y	N
HH criteria analysis required? (Y/N)	Y	Y	Y	N	Y
Applicable Acute WQO	17	22	---	---	-----
Applicable Chronic WQO	11	5.2	---	3.5	-----
HH criteria	1,300	700	1.0	---	1,000
Background (Maximum Conc for Aquatic Life calc)	1.1	1.4	---	0.037	----
Background (Average Conc for Human Health calc)	1.1	1.9	---	---	0.32
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N	N
ECA acute	48	43	---	No Acute WQO	-----
ECA chronic	31	9.0	---	14	-----
ECA HH	3,900	1,400	1.0	---	3,000
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	Y	N	N	Y	N
Avg of effluent data points	17	2.5	0.22	6.8	1,400
Std Dev of effluent data points	N/A	2.5	0.35	5.7	700
CV calculated	N/A	1.0	1.6	N/A	0.49
CV (Selected) - Final	0.60	1.0	1.6	0.60	0.49
ECA acute mult99	0.32	0.21	---	0.32	---
ECA chronic mult99	0.53	0.38	---	0.93	---
LTA acute	15	8.8	---	-----	---
LTA chronic	16	3.4	---	13	---
minimum of LTAs	15	3.4	---	13	---

PRIORITY POLLUTANTS	Copper	Cyanide	Benzene	Ammonia	Total Dissolved Solids (TDS)
Units	µg/L	µg/L	µg/L	mg/L	mg/L
AMEL mult95	1.6	1.9	2.5	1.2	1.4
MDEL mult99	3.1	4.9	7.2	3.1	2.6
AMEL (aq life)	24	6.5	---	15	---
MDEL (aq life)	48	16	---	40	---
MDEL/AMEL Multiplier	2.0	2.5	2.9	2.6	1.8
AMEL (human hlth)	3,900	1,400	1.0	---	3,000
MDEL (human hlth)	7,800	3,500	2.9	---	5,500
minimum of AMEL for Aq. life vs HH	24	6.5	1.0	15	3,000
minimum of MDEL for Aq. Life vs HH	48	16	2.9	40	5,500
Previous order limit (30-day average)	---	4.3	---	16	-----
Previous order limit (daily)	---	5.2	1.0	44	-----
Final limit - AMEL	**24**	**4.3**	**---**	**15**	**3,000**
Final limit - MDEL	**48**	**5.2**	**1.0**	**40**	**5,500**

c. Acute Toxicity. This Order includes acute toxicity effluent limitations based on Basin Plan Table 4-3. Based on Basin Plan section 3.3.20, if the Discharger can demonstrate that ammonia causes acute toxicity exceeding the acute toxicity limitations in this Order, and that the ammonia in the discharge complies with the ammonia effluent limitations in this Order, then such toxicity does not constitute a violation of the effluent limitations for whole effluent acute toxicity.

d. pH. This Order imposes water quality-based pH effluent limits of 6.5 (minimum) and 8.5 (maximum) pursuant to Basin Plan Table 4-2 (for shallow-water discharges from all treatment facilities). This limit is more stringent than a technology-based limit based on the ELGs would be (see Fact Sheet § IV.C.2.e).

E. Discharge Requirement Considerations

1. Anti-backsliding. This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4), and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous order. The requirements of this Order are at least as stringent as those in the previous order, except for the lead, mercury, selenium, and settleable matter effluent limits. Data for lead, mercury, and selenium no longer indicate reasonable potential to cause or contribute to an exceedance of water quality objectives. This Order, therefore, does not retain those limitations, which is consistent with State Water Board Order No. WQ 2001-16. The previous order also contained technology-based effluent limits for settleable matter. This Order does not retain those limits because the Discharger did not detect settleable matter in effluent over the previous order term.

2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. It continues the status quo with respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for a reduced level of treatment or increased volume of discharge, nor does it increase effluent limitations relative to the previous order.

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

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

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G contains standard provisions that supplement the federal standard provisions in Attachment D. This Order omits the federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the

State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

B. Monitoring and Reporting

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VII.

C. Special Provisions

1. Reopener Provisions

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

2. Effluent Characterization and Report

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the MRP and Attachment G. Monitoring data are necessary to verify that the "no" and "unknown" reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to 40 C.F.R. section 122.41(h) and Water Code section 13267. It is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

3. Pollutant Minimization Program

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

4. Bioassessment Monitoring Report

This provision is required to verify the appropriateness of the mixing zones and dilution credits granted in this Order for ammonia, copper, and cyanide and to confirm that the mixing zones meet the conditions of SIP section 1.4.2.2.A and B. Specifically, the bioassessment is to confirm that biologically sensitive or critical habitats are not adversely affected by the discharge and that the beneficial uses of Corinda Los Trancos Creek are protected.

The bioassessment report required by the previous order (Applied Marine Sciences, October 13, 2017) evaluated a reach of Corinda Los Trancos Creek that included those parts of the previous order's mixing zones that extended into the natural creek channel. The report

concluded that the impacts observed – a streambed with a shallow slope dominated by fine particles and a biological community adapted to a significantly altered habitat – were likely caused by a grade control structure downstream of the mixing zones rather than by the discharge. The report recommended bioassessment of a reach of Corinda Los Trancos Creek below the grade control structure for comparison. If conditions below the grade control structure improve as the proportion of finer particles in the streambed drops, that would confirm the impacts are due to the grade control structure, and no further investigation would be warranted.

5. Corinda Los Trancos Creek Temperature Study

This provision is required to assess whether the discharge from Discharge Point No. 001 increases the receiving water temperature above the water quality objective in Basin Plan section 3.3.17: "The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature." This provision also ensures that temperature data collected under this Order will be sufficient to update this Order's reasonable potential analysis for temperature (see Fact Sheet § IV.D.3.e).

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

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

A. MRP Requirements Rationale

1. **Influent Monitoring.** Influent monitoring is necessary to understand Facility operations and to evaluate compliance with Prohibition III.C. Monitoring for influent TDS, pH, temperature, copper, cyanide, benzene, phenol, vinyl chloride, ammonia, and priority pollutants is needed to characterize the influent wastewater and detect changes in influent quality, including concentrations of limited pollutants.

2. **Effluent Monitoring.** Table E-3 requires effluent monitoring for most priority pollutants and drinking water pollutants at Monitoring Location EFF-001. This monitoring is necessary to evaluate compliance with this Order's WQBELs and to conduct future reasonable potential analyses. Table E-4 requires monitoring at Monitoring Location EFF-001A for pollutants to be removed by the GAC vessels. This monitoring is necessary to evaluate compliance with this Order's technology-based effluent limits.

3. **Toxicity Testing**. Acute and chronic toxicity tests at Monitoring Location EFF-001 are necessary to conduct future reasonable potential analyses. Acute toxicity tests are also necessary to evaluate compliance with this Order's effluent limitations. Chronic toxicity tests are also necessary to evaluate whether chronic toxicity exceeds the trigger for accelerated monitoring and Toxicity Reduction Evaluations based on Basin Plan sections 4.5.5.3.2 and 4.5.5.3.3 and Basin Plan Table 4-5.

4. **Receiving Water Monitoring.** Receiving water monitoring is necessary to evaluate compliance with this Order's receiving water limitations, provide data for reasonable

potential analyses, evaluate possible impacts to beneficial uses, and characterize the receiving water:

- Background receiving water monitoring at Monitoring Location RSW-001 is necessary to provide background data for reasonable potential analyses and characterize the receiving water prior to any impact from the discharge.

- Downstream receiving water monitoring at Monitoring Location RSW-002 is necessary to confirm that the total ammonia limits are protective of the Basin Plan water quality objective for un-ionized ammonia; understand receiving water flows; confirm that the mixing zones and dilution granted by this Order are protective of beneficial uses; and evaluate compliance with this Order's receiving water limitations.

- Far-field receiving water monitoring at Monitoring Location RSW-003 is necessary to determine if the discharge has any far-field impacts and to characterize natural downstream receiving water conditions.

5. **Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program. The program annually evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories. There are two options to comply: (1) dischargers can obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, dischargers can submit results from the most recent Water Pollution Performance Evaluation Study. Dischargers must submit results annually to the State Water Board, which then forwards the results to U.S. EPA.

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

Table F-9. Monitoring Requirements Summary

Parameter	Influent INF-001	Effluent EFF-001 and/or EFF-001A	Receiving Water RSW-001	Receiving Water RSW-002 and -003
Flow	---	Continuous/D [1]	Continuous/D	---
BOD_5	---	1/Quarter	---	---
COD	---	1/Quarter	---	---
TSS	---	1/Quarter	---	---
TDS	2/Year	1/Quarter	1/Quarter	2/Year
Oil and Grease	---	1/Quarter	---	---
pH	2/Year	1/Quarter [2]	1/Quarter [2]	1/Quarter [2]
Dissolved Oxygen	---	---	1/Quarter	2/Year
Temperature	2/Year	1/Quarter	1/Quarter	1/Quarter
Nitrite	---	1/Quarter	---	---
Nitrate	---	1/Quarter	---	---
Hardness as $CaCO_3$	---	1/Quarter	1/Quarter	2/Year
Copper, Total	2/Year	1/Quarter	---	---

Parameter	Influent INF-001	Effluent EFF-001 and/or EFF-001A	Receiving Water RSW-001	Receiving Water RSW-002 and -003
Cyanide, Total	2/Year	1/Quarter	---	---
Zinc	---	1/Year	---	---
Acute Toxicity	---	1/Quarter	---	---
Chronic Toxicity	---	1/Quarter	---	---
α-Terpineol	---	1/Year [3]	---	---
Ammonia, Total	2/Year	1/Quarter	1/Quarter	1/Quarter
Benzene	2/Year	1/Quarter [3]	---	---
Benzoic acid	---	1/Year [3]	---	---
Chlorine, Total Residual	---	1/Week [4]	---	---
ρ-cresol	---	1/Year [3]	---	---
Phenol	---	1/Year [3]	---	---
Total Sulfides	---	---	1/Quarter	2/Year
Vinyl Chloride	2/Year	1/Quarter [3]	---	---
Remaining Priority and Other Pollutants [5]	Once	1/Year	1/Year	1/Year
Standard Observations	---	---	1/Quarter	1/Quarter

Sampling Frequencies:

Continuous/D = measured continuously, and recorded and reported daily
1/Week = once per week
1/Quarter = once per quarter
1/Year = once per year
2/Year = twice per year
Once = once per permit term

Footnotes:

[1] To be monitored at both Monitoring Locations EFF-001 and EFF-001A.

[2] If pH is monitored continuously, the minimum, maximum, and average pH for each day is to be reported in self-monitoring reports.

[3] To be monitored at Monitoring Location EFF-001A.

[4] The Discharger may reduce this frequency to once per month when discharge to Corinda Los Trancos Creek is not occurring.

[5] The Discharger shall monitor for the pollutants listed in Attachment G, Table B, and Basin Plan, Table 3-5, except for color, odor, corrosivity, oil and grease, and radionuclides.

VIII. PUBLIC PARTICIPATION

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

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

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted

either in person or by mail to the Executive Officer at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of John Madigan.

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 **October 22, 2018**.

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: **November 14, 2018**
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: John Madigan, (510) 622-2405, John.Madigan@waterboards.ca.gov

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

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

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

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

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

E. Information and Copying. The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m. (except noon to 1:00 p.m.), Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.

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

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

ATTACHMENT G

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

November 2017

Contents

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS

APPLICABILITY

This document supplements the requirements of Federal Standard Provisions (Attachment D). For clarity, these provisions are arranged using to the same headings as those used in 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 – Supplement to Attachment D, Provision I.C.

1. **Contingency Plan**. The Discharger shall maintain a Contingency Plan as prudent in accordance with current 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 (see Provision I.C.2, below) into one document. In accordance with Regional Water Board Resolution No. 74-10, discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below may 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, provide for the following:

   a. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;

   b. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;

   c. Emergency standby power;

   d. Protection against vandalism;

   e. Expeditious action to repair failures of, or damage to, equipment, including any sewer lines;

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

   g. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.

2. **Spill Prevention Plan.** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and to minimize the effects of any such discharges. The Spill Prevention Plan shall do the following:

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

   b. State when current facilities and procedures became operational and evaluate their effectiveness; and

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

D. Proper Operation and Maintenance – Supplement to Attachment D, Provision I.D

1. **Operation and Maintenance Manual.** The Discharger shall maintain an Operation and Maintenance 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 Operation and Maintenance Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The Operation and Maintenance 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 maintain a Wastewater Facilities Status Report and regularly review, revise, or update it, as necessary. 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 Title 23, section 3680, 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 – Addition to 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. 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 shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – Supplement to Attachment D, Provisions III.A and III.B

1. 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. Minimum Levels. For the 126 priority pollutants, the Discharger should use the analytical methods listed in Table B unless the Monitoring and Reporting Program (MRP, Attachment E) requires a particular method or minimum level (ML). All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Monitoring Frequency. The MRP specifies the minimum sampling and analysis schedule.

a. Sample Collection Timing

i. The Discharger shall collect influent samples on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative influent sampling plan if it is representative of plant influent and complies with all other permit requirements.

ii. The Discharger shall collect effluent samples on days coincident with influent sampling, unless otherwise stipulated by the MRP. If influent sampling is not required, the Discharger shall collect effluent samples on varying days selected at random, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative effluent sampling plan if it is representative of plant discharge and in compliance with all other permit requirements.

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

iv. Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay the MRP requires. During the course of the bioassay, on at

least one day, the Discharger shall collect and retain samples of the discharge. In the event that a bioassay result does not comply with effluent limitations, the Discharger shall analyze the retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limitations.

(a) The Discharger shall perform bioassays on final effluent samples; when chlorine is used for disinfection, bioassays shall be performed on effluent after chlorination and dechlorination; and

(b) The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet effluent limitations.

b. Conditions Triggering Accelerated Monitoring

i. Average Monthly Effluent Limitation Exceedance. If the results from two consecutive samples of a constituent monitored in a particular month exceed the average monthly effluent limitation for any parameter (or if the required sampling frequency is once per month or less and the monthly sample exceeds the average monthly effluent limitation), 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 complies with the average monthly effluent limitation.

ii. Maximum Daily Effluent Limitation Exceedance. If a sample result exceeds a maximum daily effluent limitation, the Discharger shall, within 24 hours after the result is received, increase its sampling frequency to daily until the results from two samples collected on consecutive days show compliance with the maximum daily effluent limitation.

iii. Acute Toxicity. If final or intermediate results of an acute bioassay indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay is less than 70 percent), the Discharger shall initiate a new test as soon as practical or as described in applicable State Water Board plan provisions that become effective after adoption of these Regional Standard Provisions. The Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report.

iv. Chlorine. 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 limitation is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring.

v. Bypass. Except as indicated below, if a Discharger bypasses any portion of its treatment facility, it shall monitor flows and collect samples at affected discharge points and analyze samples for all constituents with effluent limitations on a daily basis for the duration of the bypass. The Discharger need not accelerate chronic toxicity monitoring. The Discharger also need not collect and analyze samples for mercury, dioxin-TEQ, and PCBs after the first day of the bypass. The Discharger may satisfy the accelerated acute toxicity monitoring requirement by conducting a

flow-through test or static renewal test that captures the duration of the bypass (regardless of the method specified in the MRP). If bypassing disinfection units only, the Discharger shall only monitor bacteria indicators daily.

(a) Bypass for Essential Maintenance. If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section I.G.2, the Executive Officer may reduce the accelerated monitoring requirements above if the Discharger (i) monitors effluent at affected discharge points on the first day of the bypass for all constituents with effluent limitations, except chronic toxicity; and (ii) identifies and implements measures to ensure that the bypass will continue to comply with effluent limitations.

(b) Approved Wet Weather Bypasses. If a Discharger bypasses a treatment unit or permitted outfall during wet weather with Executive Officer approval pursuant to Attachment D section I.G.4, the Discharger shall monitor flows and collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze daily for TSS using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limitations using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze daily the retained samples for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

B. Standard Observations – Addition to Attachment D

1. **Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. 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 —** color, source, and size of affected area.
   c. **Odor —** presence or absence, characterization, source, and distance of travel.
   d. **Beneficial Water Use —** estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.
   e. **Hydrographic Condition —** time and height of high and low tides (corrected to nearest National Oceanic and Atmospheric Administrativeistration location for the sampling date and time).
   f. **Weather Conditions —** wind direction, air temperature, and total precipitation during five days prior to observation.

2. **Wastewater Effluent Observations.** The following requirements only apply when the MRP requires standard observations of wastewater effluent. Standard observations shall include the following:

a. Floating and Suspended Material of Wastewater Origin (e.g., oil, grease, algae, and other microscopic particulate matter) **—** presence or absence.

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

3. Beach and Shoreline Observations. The following requirements only apply when the MRP requires standard observations of beaches or shorelines. 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 of number of people participating in recreational water contact, non-water contact, and fishing activities.

4. Waste Treatment and/or Disposal Facility Periphery Observations. The following requirements only apply when the MRP requires standard observations of the periphery of waste treatment or disposal facilities. 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 – Supplement to Attachment D, Provision IV.A

The Discharger shall maintain records in a manner and at a location (e.g., the wastewater treatment plant or the Discharger's offices) such that the records are accessible to Regional Water Board staff. The minimum retention period specified in Attachment D, Provision IV, shall be extended during the course of any unresolved litigation regarding permit-related discharges, or when requested by Regional Water Board or U.S. EPA, Region IX, staff.

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 – Supplement to Attachment D, Provision IV.B

Monitoring records shall include the following:

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

2. Disinfection Process. For the disinfection process, records shall include the following:

a. For bacteriological analyses:

i. Wastewater flow rate at the time of sample collection; and

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

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

i. Chlorine residual of treated wastewater as it enters the chlorine contact basin (mg/L);
ii. Chlorine dosage (kg/day); and
iii. Dechlorination chemical dosage (kg/day).

3. **Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

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

4. **Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:

a. Chronological log of treatment process bypasses;

b. Identification of treatment processes bypassed;

c. Beginning and ending dates and times of bypasses;

d. Bypass durations;

e. Estimated bypass volumes; and

f. Description of, or reference to other reports describing, the bypasses, their cause, the corrective actions taken (except for wet weather blending explicitly approved within the permit and in compliance with any related permit conditions), and any additional monitoring conducted.

5. **Treatment Plant Overflows.** The Discharger shall retain a chronological log of overflows at the treatment plant, including the headworks and all units and appurtenances downstream, and records supporting the information provided in accordance with Provision V.E.2, below.

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 – Supplement to Attachment D, Provision V.C

1. **Self-Monitoring Reports.** For each reporting period established in the MRP, the Discharger shall submit a self-monitoring report to the Regional Water Board in accordance with the requirements listed in the MRP and below:

   a. **Transmittal Letter.** Each self-monitoring report shall be submitted with a transmittal letter that includes the following:

      i. Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;
      ii. Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;
      iii. Causes of the violations;
      iv. Corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedules for implementation (the Discharger may refer to previously submitted reports that address the corrective actions);
      v. Explanation for any data invalidation. Data should not be submitted in a self-monitoring report if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate a measurement after submitting it in a self-monitoring report, the Discharger 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. The formal 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), and a discussion of the corrective actions taken or planned (with a time schedule for completion) to prevent recurrence of the sampling or measurement problem;
      vi. Description of blending, if any. If the Discharger blends, it shall describe the duration of blending events and certify whether the blending complied with all conditions for blending;
      vii. Description of other bypasses, if any. If the Discharger bypasses any treatment units (other than blending), it shall describe the duration of the bypasses and effluent quality during those times; and
      viii. Signature. The transmittal letter shall be signed in accordance with Attachment D, Provision V.B.

   b. **Compliance Evaluation Summary.** Each self-monitoring report shall include a compliance evaluation summary that addresses each parameter for which the permit specifies effluent limitations, the number of samples taken during the monitoring period, and the number of samples that exceed the effluent limitations.

   c. **More Frequent Monitoring.** If the Discharger monitors any pollutant more frequently than required by the MRP, the Discharger shall include the results of such monitoring in the calculation and reporting of the data submitted in the self-monitoring report.

d. Analysis Results

i. Tabulation. Each self-monitoring report shall include tabulations of all required analyses and observations, including parameters, dates, times, sample stations, types of samples, test results, method detection limits, method minimum levels, and method reporting levels (if applicable), signed by the laboratory director or other responsible official.

ii. Multiple Samples. Unless the MRP specifies otherwise, when determining compliance with effluent limitations (other than instantaneous effluent limitations) and more than one sample result is available, the Discharger shall compute the arithmetic mean. If the data set contains one or more results that are "Detected, but Not Quantified (DNQ) or "Not Detected" (ND), the Discharger shall instead compute the median in accordance with the following procedure:

(a) 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.

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

iii. Duplicate Samples. The Discharger shall report the average of duplicate sample analyses when reporting for a single sample result (or the median if one or more of the duplicates is DNQ or ND [see Provision V.C.1.c.ii, above]). For bacteria indicators, the Discharger shall report the geometric mean of the duplicate analyses.

iv. Dioxin-TEQ. The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the 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 (MLs) to zero. The Discharger shall calculate and report dioxin-TEQ using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

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

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

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	2005 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	0.0003	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.03	0.2
2,3,4,7,8-PeCDF	50	0.3	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	0.0003	0.02

e. 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 may require additional time to complete analytical processes and report results. In these cases, the Discharger shall describe the circumstances in the self-monitoring report and include the data for these parameters and relevant discussions of any violations in the next self-monitoring report due after the results are available.

f. Annual Self-Monitoring Reports. By the date specified in the MRP, the Discharger shall submit an annual self-monitoring report covering the previous calendar year. The report shall contain the following:

i. Comprehensive discussion of treatment plant performance, including documentation of any blending or other bypass events, 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 the performance and reliability of wastewater collection, treatment, or disposal practices;

ii. List of approved analyses, including the following:

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

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

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

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

iv. Results of facility report reviews. The Discharger shall regularly review, revise, and update, as necessary, the Operation and Maintenance Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report so these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall describe or summarize its review and evaluation procedures, recommended or planned actions, and estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure that they remain up-to-date.

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision V.E

1. Oil or Other Hazardous Material Spills

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material not contained onsite and completely cleaned up, the Discharger shall report as follows:

i. If the spill exceeds reportable quantities for hazardous materials listed in 40 C.F.R. part 302. The Discharger shall call the California Office of Emergency Services (800-852-7550).

ii. If the spill does not exceed reportable quantities for hazardous materials listed in 40 C.F.R., part 302, the Discharger shall call the Regional Water Board (510-622-2369).

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

i. Date and time of spill, and duration if known;
ii. Location of spill (street address or description of location);
iii. Nature of material spilled;
iv. Quantity of material spilled;
v. Receiving water body affected, if any;
vi. Cause of spill;
vii. Estimated size of affected area;
viii. Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
ix. Corrective actions taken to contain, minimize, or clean up the spill;
x. Future corrective actions planned to prevent recurrence, and implementation schedule; and
xi. Persons or agencies notified.

2. Unauthorized Municipal Wastewater Treatment Plant Discharges[1]

a. Two-Hour Notification. For any unauthorized discharge that enters a drainage channel or surface water, the Discharger shall, as soon as possible, but not later than two hours after becoming aware of the discharge, notify the California Office of Emergency Services (800-852-7550) and the local health officer or director of environmental health with jurisdiction over the affected water body. Notification shall include the following:

i. Incident description and cause;
ii. Location of threatened or involved waterways or storm drains;
iii. Date and time that the unauthorized discharge started;
iv. Estimated quantity and duration of the unauthorized discharge (to the extent known), and estimated amount recovered;
v. Level of treatment prior to discharge (e.g., raw wastewater, primary-treated wastewater, or undisinfected secondary-treated wastewater); and
vi. Identity of person reporting the unauthorized discharge.

b. Five-Day Written Report. Within five business days following the two-hour notification, the Discharger shall submit a written report that includes, in addition to the information listed in Provision V.E.2.a, above, the following:

i. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
ii. Efforts implemented to minimize public exposure to the unauthorized discharge;
iii. Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of receiving water) and extent of sampling if conducted;
iv. Corrective measures taken to minimize the impact of the unauthorized discharge;
v. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;
vi. Summary of Spill Prevention Plan or Operation and Maintenance Manual modifications to be made, if necessary, to minimize the potential for future unauthorized discharges; and
vii. Quantity and duration of the unauthorized discharge, and the amount recovered.

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

[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.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – Addition to Attachment D

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

A. Arithmetic Calculations –

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

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

or

$$\text{Geometric Mean} = (C1 \times C2 \times \ldots \times CN)1/N$$

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

2. **Mass Emission Rate.** The rate of discharge expressed in mass. The mass emission rate is obtained from the following calculation for any calendar day:

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

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

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

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

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.

3. **Removal Efficiency.** 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)]

B. Blending – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.

C. Composite Sample – 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 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 protocol.

D. Duplicate Sample – a second sample taken from the same source and at the same time as an initial sample (such samples are typically analyzed identically to measure analytical variability).

E. Grab Sample – an individual sample collected during a short period not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.

F. Overflow – the intentional or unintentional spilling or forcing out of untreated or partially-treated waste from a transport system (e.g., through manholes, at pump stations, or at collection points) upstream of the treatment plant headworks or from any part of a treatment plant.

G. Priority Pollutants – those constituents referred to in 40 C.F.R. part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule.

H. Untreated waste – raw wastewater.

Table B

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[2]	Minimum Levels[3] (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)[4]	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)[5]												
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)[6]	0100.2 [7]												
16	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17	Acrolein	603	2.0	5										
18	Acrylonitrile	603	2.0	2										
19	Benzene	602	0.5	2										
33	Ethylbenzene	602	0.5	2										
39	Toluene	602	0.5	2										
20	Bromoform	601	0.5	2										
21	Carbon Tetrachloride	601	0.5	2										
22	Chlorobenzene	601	0.5	2										
23	Chlorodibromomethane	601	0.5	2										
24	Chloroethane	601	0.5	2										
25	2-Chloroethylvinyl Ether	601	1	1										
26	Chloroform	601	0.5	2										

[2] 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.

[3] 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.

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

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

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

[7] 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 Method2	Minimum Levels3 (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
75	1,2-Dichlorobenzene	601	0.5	2										
76	1,3-Dichlorobenzene	601	0.5	2										
77	1,4-Dichlorobenzene	601	0.5	2										
27	Dichlorobromomethane	601	0.5	2										
28	1,1-Dichloroethane	601	0.5	1										
29	1,2-Dichloroethane	601	0.5	2										
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31	1,2-Dichloropropane	601	0.5	1										
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34	Methyl Bromide or Bromomethane	601	1.0	2										
35	Methyl Chloride or Chloromethane	601	0.5	2										
36	Methylene Chloride or Dichloromethane	601	0.5	2										
37	1,1,2,2-Tetrachloroethane	601	0.5	1										
38	Tetrachloroethylene	601	0.5	2										
40	1,2-Trans-Dichloroethylene	601	0.5	1										
41	1,1,1-Trichloroethane	601	0.5	2										
42	1,1,2-Trichloroethane	601	0.5	2										
43	Trichloroethene	601	0.5	2										
44	Vinyl Chloride	601	0.5	2										
45	2-Chlorophenol	604	2	5										
46	2,4-Dichlorophenol	604	1	5										
47	2,4-Dimethylphenol	604	1	2										
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49	2,4-Dinitrophenol	604	5	5										
50	2-Nitrophenol	604		10										
51	4-Nitrophenol	604	5	10										
52	3-Methyl-4-Chlorophenol	604	5	1										
53	Pentachlorophenol	604	1	5										
54	Phenol	604	1	1		50								
55	2,4,6-Trichlorophenol	604	10	10										
56	Acenaphthene	610 HPLC	1	1	0.5									
57	Acenaphthylene	610 HPLC		10	0.2									
58	Anthracene	610 HPLC		10	2									
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61	Benzo(a)Pyrene	610 HPLC		10	2									
62	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64	Benzo(k)Fluoranthene	610 HPLC		10	2									
74	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86	Fluoranthene	610 HPLC	10	1	0.05									
87	Fluorene	610 HPLC		10	0.1									
92	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100	Pyrene	610 HPLC		10	0.05									
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70	Butylbenzyl Phthalate	606 or 625	10	10										
79	Diethyl Phthalate	606 or 625	10	2										

CTR No.	Pollutant/Parameter	Analytical Method2	Minimum Levels3 (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
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)8	625		1										
88	Hexachlorobenzene	625	5	1										
89	Hexachlorobutadiene	625	5	1										
90	Hexachlorocyclopentadiene	625	5	5										
91	Hexachloroethane	625	5	1										
93	Isophorone	625	10	1										
94	Naphthalene	625	10	1	0.2									
95	Nitrobenzene	625	10	1										
96	N-Nitrosodimethylamine	625	10	5										
97	N-Nitrosodi-n-Propylamine	625	10	5										
98	N-Nitrosodiphenylamine	625	10	1										
99	Phenanthrene	625		5	0.05									
101	1,2,4-Trichlorobenzene	625	1	5										
102	Aldrin	608	0.005											
103	α-BHC	608	0.01											
104	β-BHC	608	0.005											
105	γ-BHC (Lindane)	608	0.02											
106	δ-BHC	608	0.005											
107	Chlordane	608	0.1											
108	4,4'-DDT	608	0.01											
109	4,4'-DDE	608	0.05											
110	4,4'-DDD	608	0.05											
111	Dieldrin	608	0.01											
112	Endosulfan (alpha)	608	0.02											
113	Endosulfan (beta)	608	0.01											
114	Endosulfan Sulfate	608	0.05											
115	Endrin	608	0.01											
116	Endrin Aldehyde	608	0.01											
117	Heptachlor	608	0.01											
118	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126	Toxaphene	608	0.5											

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

ATTACHMENT S

STORMWATER PROVISIONS, MONITORING, AND REPORTING REQUIREMENTS

November 2017

Contents

STORMWATER PROVISIONS

APPLICABILITY

These stormwater provisions only apply to facilities that do not direct all stormwater flows from process areas to a wastewater treatment plant's headworks or do not enroll in NPDES Permit No. CAS000001 (General Permit for Stormwater Discharges Associated with Industrial Activities).

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Stormwater Pollution Prevention Plan (SWPPP). The Discharger shall prepare a SWPPP that includes the following elements:

1. Facility name and contact information;

2. Site map;
3. List of industrial materials;
4. Description of potential pollution sources;
5. Assessment of potential pollutant sources;
6. Minimum Best Management Practices (BMPs);
7. Advanced BMPs, if applicable;
8. Monitoring implementation plan;
9. Annual comprehensive facility compliance evaluation; and
10. Date SWPPP initially prepared and dates of each SWPPP amendment.

The SWPPP shall be designed in accordance with good engineering practices to achieve the following objectives:

- Identify and evaluate all pollutant sources that may affect stormwater discharge quality;
- Identify, assign, and implement control measures and management practices to reduce or prevent pollutants in stormwater discharges; and
- Identify and describe conditions or circumstances that may require revisions to the SWPPP.

The SWPPP shall be retained onsite, revised whenever necessary, and made available upon request of any Regional Water Board representative. The SWPPP may be combined with the Spill Prevention Plan (see Attachment G Provision I.C.2).

B. Site Map. The Discharger shall prepare one or more site maps that include notes, legends, a north arrow, and other data as appropriate to ensure the map is clear, legible and understandable, including the following:

1. The facility boundary, stormwater drainage areas within the facility boundary, and portions of any drainage area impacted by discharges from surrounding areas (the maps shall include the flow direction of each drainage area, on-facility surface water bodies, areas of soil erosion, and locations of nearby water bodies [e.g., rivers, lakes, wetlands] or municipal storm drain inlets that may receive the facility's industrial stormwater discharges and authorized non-stormwater discharges);

2. Locations of stormwater collection and conveyance systems, associated discharge locations, and direction of flow (the maps shall include sample locations if different than the discharge locations);
3. Locations and descriptions of structural control measures (e.g., catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers) that affect industrial stormwater discharges, authorized non-stormwater discharges, and run-on;
4. Identification of all impervious areas, including paved areas, buildings, covered storage areas, or other roofed structures;
5. Locations where materials are directly exposed to precipitation and the locations where identified significant spills or leaks have occurred; and
6. Areas of industrial activity (the maps shall identify all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage and maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources).

C. List of Industrial Materials. The SWPPP shall contain a list of industrial materials handled at the facility and the locations where each material is stored, received, shipped, and handled, as well as the typical quantities and handling frequency.

D. Potential Pollutant Sources. The Discharger shall describe and assess potential stormwater pollutant sources, including the following:

1. **Industrial Processes.** Industrial processes may include manufacturing, cleaning, maintenance, recycling, and disposal. The SWPPP shall describe the type, characteristics, and approximate quantity of industrial materials used and areas protected by containment structures and the corresponding containment capacity.
2. **Material Handling and Storage Areas.** The SWPPP shall describe the type, characteristics, and quantity of industrial materials handled or stored; shipping, receiving, and loading procedures; spill and leak prevention and response procedures; and areas protected by containment structures and the corresponding containment capacity.
3. **Dust and Particulate Generating Activities.** The SWPPP shall describe the discharge locations, source type, and characteristics of the dust or particulate pollutant.
4. **Significant Spills and Leaks.** The Discharger shall evaluate the facility for areas where spills and leaks can occur. The SWPPP shall list any industrial materials spilled or leaked in significant quantities and discharged from the facility's stormwater conveyance system within the previous five years, including but not limited to any chemicals identified in 40 C.F.R. section 302 as reported on U.S. EPA Form R and any oil and hazardous substances discharged in excess of reportable quantities (40 C.F.R. §§ 110, 117, and 302). The SWPPP shall also list any industrial materials spilled or leaked in significant quantities that had the potential to be discharged from the facility's stormwater conveyance system within the previous five years. For each listed industrial material spill and leak, the SWPPP shall include the location, characteristics, and approximate quantity of the material spilled or leaked; the approximate quantity of the material discharged; the cleanup or remedial actions taken or planned; the approximate quantity of remaining material that could be discharged; and the preventive measures taken to ensure that spills or leaks do not reoccur.

5. **Non-Stormwater Discharges.** The SWPPP shall describe all non-stormwater discharges, including the source, quantity, frequency, characteristics, and associated drainage area, and indicate whether these discharges are authorized or unauthorized.
6. **Erodible Surfaces.** The SWPPP shall describe any facility locations where soil erosion may be caused by industrial activity, contact with stormwater, authorized and unauthorized non-stormwater discharges, or run-on from areas surrounding the facility.

E. Assessment of Potential Pollutant Sources. The SWPPP shall include a narrative assessment of all areas of industrial activity with potential industrial pollutant sources, including, at a minimum, the following:

1. Facility areas with likely sources of pollutants;
2. Pollutants likely to be present in industrial stormwater discharges;
3. Approximate quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each industrial material handled, produced, stored, recycled, or disposed;
4. Degree to which the pollutants associated with such materials may be exposed to, and mobilized by, contact with stormwater;
5. Direct and indirect pathways by which pollutants may be exposed to stormwater;
6. Sampling, visual observation, and inspection records;
7. Effectiveness of existing BMPs to reduce or prevent pollutants in industrial stormwater discharges; and
8. Estimated effectiveness of implementing, to the extent feasible, minimum BMPs to reduce or prevent pollutants in industrial stormwater discharges.

   Based upon the assessment, the SWPPP shall identify facility areas where the minimum BMPs described in Provision I.F, below, will not adequately reduce or prevent pollutants in stormwater discharges and any necessary advanced BMPs, as described in Provision I.G, below, for those areas.

F. Minimum Best Management Practices (BMPs). The Discharger shall, to the extent feasible, implement and maintain the following BMPs:

1. **Good Housekeeping.** The Discharger shall do the following:
   a. Observe all outdoor areas associated with industrial activity, including stormwater discharge locations, drainage areas, conveyance systems, waste handling and disposal areas, and perimeter areas affected by off-facility materials or stormwater run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly;
   b. Minimize or prevent material tracking;
   c. Minimize dust generated from industrial materials or activities;
   d. Ensure that all facility areas impacted by rinse or wash waters are cleaned as soon as possible;
   e. Cover all stored industrial materials that can be readily mobilized by contact with stormwater;
   f. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;
   g. Prevent disposal of any rinse or wash waters or industrial materials into the stormwater conveyance system;

h. Minimize stormwater discharges from non-industrial areas (e.g., stormwater flows from employee parking areas) that contact industrial areas of the facility; and,
i. Minimize authorized non-stormwater discharges from non-industrial areas (e.g., potable water, fire hydrant testing) that contact areas of the sanitary or industrial facility.

2. **Preventative Maintenance.** The Discharger shall (1) identify all equipment and systems used outdoors that may spill or leak pollutants, (2) observe the identified equipment and systems to detect leaks or identify conditions that may result in the development of leaks, (3) establish an appropriate schedule for maintenance of identified equipment and systems, and (4) establish procedures for prompt maintenance and repair of equipment and maintenance of systems when conditions exist that may result in the development of spills or leaks.

3. **Spill and Leak Prevention and Response.** The Discharger shall (1) establish procedures and controls to minimize spills and leaks; (2) develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system (spilled or leaked industrial materials shall be cleaned promptly and disposed of properly); (3) identify and describe all necessary and appropriate spill and leak response equipment, locations of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and (4) identify and train appropriate spill and leak response personnel.

4. **Material Handling and Waste Management.** The Discharger shall do the following:
   a. Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm;
   b. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powers, shredded paper) that can be transported or dispersed by the wind or contact with stormwater;
   c. Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;
   d. Divert run-on and stormwater generated from within the facility away from all stockpiled materials;
   e. Clean all spills of industrial materials or wastes that occur during handling in accordance with spill response procedures; and,
   f. Observe and clean, as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.
5. **Erosion and Sediment Control.** The Discharger shall (1) implement effective wind erosion controls; (2) provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storms; (3) maintain effective perimeter controls and stabilize site entrances and exits to sufficiently control discharges of erodible materials; and (4) divert run-on and stormwater generated from within the facility away from erodible materials.

6. **Employee Training.** The Discharger shall ensure that all personnel implementing the SWPPP are properly trained with respect to BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities. The Discharger shall identify which personnel need to be trained, their responsibilities, and the type of training they are to receive and maintain documentation of completed training and the personnel that received the training with the SWPPP.

7. **Quality Assurance and Record Keeping.** The Discharger shall (1) develop and implement management procedures to ensure that appropriate personnel implement all SWPPP elements; (2) develop methods of tracking and recording BMP implementation; and (3) maintain BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years.

G. Action Levels and Advanced BMPs. If the Discharger samples total suspended solids (TSS), oil and grease, or pH in excess of an action level in Table A, the Discharger shall review the SWPPP to identify appropriate modifications to existing BMPs or additional BMPs as necessary to reduce pollutant discharge concentrations to levels below the action level. The Discharger shall revise the SWPPP accordingly before the next storm, if possible, or as soon as practical, and in no event later than three months following the exceedance.

Table A

Stormwater Action Levels

Parameter	Unit	Instantaneous Action Level	Annual Action Level
Total Suspended Solids	mg/L	400	100
Oil and Grease	mg/L	25	15
pH	standard units	6.0-9.0[1]	---

Footnote:
[1] Values below or above this range require action.

If, upon subsequent monitoring, the pollutants measured in Table A continue to exceed their respective action levels, the Discharger shall further evaluate its BMPs and update its SWPPP accordingly to include advanced BMPs in addition to the minimum BMPs described in Provision I.F, above. The Discharger shall, to the extent feasible, implement and maintain any advanced BMPs identified pursuant to Provision I.E.8, above, as necessary to reduce or prevent discharges of pollutants in stormwater discharges in a manner that reflects best industry practice considering technological availability and economic practicability and achievability. Advanced BMPs may include one or more of the following:

1. Exposure Minimization BMPs**.** These include storm resistant shelters (either permanent or temporary) that prevent the contact of stormwater with identified industrial materials.
2. Stormwater Containment and Discharge Reduction BMPs**.** These include BMPs that divert, infiltrate, reuse, contain, retain, or reduce the volume of stormwater runoff.
3. Treatment Control BMPs**.** These include mechanical, chemical, biologic, or any other treatment technology that will meet the treatment design standard.

H. BMP Descriptions. The SWPPP shall identify each BMP being implemented at the facility, including the following:

1. The pollutants the BMP is designed to reduce or prevent;
2. The frequency, times of day, or conditions when the BMP is scheduled for implementation;
3. The locations within each area of industrial activity or industrial pollutant source where the BMP shall be implemented;
4. The individual responsible for implementing the BMP;
5. The procedures, including maintenance procedures, and instructions to implement the BMP effectively; and
6. The equipment and tools necessary to implement the BMP effectively.

I. Annual Comprehensive Facility Compliance Evaluation. The Discharger shall conduct one annual facility evaluation for each reporting year (July 1 to June 30). If the Discharger conducts an annual evaluation fewer than 8 months, or more than 16 months, after it conducts the previous annual evaluation, it shall document the justification for doing so. The Discharger shall revise the SWPPP, as appropriate, and implement the revisions within 90 days of the annual evaluation. At a minimum, the annual evaluations shall consist of the following:

1. A review of all sampling, visual observation, and inspection records conducted during the previous reporting year;

2. An inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the stormwater conveyance system;

3. An inspection of all drainage areas previously identified as having no exposure to industrial activities and materials;

4. An inspection of equipment needed to implement the BMPs; and

5. An assessment of any other factors needed to comply with the requirements of the Annual Stormwater Report (see Provision III.A, below).

II. STANDARD PROVISIONS – MONITORING

A. Visual Observations

1. Monthly Visual Observations

a. At least once per month, the Discharger shall visually observe each drainage area for the following:

i. The presence or indication of prior, current, or potential unauthorized non-stormwater discharges and their sources;
ii. Authorized non-stormwater discharges, sources, and associated BMPs; and
iii. Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential sources of industrial pollutants.

b. The monthly visual observations shall be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.

c. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted monthly visual observations (see Provision III.A, below).

2. Sampling Event Visual Observations.

Sampling event visual observations shall be conducted at the same time sampling occurs at a discharge location. At each discharge location where a sample is obtained, the Discharger shall observe the discharge of stormwater associated with industrial activity.

a. The Discharger shall ensure that visual observations of stormwater discharged from containment sources (e.g., secondary containment or storage ponds) are conducted at the time that the discharge is sampled.

b. If the Discharger employs volume-based or flow-based treatment BMPs, it shall sample any bypass that occurs while the visual observations and sampling of stormwater discharges are conducted.

c. The Discharger shall visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and sources of any discharged pollutants.

d. If a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.

e. The Discharger shall provide an explanation in the Annual Stormwater Report for uncompleted sampling event visual observations (see Provision III.A, below).

3. Visual Observation Records. The Discharger shall maintain records of all visual observations. Records shall include the date, approximate time, locations observed, presence and probable source of any observed pollutants, name of persons who conducted the observations, and any response actions and/or additional SWPPP revisions necessary in response to the visual observations.

4. SWPPP Revisions. The Discharger shall revise its BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed.

B. Sampling and Analysis

1. The Discharger shall collect and analyze stormwater samples as specified in the MRP.

2. Samples shall be (i) representative of stormwater associated with industrial activities and any commingled authorized non-stormwater dischargers; or (ii) associated with the discharge of contained stormwater.

3. On a facility-specific basis, the Discharger shall also analyze additional parameters that serve as indicators of the presence of all industrial pollutants identified in the pollutant source assessment. These additional parameters may be modified (added or removed) in accordance with any updated SWPPP pollutant source assessment.

III. STANDARD PROVISIONS – REPORTING

A. Annual Stormwater Report. The results of the Discharger's Annual Comprehensive Facility Compliance Evaluation shall be reported in the Annual Stormwater Report to the Regional Water Board no later than July 30. The Discharger shall include in the Annual Stormwater Report the following:

1. A compliance checklist that indicates whether the Discharger has complied with or addressed all applicable requirements of the SWPPP;

2. An explanation for any non-compliance requirements within the reporting year, as indicated in the compliance checklist;

3. An identification, including page numbers and sections, of all revisions made to the SWPPP within the reporting year; and

4. The date(s) of the annual evaluation.

IV. DEFINITIONS

A. Authorized Non-Stormwater Discharges — non-stormwater discharges are authorized if they meet the following conditions:

1. Fire-hydrant and fire prevention or response system flushing;

2. Potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems;

3. Drinking fountain water and atmospheric condensate, including refrigeration, air conditioning, and compressor condensate;

4. Irrigation drainage and landscape watering, provided that all pesticides, herbicides, and fertilizers have been applied in accordance with manufacturer's labels;

5. Uncontaminated natural springs, groundwater, foundation drainage, footing drainage;

6. Seawater infiltration where the seawater is discharged back into the source; or,

7. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from cooling towers (e.g., "piped" cooling tower blowdown or drains).

B. Stormwater — stormwater runoff, snow melt runoff, and surface runoff and drainage, excluding infiltration and runoff from agricultural land.