

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

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waterboards.ca.gov/sanfranciscobay

**TENTATIVE ORDER R2-2022-00XX
NPDES PERMIT CA0037869**

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

Discharger	East Bay Dischargers Authority (EBDA) and its member agencies: <ul style="list-style-type: none">• City of Hayward• City of San Leandro• Oro Loma Sanitary District• Castro Valley Sanitary District• Union Sanitary District Livermore-Amador Valley Water Management Agency (LAVWMA)
Names of Facilities	EBDA Common Outfall City of Hayward Water Pollution Control Facility and collection system City of San Leandro Water Pollution Control Plant and collection system Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant and collection system Raymond A. Boege Alvarado Wastewater Treatment Plant and collection system LAVWMA Export and Storage Facilities
Facility Address	EBDA Common Outfall 14150 Monarch Bay Drive San Leandro, CA 94577 Alameda County

Table 1. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
001	Secondary Treated Municipal Wastewater, Zone 7 Reverse Osmosis Reject Water, and Cargill Brine	37.6944°	-122.1832°	Lower San Francisco Bay

This Order was adopted on:

This Order shall become effective on:

This Order shall expire on:

CIWQS regulatory measure number:

<Adoption Date>
September 1, 2022
August 31, 2027
<XXXXXX>

The Discharger shall file a Report of Waste Discharge as an application for updated WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than **November 30, 2026**. The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) have classified this discharge as “**major**.”

I hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the Regional Water Board on the date indicated above.

Thomas Mumley, Interim Executive Officer

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1. FACILITY INFORMATION

Information describing the East Bay Dischargers Authority (EBDA) Common Outfall, each EBDA member agency's treatment plant and respective collection systems, and the Livermore-Amador Valley Water Management Agency Export and Storage Facilities (collectively, the Facility) is summarized on the cover page and in Fact Sheet (Attachment F) sections 1 and 2. Fact Sheet section 1 also includes information regarding the permit application.

2. FINDINGS

The Regional Water Board finds the following:

- 2.1. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States as described in Table 1 subject to the WDRs in this Order.
- 2.2. 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, G, and H are also incorporated into this Order.
- 2.3. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and has provided an opportunity to submit written comments and recommendations. Fact Sheet section 8.1 provides details regarding the notification.
- 2.4. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Fact Sheet section 8.3 provides details regarding the public hearing.

THEREFORE, IT IS HEREBY ORDERED that Order R2-2017-0016 (previous order), as amended by Orders R2-2016-0008, R2-2021-0019, and R2-2021-0028, is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions contained in 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 violations of the previous order.

3. DISCHARGE PROHIBITIONS

- 3.1. Discharge of treated or partially-treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- 3.2. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section 1.7 of this Order or as follows.

The Regional Water Board approves bypass of Discharge Point 001 at the overflow weirs located at the City of San Leandro and Oro Loma Sanitary District treatment plants as long as the following conditions are met:

- 3.2.1. The Discharger maximizes discharge through the EBDA Common Outfall;
- 3.2.2. The Discharger maximizes onsite storage at EBDA member agency facilities after factoring in precipitation projections and anticipated wet weather storage needs;
- 3.2.3. The Discharger complies with the effluent and receiving water limitations contained in this Order; and
- 3.2.4. The Discharger operates the Facility as designed and in accordance with operation and maintenance manuals, which shall include standard operating procedures for wet weather bypasses.

The maximum capacity of the EBDA Common Outfall is typically 189.1 million gallons per day (MGD). Bypass could occur at lesser flows if the maximum capacity for the City of San Leandro or Oro Loma Sanitary District to discharge to the EBDA pipeline were reduced due to elevated groundwater conditions, storm tide pressure on the outfall diffusers, or the anticipated engineering response time to bypass before projected influent flows flood a facility or adjacent property. If the Discharger bypasses the EBDA Common Outfall when the flow is less than 189.1 MGD, the Discharger shall describe in its next self-monitoring report (1) the flow rate discharged from the EBDA Common Outfall upon commencing the bypass, and (2) the reasons for the maximum capacity being less than 189.1 MGD.

- 3.3. Discharge at Discharge Point 001 is prohibited when treated wastewater does not receive an initial dilution of at least 75:1, as modeled. Upon satisfaction of Provision 6.3.5.1 (Commencement of Cargill Brine Discharge), discharge at Discharge Point 001 is prohibited when treated wastewater does not receive an initial dilution of at least 72:1, as modeled. Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or part) is in good working order and is consistent with or can achieve better mixing than that described in Fact Sheet section 4.3.4.2 (Mixing

Zone and Dilution Credits). The Discharger shall address measures taken to ensure this in its application for permit reissuance.

- 3.4.** Average dry weather influent flow, as measured at individual treatment plants, shall not exceed the flows in Table 2. Average dry weather influent flow shall be determined from three consecutive dry weather months (May 1 to October 31) each year, with compliance measured at the monitoring locations listed in Table 2, as described in the Monitoring and Reporting Program (MRP, Attachment E).

Table 2. Influent Flow Limitations

Facility	Monitoring Location	Average Dry Weather Flow (MGD)
City of Hayward	INF-002A	18.5
City of San Leandro	INF-002B	7.6
Oro Loma and Castro Valley Sanitary Districts	INF-002C	20.0
Union Sanitary District	INF-002D	33.0 ^[1]

Footnote:

^[1] Union Sanitary District may increase its average dry weather influent flow to 38.0 MGD upon completion of the tasks identified in Provision 6.3.5.4.

- 3.5.** Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.
- 3.6.** Upon satisfaction of Provision 6.3.5.1 (Commencement of Cargill Brine Discharge), the addition of brine at a flow greater than four percent of the total secondary treated wastewater flow, calculated as a daily average, is prohibited. The brine shall be added at a point where it completely mixes with treated wastewater upstream of Monitoring Location EFF-001. Brine flow shall be measured at Monitoring Location INF-001 as described in the MRP.

4. EFFLUENT LIMITATIONS

- 4.1. Effluent Limitations.** The discharge at each individual treatment plant and at Discharge Point 001 (EBDA Common Outfall) shall meet the following effluent limitations, with compliance measured at Monitoring Locations EFF-002A through EFF-002D and EFF-001, as described in the MRP:

Table 3. Effluent Limitations

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Monitoring Location
Carbonaceous Biochemical Oxygen Demand 5-day @ 20°C	mg/L	25	40	-	-	-	EFF-002A through EFF-002D
Total Suspended Solids	mg/L	30	45	-	-	-	EFF-002A through EFF-002D

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Monitoring Location
pH ^[1]	standard units	-	-	-	6.0	9.0	EFF-002A through EFF-002D
Chlorine, Total Residual	mg/L	-	-	-	-	0.0 ^[2,3]	EFF-001
Ammonia, Total	mg/L as N	86 ^[4]	-	110 ^[4]	-	-	EFF-001
Copper, Total Recoverable	µg/L	53	-	69	-	-	EFF-001
Cyanide, Total	µg/L	20	-	40	-	-	EFF-001
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	-	2.8 x 10 ⁻⁸	-	-	EFF-001

Footnotes:

- ^[1] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.
- ^[2] This instantaneous maximum total residual chlorine effluent limitation shall be replaced by a one-hour average effluent limitation of 0.98 mg/L on the first day of the month following U.S. EPA approval of the chlorine water quality objectives set forth in Regional Water Board Resolution R2-2020-0031.
- ^[3] This limitation shall be replaced by a one-hour average effluent limitation of 0.94 mg/L on the first day of the month following the latter of (1) satisfaction of Provision 6.3.5.1 (Commencement of Cargill Brine Discharge) and (2) U.S. EPA approval of the chlorine water quality objectives set forth in Regional Water Board Resolution R2-2020-0031.
- ^[4] On the first day of the month following satisfaction of Provision 6.3.5.1 (Commencement of Cargill Brine Discharge), the effluent limitations for total ammonia shall be replaced by an average monthly effluent limitation of 83 mg/L and a maximum daily effluent limitation of 100 mg/L.

4.2. Percent Removal. The average monthly percent removal of carbonaceous biochemical oxygen demand (CBOD) and total suspended solids (TSS) at each individual treatment plant shall not be less than 85 percent (e.g., in each calendar month, the arithmetic mean of CBOD and TSS, by concentration, of effluent samples collected at Monitoring Location EFF-002A, as described in the MRP, shall not exceed 15 percent of the arithmetic mean of the CBOD and TSS, by concentration, for influent samples collected at Monitoring Location INF-002A, as described in the MRP, at approximately the same times during the same period).

4.3. Enterococcus Bacteria. The discharge at Discharge Point 001 shall meet the following enterococcus effluent limitations, with compliance measured at Monitoring Location EFF-001D, as described in the MRP:

- 4.3.1. The six-week rolling geometric mean of enterococcus bacteria shall not exceed 280 colony forming units per 100 milliliters (CFU/100 mL). Compliance with this limit shall be determined weekly by calculating the geometric mean of all enterococcus bacteria sample results from the past six weeks.
- 4.3.2. No more than 10 percent of all enterococcus bacteria samples collected in a calendar month shall exceed 1,100 CFU/100 mL. Compliance with this limit shall be determined based on measured sample results. The Discharger shall not report interpolated results. If the Discharger has 9 or fewer sample results in a calendar month, compliance shall be based on the highest result. If the

Discharger has 10 to 19 sample results, compliance shall be based on the second highest result, and so on.

4.4. Fecal Coliform Bacteria. The discharge at Discharge Point 001 shall meet the following fecal coliform bacteria limitations, with compliance measured at Monitoring Location EFF-001D, as described in the MRP:

- 4.4.1. The geometric mean value of all fecal coliform bacteria samples in a calendar month shall not exceed 500 most probable number per 100 milliliters (MPN/100 mL), and
- 4.4.2. The 11-sample 90th percentile value of fecal coliform bacteria samples shall not exceed 1,100 MPN/100 mL. Compliance with this limit shall be based on the second highest result.

4.5. Acute Toxicity. The discharge at Discharge Point 001 shall meet the following acute toxicity effluent limitation, with compliance measured at Monitoring Location EFF-001 as described in the MRP. If the Discharger can demonstrate that toxicity exceeding this acute toxicity limit is caused solely by ammonia and that the ammonia in the discharge complies with the ammonia effluent limits in Table 3 of this Order, then such toxicity shall not constitute a violation of this acute toxicity limit.

- 4.5.1. The three-sample median shall not exhibit less than 90 percent survival (i.e., a bioassay test showing survival of less than 90 percent shall represent a violation of this effluent limit if one or more of the past two or fewer bioassay tests show less than 90 percent survival).
- 4.5.2. The single-sample value shall not exhibit less than 70 percent survival (i.e., a bioassay test showing survival of less than 70 percent shall represent a violation of this effluent limitation).

5. RECEIVING WATER LIMITATIONS

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

- 5.1.1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
- 5.1.2. 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;
- 5.1.3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;

- 5.1.4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
- 5.1.5. 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;
- 5.1.6. 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, or above 55 nephelometric turbidity units in areas where natural turbidity is less than or equal to 50 nephelometric turbidity units;
- 5.1.7. Coloration that causes nuisance or adversely affects beneficial uses;
- 5.1.8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
- 5.1.9. 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.

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

- 5.2.1. 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

- 5.2.2. Dissolved Sulfide Natural background levels

- 5.2.3. pH The pH shall not be depressed below 6.5 nor raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.

- 5.2.4. 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.

- 5.3.** 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 beyond any mixing zone established through this Order. 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.

6. PROVISIONS

6.1. Standard Provisions

- 6.1.1. The Discharger shall comply with all “Standard Provisions” in Attachment D.
- 6.1.2. The Discharger shall comply with all applicable provisions of the “Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits” in Attachment G. Anticipated bypasses of the EBDA Common Outfall approved under Discharge Prohibition 3.2 shall not be subject to the accelerated monitoring requirements in Attachment G section 3.1.3.2.5.
- 6.1.3. If there is any conflict, duplication, or overlap between provisions in this Order, the more stringent provision shall apply.

6.2. Monitoring and Reporting Provisions

The Discharger shall comply with the Monitoring and Reporting Program (MRP, Attachment E) and future revisions thereto, and applicable monitoring and reporting requirements in Attachments D and G. Notwithstanding Provision 6.1.3, the MRP in Attachment E shall apply over any more stringent, conflicting, duplicative, or overlapping requirement in Attachments D and G.

6.3. Special Provisions

6.3.1. 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 or as otherwise authorized by law. The Discharger may request a permit modification based on any of these circumstances. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses as necessary.

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

- 6.3.1.2. 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 or wasteload allocations. 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;
- 6.3.1.3. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified;
- 6.3.1.4. If a State Water Board precedential decision, new policy, new law, or new regulation is adopted;
- 6.3.1.5. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge; or
- 6.3.1.6. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (NPDES Permit CAS612008) for redirecting dry weather and first flush discharges from a storm drain system to the sanitary sewer system as a stormwater pollutant control strategy.

6.3.2. **Effluent Characterization Study and Report**

- 6.3.2.1. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Point 001 as required by the MRP to verify that the reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. If concentrations of any of the priority pollutants listed in Attachment G, Table B, 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 6.3.3.
- 6.3.2.2. **Reporting Requirements**
 - 6.3.2.2.1. **Routine Reporting.** The Discharger shall report the pollutants detected at or above applicable water quality objectives (see Fact Sheet Table F-8 for the objectives) in the transmittal letter for the self-monitoring report

associated with the month in which samples were collected. This requirement does not apply to pollutants with effluent limitations (see Table 3 of this Order).

- 6.3.2.2.2. **Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report described in MRP section 9.2.2.2.

6.3.3. Pollutant Minimization Program

- 6.3.3.1. The Discharger shall continue to improve its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.
- 6.3.3.2. Each EBDA member agency shall submit an annual report no later than **February 28** (for the City of Hayward) or **August 30** (for the City of San Leandro, Oro Loma and Castro Valley Sanitary Districts, and Union Sanitary District) each year. For the report due February 28, the reporting period shall be January through December. For the reports due August 30, the reporting period shall be July through June. Each annual report shall include at least the following information:
- 6.3.3.2.1. **Brief description of treatment plant.** The description shall include the service area and treatment plant processes.
- 6.3.3.2.2. **Discussion of current pollutants of concern.** Periodically, each EBDA member agency 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.
- 6.3.3.2.3. **Identification of sources for pollutants of concern.** This discussion shall include how the EBDA member agency intends to estimate and identify pollutant sources. The EBDA member agency 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.
- 6.3.3.2.4. **Identification of tasks to reduce the sources of pollutants of concern.** This discussion shall identify and prioritize tasks to address the EBDA member agency'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.

- 6.3.3.2.5. **Outreach to employees.** Each EBDA member agency 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 its treatment facility. The EBDA member agency may provide a forum for employees to provide input.
- 6.3.3.2.6. **Continuation of Public Outreach Program.** Each EBDA member agency shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The EBDA member agency shall coordinate with other agencies as appropriate.
- 6.3.3.2.7. **Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** Each EBDA member agency 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 6.3.3.2.3, 6.3.3.2.4, 6.3.3.2.5, and 6.3.3.2.6.
- 6.3.3.2.8. **Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
- 6.3.3.2.9. **Evaluation of Pollutant Minimization Program and task effectiveness.** Each EBDA member agency shall use the criteria established in Provision 6.3.3.2.7 to evaluate the program and task effectiveness.
- 6.3.3.2.10. **Identification of specific tasks and timelines for future efforts.** Based on the evaluation, each EBDA member agency 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.
- 6.3.3.3. The Discharger shall develop and conduct a Pollutant Minimization Program as 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:

- 6.3.3.3.1. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
- 6.3.3.3.2. A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.
- 6.3.3.4. If triggered for a reason set forth in Provision 6.3.3.3, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:
 - 6.3.3.4.1. An 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;
 - 6.3.3.4.2. Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;
 - 6.3.3.4.3. 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;
 - 6.3.3.4.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
 - 6.3.3.4.5. Inclusion of the following specific items within the annual report required by Provision 6.3.3.2, above:
 - 6.3.3.4.5.1. All Pollutant Minimization Program monitoring results for the previous year;
 - 6.3.3.4.5.2. List of potential sources of the reportable priority pollutants;
 - 6.3.3.4.5.3. Summary of all actions undertaken pursuant to the control strategy; and
 - 6.3.3.4.5.4. Description of actions to be taken in the following year.

6.3.4. **Special Provisions for Publicly-Owned Treatment Works**

- 6.3.4.1. **Pretreatment Program.** Each EBDA member agency shall implement and enforce its approved pretreatment program in accordance with federal pretreatment regulations (40 C.F.R. part 403); pretreatment standards promulgated under CWA sections 307(b), 307(c), and 307(d); pretreatment requirements specified under 40 C.F.R. section 122.44(j); and the

requirements in Attachment H, "Pretreatment Requirements." Each EBDA member agency's responsibilities include, but are not limited to, the following:

- 6.3.4.1.1. Enforcement of the National Pretreatment Standards of 40 C.F.R. sections 403.5 and 403.6;
- 6.3.4.1.2. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 C.F.R. part 403);
- 6.3.4.1.3. Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H; and
- 6.3.4.1.4. Evaluation of the need to revise local limits under 40 C.F.R. section 403.5(c)(1) and, by July 1, 2023, submission of a report describing the changes, with a plan and schedule for implementation.

6.3.4.2. Sludge and Biosolids Management

- 6.3.4.2.1. Sludge and biosolids treatment and storage shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
- 6.3.4.2.2. The sludge and biosolids treatment and storage sites shall have facilities adequate to divert surface runoff from adjacent areas, to protect site boundaries from erosion, and to prevent conditions that would cause drainage from the stored materials. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal stage that may occur.
- 6.3.4.2.3. This Order does not authorize permanent onsite sludge or biosolids storage or disposal. The Discharger shall file a Report of Waste Discharge and bring the site into compliance with applicable regulations prior to commencement of any such activity.
- 6.3.4.3. **Collection System Management.** Each EBDA member agency shall properly operate and maintain its collection system (see Attachments D and G, section 1.4), report any noncompliance with respect to its collection system (see Attachment D, section 5.5.1, and Attachment G, sections 5.5.1 and 5.5.2), and mitigate any discharges in violation of this Order associated with its collection system (see Attachments D and G, section 1.3).

State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC (statewide WDRs), contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. The statewide WDRs

clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementing the requirements for operation and maintenance and mitigation of sanitary sewer overflows set forth in the statewide WDRs (and any subsequent order updating these requirements) shall satisfy the corresponding federal NPDES requirements specified in Attachments D and G of this Order for the collection systems. Following the reporting requirements set forth in the statewide WDRs (and any subsequent order updating those requirements) shall satisfy the NPDES reporting requirements for sanitary sewer overflows specified in Attachments D and G.

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

6.3.5. **Other Special Provisions**

- 6.3.5.1. **Commencement of Cargill Brine Discharge.** The Discharger shall submit the following items before it commences discharge of Cargill brine:
- 6.3.5.1.1. Documentation that the reliability, capability, and performance of the EBDA system, including any new facilities related to the acceptance, delivery, and discharge of brine, will maintain compliance with this Order after the Discharger accepts Cargill brine (i.e., the Discharger shall ensure that brine completely mixes with treated wastewater prior to Monitoring Location EFF-001 and that brine will not degrade or otherwise adversely affect the EBDA pipeline and related pumping facilities);
 - 6.3.5.1.2. Demonstration of compliance with all applicable provisions of the California Environmental Quality Act (California Public Resources Code Division 13, Chapter 3, section 21100 et seq.);

- 6.3.5.1.3. Updates to the Contingency Plan and Operations and Maintenance Manual required by Attachment G sections 1.3.1 and 1.4.1 for the acceptance, delivery, and discharge of Cargill brine;
- 6.3.5.1.4. Notification, at least 30 days prior, of the specific date the Discharger proposes to commence discharging Cargill brine from Discharge Point 001.
- 6.3.5.2. **Copper Action Plan.** Each EBDA member agency shall implement pretreatment, source control, and pollution prevention for copper in accordance with the following tasks and time schedule:

Table 4. Copper Action Plan

Task No.	Task	Deadline
1	Implement Copper Control Program. Continue implementing existing program to reduce identified copper sources.	Implementation shall be ongoing
2	Implement Additional Actions. If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration in Central San Francisco Bay exceeds 2.2 µg/L, then within 90 days of the notification, evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. Report the conclusion of the trend analysis and provide a schedule for any new actions to be taken within the next 12 months.	With next annual pollution minimization program report due February 28 or August 30 (at least 90 days following notification)
3	Report Status. Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 2 above, and provides a schedule for actions to be taken within the next 12 months.	Annually, with annual pollution minimization program report due February 28 or August 30 each year

- 6.3.5.3. **Cyanide Action Plan.** Each EBDA member agency shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule:

Table 5. Cyanide Action Plan

Task No.	Task	Deadline
1	Review Potential Cyanide Sources. Submit an up-to-date inventory of potential cyanide sources. If no cyanide source is identified, Tasks 2 and 3, below, are not required unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. In such case, notify the Executive Officer and implement Tasks 2 and 3.	With annual pollution minimization program report due February 28 or August 30, 2023
2	Implement Cyanide Control Program. Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements:	Implementation shall be ongoing following Executive Officer

Task No.	Task	Deadline
	<p>a. Inspect each potential source to assess the need to include that source in the control program.</p> <p>b. Inspect sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as <i>Industrial User Inspection and Sampling Manual for POTWs</i> (EPA 831 B 94 01).</p> <p>c. Develop and distribute educational materials regarding the need to prevent cyanide discharges to sources included in the control program.</p> <p>d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs.</p> <p>If the plant influent cyanide concentration exceeds 17 µg/L, the Discharger shall collect a follow-up sample within 5 days of becoming aware of the laboratory results. If the results of the follow-up sample also exceed 17 µg/L, then a "significant cyanide discharge" is occurring.</p>	notification under Task 1
3	<p>Implement Additional Measures. If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of the actions taken, and provide a schedule for actions to be taken within the next 12 months.</p>	With next annual pollution minimization program report due February 28 or August 30 (at least 90 days following notification)
4	<p>Report Status of Cyanide Control Program. Submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, and provide a schedule for actions to be taken within the next 12 months.</p>	Annually, with annual pollution minimization program report due February 28 or August 30 each year

6.3.5.4. **Union Sanitary District Flow Capacity Increase.** When the Union Sanitary District completes proposed upgrades to its wastewater treatment plant (see Fact Sheet section 2.6.4), it shall submit the following documentation prior to increasing its average dry weather flow capacity to 38.0 MGD:

6.3.5.4.1. Certification by a licensed engineer affirming that the upgrades have been constructed as designed and that the reliability, capability, and performance of the wastewater facility upgrades will maintain compliance with this Order. Hydraulic and organic loading capacities of the treatment facilities shall be evaluated by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak loading conditions. The evaluation shall include treatment process operations under both dry weather and wet weather design flow conditions and effluent disposal capacity, including any storage and discharge to land through reclamation;

- 6.3.5.4.2. Demonstration of compliance with all applicable provisions of the California Environmental Quality Act (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.);
- 6.3.5.4.3. Updates to the Contingency Plan and Operations and Maintenance Manual required by Attachment G sections 1.3.1 and 1.4.1 to include the facility upgrades; and
- 6.3.5.4.4. Notification, at least 30 days prior, of the specific date the Union Sanitary District proposes to commence its increased average dry weather flow.
- 6.3.5.5. **City of Hayward Plant Upgrades.** When the City of Hayward completes planned upgrades to its wastewater treatment plant (see Fact Sheet section 2.6.1), it shall submit the following prior to the upgrades coming online:
 - 6.3.5.4.1. Certification by a licensed engineer affirming that the upgrades have been constructed as designed and that the reliability, capability, and performance of the wastewater facility upgrades will maintain compliance with this Order. Hydraulic and organic loading capacities of the treatment facilities shall be evaluated by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak loading conditions. The evaluation shall include treatment process operations under both dry weather and wet weather design flow conditions and effluent disposal capacity, including storage and any discharge to land through reclamation;
 - 6.3.5.4.2. Demonstration of compliance with all applicable provisions of the California Environmental Quality Act (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.);
 - 6.3.5.4.3. Updates to the Contingency Plan and Operations and Maintenance Manual required by Attachment G sections 1.3.1 and 1.4.1 to include the facility upgrades; and
 - 6.3.5.4.4. Notification, at least 30 days prior, of the specific date the City of Hayward proposes for its plant upgrades to come online.
- 6.3.5.6. **Wet Weather Bypass.** If the Discharger wishes the Regional Water Board to consider continuing its approval of wet weather bypasses (see Discharge Prohibition 3.2) when it considers permit reissuance, the Discharger shall submit with its application for reissuance a justification for such approval in accordance with 40 C.F.R. section 122.41(m) and Attachment D section 1.7. The justification shall explain why bypass is unavoidable and include an evaluation of a reasonable range of bypass alternatives that includes all feasible measures to reduce or eliminate bypass volume or frequency, including bypass caused by infiltration to the overall EBDA system. The

Discharger shall implement all feasible alternatives or, for feasible alternatives that cannot be implemented immediately, provide an implementation schedule that is as short as practicable. The justification shall also include an assessment of any adverse effects of such bypasses. Additionally, the Discharger shall report the frequency and volume of any wet weather bypasses that took place during this Order term.

ATTACHMENT A – DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

Arithmetic Mean (μ)

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

$$\text{Arithmetic mean} = \mu = \Sigma x / n$$

where: Σx is the sum of the measured ambient water concentrations,
and n is the number of samples

Average Monthly Effluent Limitation (AMEL)

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)

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, through 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 (CV)

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 a constituent discharged over a calendar day (12:00 a.m. through 11:59 p.m.) 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 a constituent over a 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 results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

For mass emission calculations using a DNQ value, the DNQ value is multiplied by flow.

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 through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)

Value derived from the water quality criterion or 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 Bays

Indentations along the coast that enclose an area of oceanic water within 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 a substance below the ML 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 shall be 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 included, 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 are not 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 data set. The median of a data set 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 reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Appendix B.

Minimum Level (ML)

Concentration at which the entire analytical system must give 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.

For mass emission calculations using an ND value, half the ND value is multiplied by flow.

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 a 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 the 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 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 Resources Control 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. For priority pollutants, 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 State Implementation Plan (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 municipal or domestic supply (MUN) beneficial use.

Standard Deviation (σ)

Measure of variability calculated as follows:

$$\text{Standard deviation} = \sigma = (\Sigma[(x - \mu)^2]/(n - 1))^{0.5}$$

where: x is the observed value

μ is the arithmetic mean of the observed values

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.

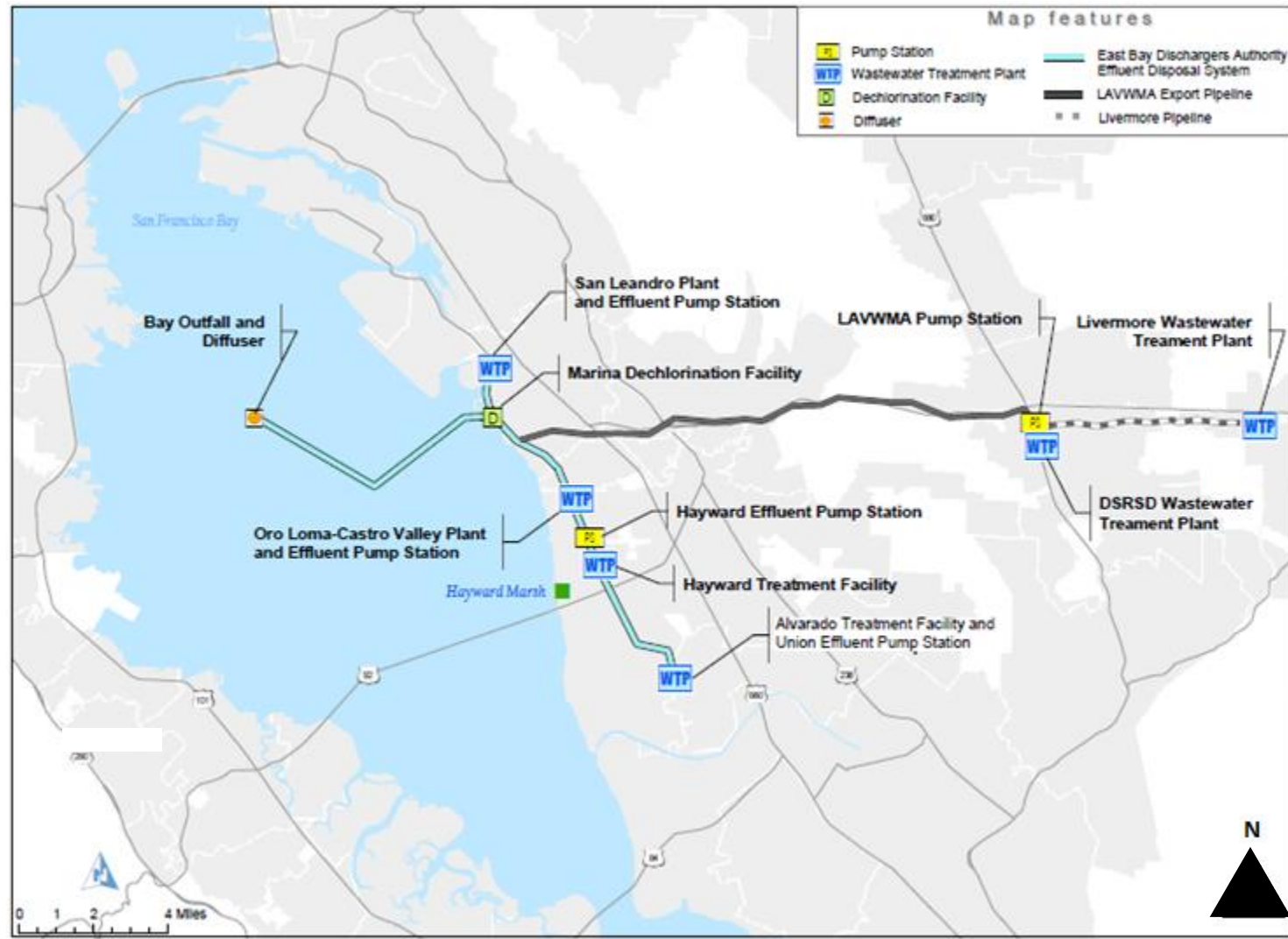
ABBREVIATIONS

%	Percent
µg/L	Micrograms per liter
1/Blending Event	Once per blending event
1/Day	Once per day
1/Month	Once per month
1/Quarter	Once per quarter
1/Week	Once per week
1/Year	Once per year
2/Month	Two times per month
2/Week	Twice per week
2/Year	Twice per year
3/Week	Three times per week
4/Week	Four times per week
5/Week	Five times per week
AMEL	Average monthly effluent limitation

AWEL	Average weekly effluent limitation
B	Background concentration
C	Water quality criterion or objective
C-24	24-hour composite
CFU/100 mL	Colony forming units per 100 milliliters
Continuous	Measured continuously
Continuous/D	Measured continuously, and recorded and reported daily
Continuous/H	Measured continuously, and recorded and reported hourly
CV	Coefficient of Variation
DNQ	Detected, but not quantified
DL	Detection level
ECA	Effluent Concentration Allowance
Grab	Grab sample
MDEL	Maximum Daily Effluent Limitation
MDL	Method detection limit
MEC	Maximum effluent concentration
MG	Million gallons
mg/L	Milligrams per liter
mg/L as N	Milligrams per liter as nitrogen
MGD	Million gallons per day
ML	Minimum level
MPN/100 mL	Most probable number per 100 milliliters
ND	Not detected
NTU	Nephelometric turbidity units
RL	Reporting level
RPA	Reasonable potential analysis
s.u.	Standard pH units
TIE	Toxicity identification evaluation
TRE	Toxicity reduction evaluation
TUa	Acute toxicity units
TUc	Chronic toxicity units

ATTACHMENT B – MAPS

Figure B-1. Overview Map of EBDA System



ATTACHMENT C – TREATMENT PLANT FLOW SCHEMATICS

Figure C-1. City of Hayward Water Pollution Control Facility Treatment Process

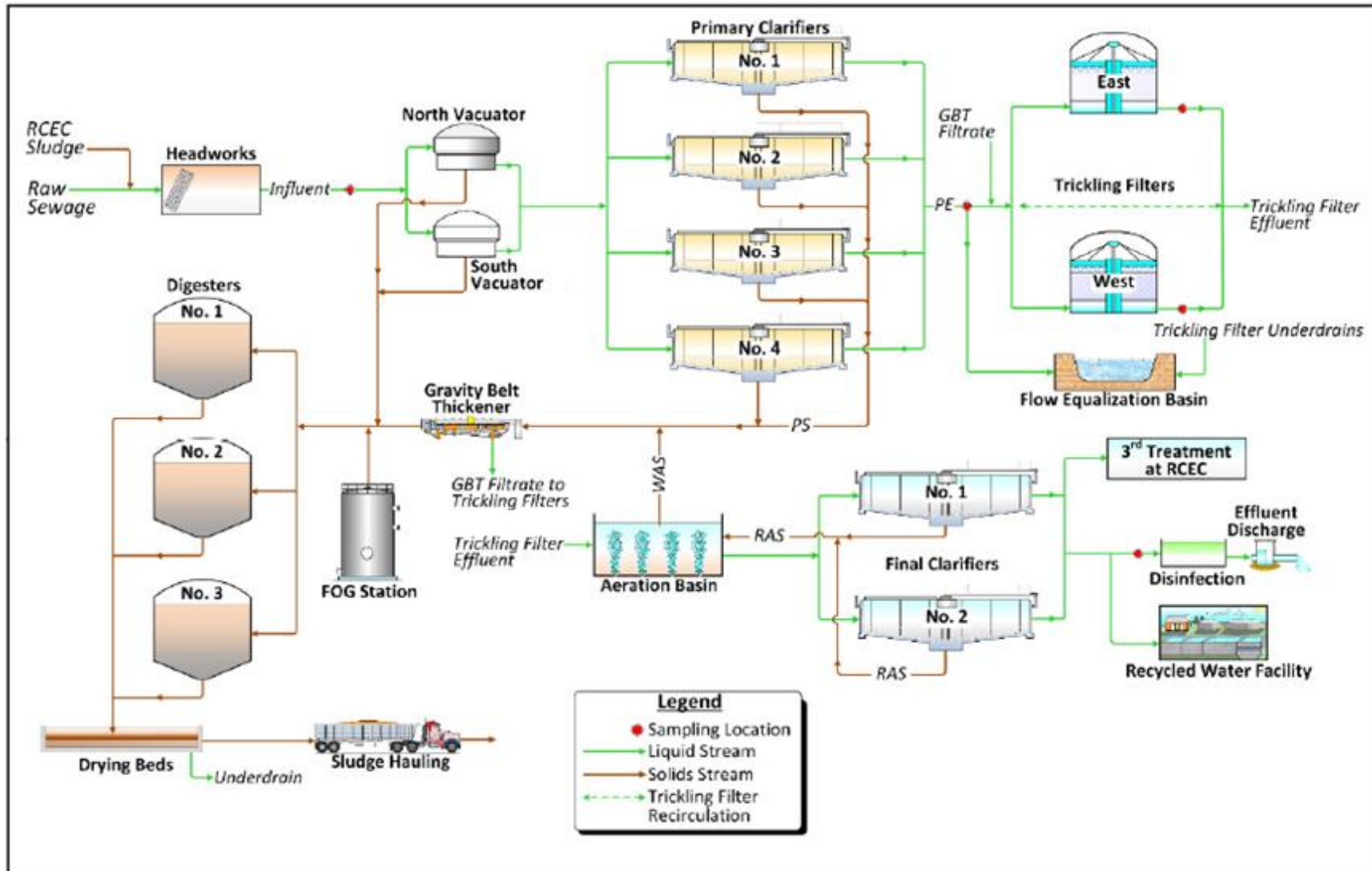


Figure C-2. City of San Leandro Water Pollution Control Plant Treatment Process

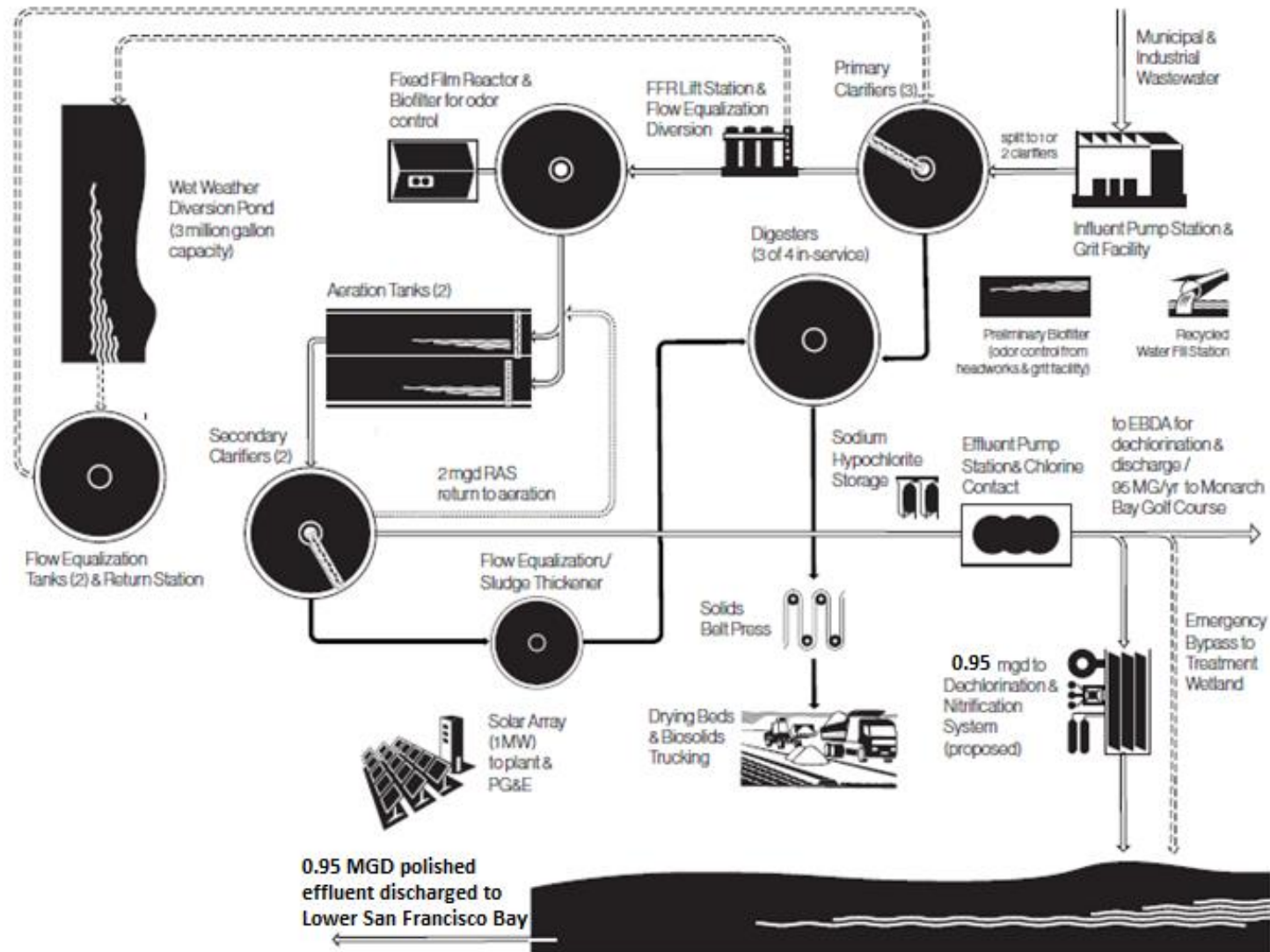


Figure C-3. Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant Treatment Process

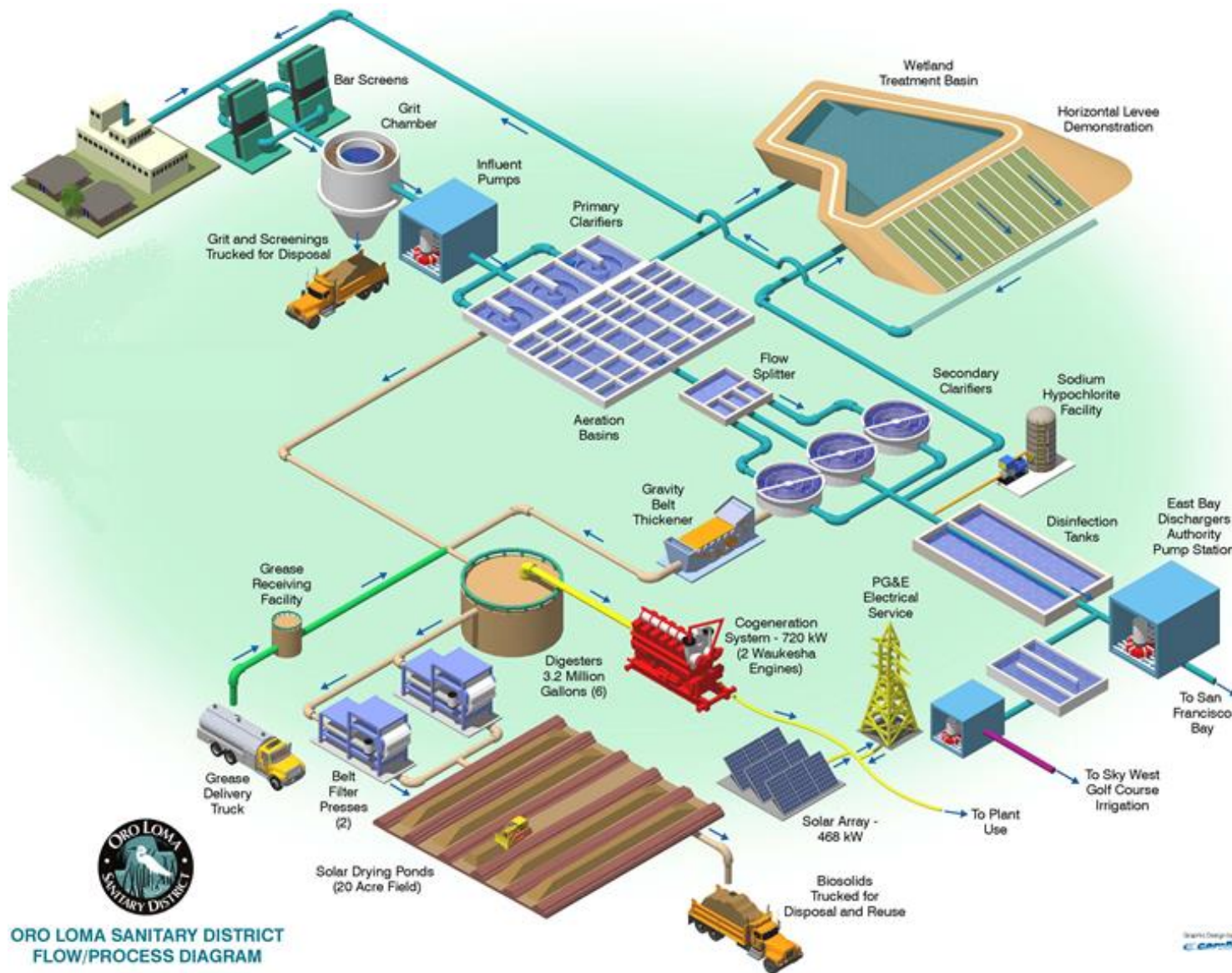
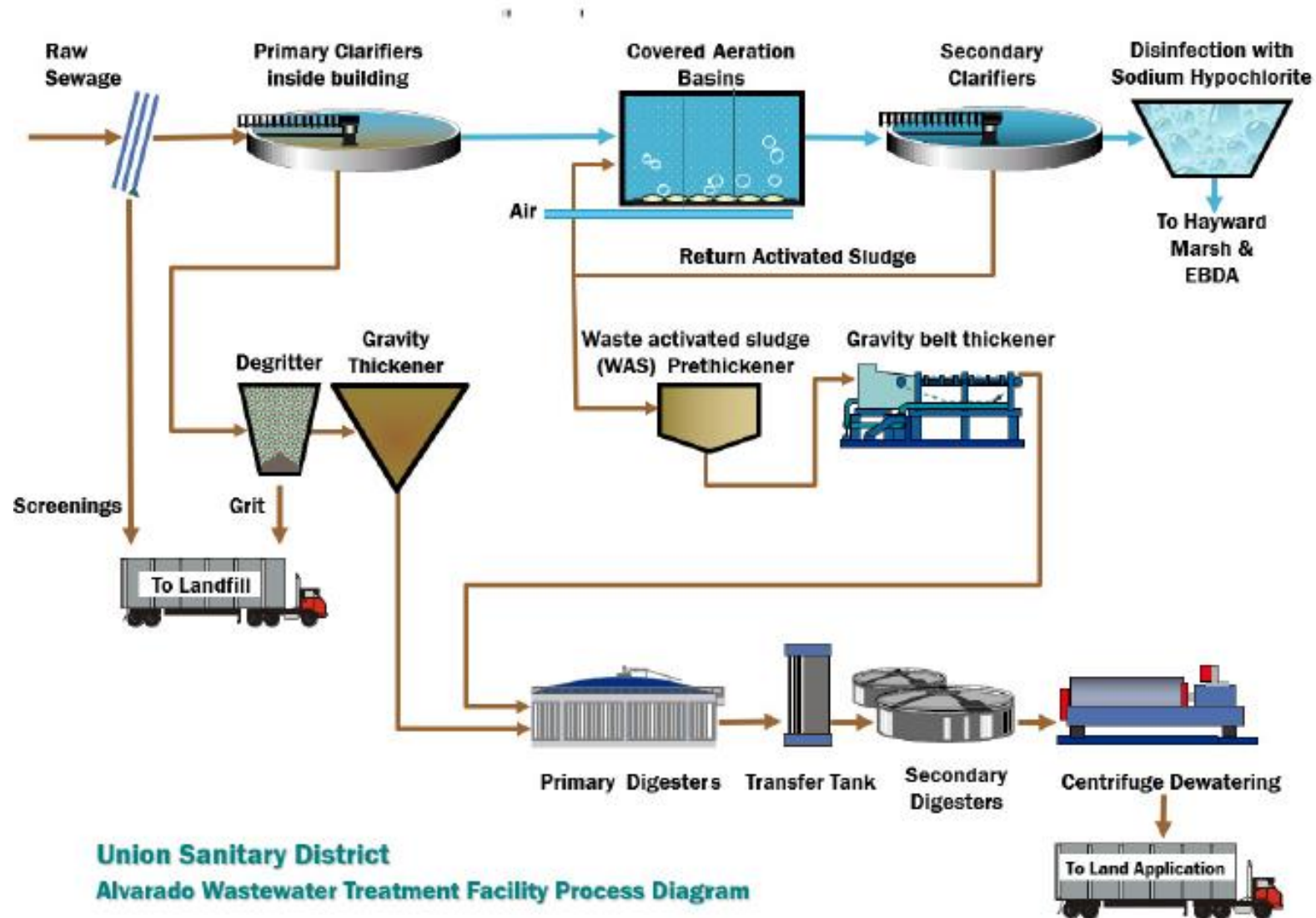


Figure C-4. Raymond A. Boege Alvarado Wastewater Treatment Plant Treatment Process



ATTACHMENT D – STANDARD PROVISIONS

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ATTACHMENT D – STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

- 1.1.1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
- 1.1.2. 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).)

1.2. 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).)

1.3. 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).)

1.4. 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) that 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).)

1.5. Property Rights

- 1.5.1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
- 1.5.2. 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).)

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

- 1.6.1. 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);
- 1.6.2. 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);
- 1.6.3. 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
- 1.6.4. Sample or monitor, at reasonable times, for the purposes of ensuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

1.7. Bypass

1.7.1. Definitions

- 1.7.1.1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- 1.7.1.2. "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).)
- 1.7.2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur that does not cause exceedances of effluent limitations, but only if it is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance sections 1.7.3, 1.7.4, and 1.7.5 below. (40 C.F.R. § 122.41(m)(2).)

- 1.7.3. **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)):
- 1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
- 1.7.3.2. 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
- 1.7.3.3. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance section 1.7.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 1.7.4. **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 section 1.7.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
- 1.7.5. **Notice**
- 1.7.5.1. **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, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)
- 1.7.5.2. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions – Reporting section 5.5 below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)
- 1.8. **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).)

- 1.8.1. **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 section 1.8.2 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).)
- 1.8.2. **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)):
 - 1.8.2.1. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - 1.8.2.2. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - 1.8.2.3. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting section 5.5.2.2 below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - 1.8.2.4. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance section 1.3 above. (40 C.F.R. § 122.41(n)(3)(iv).)
- 1.8.3. **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).)

2. STANDARD PROVISIONS – PERMIT ACTION

- 2.1. **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).)
- 2.2. **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).)

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

3. STANDARD PROVISIONS – MONITORING

- 3.1.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- 3.2.** 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 as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
- 3.2.1.** The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
- 3.2.2.** 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).)

4. STANDARD PROVISIONS – RECORDS

- 4.1.** 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).)

4.2. Records of monitoring information shall include:

- 4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
- 4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
- 4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
- 4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
- 4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
- 4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

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

5. STANDARD PROVISIONS – REPORTING

5.1. 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 that 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.)

5.2. Signatory and Certification Requirements

- 5.2.1. 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 sections 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 C.F.R. § 122.41(k).)
- 5.2.2. 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: (1) 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 (2) the

manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that 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 ensure 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 municipal, 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 (1) the chief executive officer of the agency, or (2) 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).)

- 5.2.3. 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 section 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting section 5.2.2 above (40 C.F.R. § 122.22(b)(1));
 - 5.2.3.2. 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
 - 5.2.3.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 5.2.4. If an authorization under Standard Provisions – Reporting section 5.2.3 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 section 5.2.3 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).)

- 5.2.5. Any person signing a document under Standard Provisions – Reporting section 5.2.2 or 5.2.3 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).)

- 5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – Reporting sections 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting section 5.2, 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).)

5.3. Monitoring Reports

- 5.3.1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
- 5.3.2. 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. All reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting section 5.10 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).)
- 5.3.3. 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 or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

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

5.4. 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).)

5.5. Twenty-Four Hour Reporting

- 5.5.1. 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, 2025, 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 section 5.10. 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).)

- 5.5.2. The following shall be included as information that must be reported within 24 hours:
- 5.5.2.1. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
- 5.5.2.2. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

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

5.6. 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)):

5.6.1. 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

5.6.2. 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 unless the discharge is an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a). (40 C.F.R. § 122.41(l)(1)(ii).) If the discharge is 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 section 7.1.1). (40 C.F.R. § 122.41(l)(1)(ii).)

5.7. Anticipated Noncompliance. The Discharger shall give advance notice to the Regional 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).)

5.8. Other Noncompliance. The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting sections 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting section 5.5 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 section 5.5 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).)

5.9. 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).)

5.10. 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. section 127.2(c)]. U.S. EPA will update and maintain this list. (40 C.F.R. § 122.41(l)(9).)

6. STANDARD PROVISIONS – ENFORCEMENT

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

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

7.1. 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)):

7.1.1. 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)):

7.1.1.1. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

7.1.1.2. 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));

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

7.1.1.4. 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)(1)(iv).)

7.1.2. 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)):

7.1.2.1. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

7.1.2.2. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

- 7.1.2.3. Ten (10) times the maximum concentration reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
- 7.1.2.4. 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).)

7.2 Publicly Owned Treatment Works (POTWs)

- 7.2.1. All POTWs shall provide adequate notice to the Regional Water Board of 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)).
- 7.2.2. All POTWs shall provide adequate notice to the Regional Water Board of 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).)
- 7.2.3. 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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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

1. GENERAL MONITORING PROVISIONS

- 1.1. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. section 122.63. 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.
- 1.2. The Discharger shall conduct all monitoring in accordance with Attachment D section 3, 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.
- 1.3. For the analysis of monitoring samples, the Discharger shall use laboratories certified by the State Water Resources Control Board (State Water Board) in accordance with Water Code section 13176 and shall obtain quality assurance/quality control data with laboratory reports. For any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory, the Discharger shall implement a Quality Assurance-Quality Control Program. The Discharger shall keep a manual onsite containing the steps followed in this program and shall 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.
- 1.4. The Discharger shall ensure that the 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

2. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Sample Type	Monitoring Location	Monitoring Location Description
Influent (City of Hayward)	INF-002A	A point in the City of Hayward Water Pollution Control Facility headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Influent (City of San Leandro)	INF-002B	A point in the City of San Leandro Water Pollution Control Plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Influent (Oro Loma and Castro Valley Sanitary Districts)	INF-002C	A point in the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Influent (Union Sanitary District)	INF-002D	A point in the Raymond A. Boege Alvarado Wastewater Treatment Plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Influent (EBDA Common Outfall)	INF-001	A point in the waste brine discharge system representative of the brine discharged and prior to mixing with treated wastewater upstream of Monitoring Location EFF-001.
Effluent (EBDA Common Outfall)	EFF-001	A point in the EBDA Common Outfall between the point of discharge and the point at which all waste tributary to the outfall is present and completely mixed. This location may be the same as Monitoring Location EFF-001D.
Effluent (EBDA Common Outfall)	EFF-001D	A point in the EBDA disinfection system at which adequate contact with the disinfectant has occurred. This location may be the same as Monitoring Location EFF-001.
Effluent (City of Hayward)	EFF-002A	A point in the City of Hayward Water Pollution Control Facility at which adequate disinfection has occurred and just prior to where the treatment plant transfers its effluent to the EBDA pipeline.
Effluent (City of San Leandro)	EFF-002B	A point in the City of San Leandro Water Pollution Control Plant at which adequate disinfection has occurred and just prior to where the treatment plant transfers its effluent to the EBDA pipeline.
Effluent (Oro Loma and Castro Valley Sanitary Districts)	EFF-002C	A point in the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant at which adequate disinfection has occurred and just prior to where the treatment plant transfers its effluent to the EBDA pipeline.

Effluent (Union Sanitary District)	EFF-002D	A point in the Raymond A. Boege Alvarado Wastewater Treatment Plant at which adequate disinfection has occurred and just prior to where the treatment plant transfers its effluent to the EBDA pipeline.
Biosolids (City of Hayward)	BIO-002A	A point following onsite biosolids processing at the City of Hayward Water Pollution Control Facility.
Biosolids (City of San Leandro)	BIO-002B	A point following onsite biosolids processing at the City of San Leandro Water Pollution Control Plant.
Biosolids (Oro Loma and Castro Valley Sanitary Districts)	BIO-002C	A point following onsite biosolids processing at the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant.
Biosolids (Union Sanitary District)	BIO-002D	A point following onsite biosolids processing at the Raymond A. Boege Alvarado Wastewater Treatment Plant.
Recycled Water (City of Hayward)	REC-002A	A point after full treatment at the City of Hayward Water Pollution Control Facility, including disinfection, that represents all wastewater directed offsite for recycled water distribution and thus not discharged to Lower San Francisco Bay.
Recycled Water (City of San Leandro)	REC-002B	A point after full treatment at the City of San Leandro Water Pollution Control Plant, including disinfection, that represents all wastewater directed offsite for recycled water distribution and thus not discharged to Lower San Francisco Bay.
Recycled Water (Oro Loma and Castro Valley Sanitary Districts)	REC-002C	A point after full treatment at the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant, including disinfection, that represents all wastewater directed offsite for recycled water distribution and thus not discharged to Lower San Francisco Bay.
Recycled Water (Union Sanitary District)	REC-002D	A point after full treatment at the Raymond A. Boege Alvarado Wastewater Treatment Plant, including disinfection, that represents all wastewater directed offsite for recycled water distribution and thus not discharged to Lower San Francisco Bay.

3. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor individual treatment plant influent at Monitoring Locations INF-002A through INF-002D as follows:

Table E-2. Individual Plant Influent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MG/MGD	Continuous	Continuous/D
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) (CBOD) ^[2]	mg/L	C-24	1/Week

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Total Suspended Solids (TSS) ^[2]	mg/L	C-24	1/Week
Cyanide ^[3]	µg/L	Grab	1/Quarter

Footnotes:

^[1] The following flow information shall be reported in quarterly self-monitoring reports:

- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

^[2] The Discharger shall collect influent samples on the same days as effluent samples.

^[3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. part 136, or an equivalent method in the latest Standard Method edition.

4. EFFLUENT MONITORING REQUIREMENTS

4.1. Individual Treatment Plant Monitoring. The Discharger shall monitor individual treatment plant effluent at Monitoring Locations EFF-002A through EFF-002D as follows:

Table E-3. Individual Plant Effluent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MG/MGD	Continuous	Continuous/D
pH ^[2]	standard units	Grab	2/Week
CBOD	mg/L	C-24	1/Week
TSS	mg/L	C-24	3/Week

Footnotes:

^[1] The following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

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

4.2. EBDA Common Outfall Monitoring. The Discharger shall monitor combined effluent discharged to the EBDA Common Outfall at Monitoring Location EFF-001 or, for enterococcus and fecal coliform bacteria, Monitoring Location EFF-001D as follows.

Table E-4. EBDA Common Outfall Effluent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Monitoring Location
Flow ^[1]	MG/MGD	Continuous	Continuous/D	EFF-001
Chlorine, Total Residual	mg/L	Continuous	Continuous/D ^[2,3,4]	EFF-001
Ammonia, Total	mg/L as N	C-24	2/Month	EFF-001
Copper, Total Recoverable	µg/L	C-24	1/Month	EFF-001
Cyanide, Total ^[5]	µg/L	Grab	1/Month	EFF-001
Dioxin-TEQ	µg/L	Grab	Once	EFF-001
Enterococcus Bacteria ^[6]	CFU/100 mL ^[7]	Grab	2/Week	EFF-001D
Fecal Coliform Bacteria	MPN/100 mL ^[7]	Grab	2/Week	EFF-001D

Parameter	Unit	Sample Type	Minimum Sampling Frequency	Monitoring Location
Acute Toxicity ^[8]	% Survival	C-24	1/Quarter ^[9]	EFF-001
Chronic Toxicity ^[10]	TU _c	C-24	1/Quarter ^[9]	EFF-001
Priority Pollutants ^[11]	µg/L	Grab	Once	EFF-001

Footnotes:

^[1] The following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

^[2] Prior to U.S. EPA approval of Regional Water Board Resolution R2-2020-0031, effluent total residual chlorine concentrations shall be monitored continuously. The Discharger shall describe all excursions of the chlorine limit in the transmittal letter of self-monitoring reports as required by Attachment G section 5.3.1.1. If monitoring continuously, the Discharger shall report through data upload to CIWQS, from discrete readings of the continuous monitoring every hour on the hour, the maximum for each day and any other discrete hourly reading that exceed the effluent limit, and, for the purpose of mandatory minimum penalties required by Water Code section 13385(i), compliance shall be based only on these discrete readings. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all continuous monitoring data for discretionary enforcement.

If a continuous chlorine residual monitor malfunctions or is offline for essential maintenance, the Discharger shall substitute grab samples at a frequency of no less than one sample every hour until the continuous chlorine residual monitor is back online. The Discharger shall report any substitution of grab sampling for continuous sampling in its monthly self-monitoring report.

^[3] On or the first day of the month following U.S. EPA approval of the chlorine water quality objectives set forth in Regional Water Board Resolution R2-2020-0031, total residual chlorine concentrations shall be monitored continuously and recorded at a frequency of not less than every 5 minutes. The minimum level for total residual chlorine analysis shall be no greater than 0.05 mg/L. To document compliance with the minimum level, the Discharger shall calibrate continuous total residual chlorine analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation.

If a continuous chlorine residual monitor malfunctions or is offline for essential maintenance lasting more than an hour, the Discharger shall substitute grab samples at a frequency of no less than one sample every hour until the continuous chlorine residual monitor is back online. The Discharger shall report any substitution of grab sampling for continuous sampling in its monthly self-monitoring report.

To evaluate compliance with the one-hour average effluent limit, the Discharger shall consider all readings recorded within each hour. The monitoring period shall begin every hour on the hour. All readings below the minimum level shall be treated as zeros for compliance evaluation. The Discharger shall calculate arithmetic means for each hour using all the readings for that hour. The Discharger shall report through data upload to CIWQS the maximum one-hour arithmetic mean for each calendar day and any other arithmetic mean values that exceed the effluent limit. The Discharger shall retain documentation of chlorine results for at least three years.

^[4] The Discharger may elect to use continuous on-line monitoring systems for measuring or determining that a residual dechlorinating agent (e.g., sodium bisulfite) is present. Such monitoring systems may be used to prove that anomalous residual chlorine exceedances measured by online chlorine analyzers are false positives and are not valid total residual chlorine detections because it is chemically improbable to have chlorine present in the presence of a dechlorinating agent. If the data from continuous total residual chlorine analyzers provide convincing evidence that chlorine residual exceedances are false positives, the exceedances shall not be violations of this Order's total residual chlorine effluent limits.

^[5] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. part 136, or an equivalent method in the latest Standard Method edition.

^[6] U.S. EPA Method 1600 or an equivalent method is suggested to measure culturable enterococci.

^[7] Results may be reported as either MPN/100 mL if the laboratory method used provides results in MPN/100 mL or CFU/100 mL if the laboratory method used provides results in CFU/100 mL.

^[8] Acute toxicity tests shall be performed in accordance with MRP section 5.1.

^[9] Acute bioassay tests may be performed concurrently with chronic bioassay tests in accordance with MRP section 5. If the Discharger fails to comply with the acute effluent limitations or exceeds the chronic toxicity accelerated monitoring triggers, the Discharger shall accelerate acute and chronic toxicity monitoring to 1/2 months for one year.

^[10] Chronic toxicity tests shall be performed in accordance with MRP section 5.2.

^[11] The Discharger shall monitor for the pollutants listed in Attachment G, Table B.

4.3. Cargill Brine Monitoring. The Discharger shall monitor Cargill brine discharged to the EBDA Common Outfall at Monitoring Location INF-001 as follows.

Table E-5. Cargill Brine Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MG/MGD	Continuous	Continuous/D

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow Percentage ^[2]	%	Calculated	1/Day

Footnote:

^[1] The following flow information shall be reported in monthly self-monitoring reports:

- Daily average flow rate (MGD)
- Total monthly flow volume (MG)

^[2] The flow percentage is the daily average brine flow rate, measured at Monitoring Location EFF-002, divided by the daily average effluent flow rate, measured at Monitoring Location EFF-001.

5. TOXICITY MONITORING

5.1. Acute Toxicity

5.1.1. 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 continuous flow-through bioassays. Static renewal acute toxicity bioassays may be substituted if flow-through bioassays are not practicable. These bioassays shall be performed according to the most up-to-date acute toxicity 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.

Alternatively, compliance with the acute toxicity effluent limitations may be evaluated at Monitoring Location EFF-001 by measuring survival of test organisms exposed to 96-hour, 100 percent effluent using the most recently promulgated 96-hour critical life stage toxicity tests as described 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). If these protocols prove unworkable, the Executive Officer may require that acute toxicity bioassays be performed using the acute toxicity protocol.

5.1.2. Test organisms shall be fathead minnow (*Pimephales promelas*). After satisfying Provision 6.3.5.1 (Commencement of Cargill Brine Discharge) of this Order, the test species shall be rainbow trout (*Onchorhynchus mykiss*).

5.1.3. 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 is authorized to adjust the effluent pH in order to suppress the level of unionized (free) ammonia. This adjustment shall be achieved by continuously monitoring test tank pH and automatic addition of analytical grade acid as needed, using a combination of continuous pH-sensor/analyzer and pump.

- 5.1.4. Effluent used for fish bioassays must be dechlorinated prior to testing. If biological growth in the dechlorinated effluent sample line is a potential problem, chlorinated effluent that is dechlorinated separately from the plant dechlorination process may be used for the bioassay test. Bioassay monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

5.2. Chronic Toxicity

5.2.1. Monitoring Requirements

- 5.2.1.1. **Sampling.** The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 for critical life stage toxicity testing as indicated below. Effluent samples may be before disinfection for toxicity tests. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples on consecutive or alternating days.
- 5.2.1.2. **Test Species.** The test species shall be fathead minnow (*Pimephales promelas*). After satisfying Provision 6.3.5.1 (Commencement of Cargill Brine Discharge) of this Order, the test species shall be blue mussel (*Mytilus galloprovincialis*).

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, except for changes in accordance with Provision 6.3.5.1 of this Order. If there is no significant change in the nature of the effluent, the Discharger shall conduct a screening test if required by an applicable State Water Board plan and submit the results with its application for permit reissuance. Upon completion of a chronic toxicity screening, the Discharger shall use the most sensitive species to conduct subsequent monitoring.

5.2.1.3. **Frequency.** Chronic toxicity monitoring shall be as specified below:

5.2.1.3.1. The Discharger shall monitor routinely once per quarter.

5.2.1.3.2. The Discharger shall accelerate monitoring to monthly when either of the following conditions is exceeded:

- Three-sample median value of 10 TUc, or
- Single-sample maximum value of 20 TUc.

Based on the TUc results, the Executive Officer may specify a different frequency for accelerated monitoring to ensure that accelerated monitoring provides useful information.

5.2.1.3.3. The Discharger shall return to routine monitoring if accelerated monitoring does not exceed the trigger in section 5.2.1.3.2, above.

5.2.1.3.4. If accelerated monitoring confirms consistent toxicity in excess of the trigger in section 5.2.1.3.2, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section 5.2.3, below.

5.2.1.3.5. The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below the trigger in 5.2.1.3.2, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

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

5.2.1.4. **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 1st edition (EPA/600/R-95-136). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. 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.

5.2.1.5. **Dilution Series.** The Discharger shall conduct tests at 100%, 50%, 25%, 10%, and 5%. The "%" represents percent effluent as discharged. Test sample pH may be controlled to the level of the effluent sample as received prior to being salted up.

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

5.2.2.1. Sample date;

5.2.2.2. Test initiation date;

5.2.2.3. Test species;

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

5.2.2.5. No Observable Effect Level (NOEL) values in percent effluent. The NOEL shall equal the IC25 or EC25 (see MRP Appendix E-1). If the IC25 or EC25 cannot be statistically determined, the NOEL shall equal the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test;

5.2.2.6. IC15, IC25, IC40, and IC50 values (or EC15, EC25, EC40, and EC50) as percent effluent;

5.2.2.7. TU values (100/NOEL and upper and lower confidence intervals, where NOEL = IC15, IC25, or NOEC);

5.2.2.8. Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable);

5.2.2.9. IC50 or EC50 values for reference toxicant tests;

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

5.2.2.11. The results of the three most recent chronic toxicity tests and the three-sample median for these results.

5.2.3. **Toxicity Reduction Evaluation (TRE)**

5.2.3.1. 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.

- 5.2.3.2. Within 30 days of exceeding the chronic toxicity trigger in section 5.2.1.3.2, 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.
- 5.2.3.3. Within 30 days of completing an accelerated monitoring test observed to exceed the trigger in section 5.2.1.3.2, above, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all Executive Officer comments.
- 5.2.3.4. 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:
 - 5.2.3.4.1. Tier 1 shall consist of basic data collection (routine and accelerated monitoring).
 - 5.2.3.4.2. Tier 2 shall consist of evaluation of treatment process, including operational practices and in-plant process chemicals.
 - 5.2.3.4.3. Tier 3 shall consist of a toxicity identification evaluation (TIE).
 - 5.2.3.4.4. Tier 4 shall consist of a toxicity source evaluation.
 - 5.2.3.4.5. Tier 5 shall consist of a toxicity control evaluation, including options for modifications of in-plant treatment processes.
 - 5.2.3.4.6. Tier 6 shall consist of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
- 5.2.3.5. The Discharger may end the TRE at any stage if monitoring finds there is no longer consistent toxicity (i.e., compliance with the trigger in section 6.2.1.3.2, above).
- 5.2.3.6. 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.
- 5.2.3.7. 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 trigger.

- 5.2.3.8. 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.

6. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program (RMP), which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger shall also provide supplemental funding to the RMP to support additional studies for constituents of emerging concern. The Discharger shall, either individually or in collaboration with other dischargers, submit or cause to submit a report each year that indicates the status of its RMP payment. The report shall be due on the same day as the letters certifying the Discharger's annual payment in support of RMP receiving water monitoring (currently February 1 each year).

7. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall comply with the following pretreatment monitoring requirements for influent at Monitoring Locations INF-002A through INF-002D, effluent at Monitoring Locations EFF-002A through EFF-002D, and biosolids at Monitoring Locations BIO-002A through BIO-002D. The EBDA member agencies shall report summaries of analytical results in annual pretreatment reports in accordance with Attachment H. If instructed to do so, the Discharger shall report biosolids analytical results with its electronic self-monitoring reports by manual entry, by Electronic Data Format or CIWQS Data Format (EDF/CDF), or as an attached file.

Table E-6. Pretreatment and Biosolids Monitoring

Parameter	Influent (INF-002A through INF-002D) Sampling Frequency ^[7]	Effluent (EFF-002A through EFF-002D) Sampling Frequency ^[7]	Biosolids (BIO-002A through BIO-002D) Sampling Frequency	Influent and Effluent Sample Type	Biosolids Sample Type ^[9]
VOC ^[1]	1/Year (for INF-002A, INF-002B, and INF-002D) Once (for INF-002C)	Once	1/Year (for BIO-002A, BIO-002B, and BIO-002D) Once (for BIO-002C)	Grab	Grab
BNA ^[2]	1/Year	Once	1/Year	Grab	Grab

Parameter	Influent (INF-002A through INF-002D) Sampling Frequency ^[7]	Effluent (EFF-002A through EFF-002D) Sampling Frequency ^[7]	Biosolids (BIO-002A through BIO-002D) Sampling Frequency	Influent and Effluent Sample Type	Biosolids Sample Type ^[9]
	(for INF-002A, INF-002B, and INF-002D) Once (for INF-002C)		(for BIO-002A, BIO-002B, and BIO-002D) Once (for BIO-002C)		
Metals and Other Elements ^[3]	1/Year	1/Month	1/Year	C-24 ^[8]	Grab
Hexavalent Chromium ^[4]	1/Year	1/Month	1/Year	Grab	Grab
Mercury	1/Quarter	1/Quarter ^[5]	1/Year	Grab or C-24 ^[8]	Grab
Cyanide, Total ^[6]	1/Quarter	1/Month	1/Year	Grab	Grab

Footnotes:

^[1] VOC: volatile organic compounds

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

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

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

^[5] The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring at Monitoring Locations EFF-002A through EFF-002D.

^[6] Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in 40 C.F.R. part 136, or an equivalent method in the latest Standard Method edition.

^[7] Influent and effluent monitoring conducted in accordance with MRP Tables E-2 and E-4 may be used to satisfy these pretreatment monitoring requirements.

^[8] If an automatic compositor is used, the Discharger shall obtain 24-hour composite samples through flow-proportioned composite sampling. Alternatively, 24-hour composite samples may consist of discrete grab samples combined (volumetrically flow-weighted) prior to analysis or mathematically flow-weighted.

^[9] Biosolids samples shall be composites of the biosolids. Biosolids collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4.

8. RECYCLED WATER MONITORING REQUIREMENTS

The Discharger shall comply with the following recycled water monitoring requirements. The Executive Officer may modify these requirements to reflect any changes made to the requirements of State Water Board Order WQ 2019-0037 EXEC (Amending Monitoring and Reporting Programs for Waste Discharge Requirements, National Pollutant Discharge Elimination System Permits, Water Reclamation Requirements, Master Recycling Permits, and General Waste Discharge Requirements).

8.1. Influent Monitoring. The Discharger shall monitor the monthly volume of influent to each individual treatment plant.

8.2. Production Monitoring. The Discharger shall monitor the monthly volume for each level of treated effluent (e.g., secondary or tertiary) from each individual treatment plant at Monitoring Locations REC-002A through REC-002D.

8.3. Discharge Monitoring. The Discharger shall monitor the monthly volumes discharged to each of the following, for each level of treated effluent (e.g., secondary or tertiary) from each individual treatment plant:

- 8.3.1. Inland surface waters, specifying volumes required to maintain minimum instream flow;
- 8.3.2. Enclosed bays, estuaries and coastal lagoons, and ocean waters;
- 8.3.3. Natural systems, such as wetlands, wildlife habitats, and duck clubs, where augmentation or restoration has occurred, and that are not part of a wastewater treatment or water recycling treatment plant;
- 8.3.4. Underground injection wells, such as those classified by U.S. EPA's Underground Injection Control Program, excluding groundwater recharge via subsurface application intended to reduce seawater intrusion into a coastal aquifer with a seawater interface; and
- 8.3.5. Land, where beneficial use is not taking place, including evaporation or percolation ponds, overland flow, or spray irrigation disposal, excluding pastures or fields with harvested crops.

8.4. Reuse Monitoring. The Discharger shall monitor the following in compliance with California Code of Regulations, Title 22, for each individual treatment plant:

- 8.4.1. Monthly volume of recycled water distributed; and
- 8.4.2. Annual volumes of treated wastewater distributed for use in each of the use categories listed below:
 - 8.4.2.1. Agricultural irrigation: pasture or crop irrigation;
 - 8.4.2.2. Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway, and street landscaping;
 - 8.4.2.3. Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses;
 - 8.4.2.4. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered;
 - 8.4.2.5. Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered;
 - 8.4.2.6. Geothermal energy production: augmentation of geothermal fields;

- 8.4.2.7. Other non-potable uses: including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments;
- 8.4.2.8. Groundwater recharge: the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system. Includes surface or subsurface application, except for seawater intrusion barrier use;
- 8.4.2.9. Seawater intrusion barrier: groundwater recharge via subsurface application intended to reduce seawater intrusion into a coastal aquifer with a seawater interface;
- 8.4.2.10. Reservoir water augmentation: the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system, as defined in Health and Safety Code section 116275, or into a constructed system conveying water to such a reservoir (Water Code § 13561);
- 8.4.2.11. Raw water augmentation: the planned placement of recycled water into a system of pipelines or aqueducts that delivers raw water to a drinking water treatment plant that provides water to a public water system as defined in Health and Safety Code section 116275 (Water Code § 13561); and
- 8.4.2.12. Other potable uses: both indirect and direct potable reuse other than for groundwater recharge, seawater intrusion barrier, reservoir water augmentation, or raw water augmentation.

9. REPORTING REQUIREMENTS

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

9.2. Self-Monitoring Reports (SMRs)

9.2.1. **SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's [California Integrated Water Quality System \(CIWQS\) Program website](https://waterboards.ca.gov/water_issues/programs/ciwqs) (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.

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

9.2.2.1. **Monthly SMRs** — Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. Each SMR shall contain the

applicable items described in Provision 6.3.2 (Effluent Characterization Study and Report) of the Order, Attachment D section 5.2, and Attachment G section 5.3. Each SMR 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.

9.2.2.2. **Annual SMR** — Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the applicable items described in Provisions 6.3.2 (Effluent Characterization Study and Report) and Attachment G section 5.3.1.6.

9.2.3. **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	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for all results	-
Dissolved Oxygen, Temperature	Required for monthly maximum and minimum results only ^[1]	Discharger may use this method for all results or keep records
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	-

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.

- 9.2.4. **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/D	Order effective date	All times
1/Hour	Order effective date	Every hour on the hour
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/Week 2/Week 3/Week 4/Week 5/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month
1/Quarter	Closest January 1, April 1, July 1, or October 1 before or after Order effective date ^[1]	January 1 through March 31 July 1 through September 30 April 1 through June 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 November 1 or February 1 before or after Order effective date ^[1]	Once after the first storm of the season during the interval from November 1 through January 31, and once during the interval from February 1 through May 31
Once	Order effective date	Once during the term of the Order within 12 months prior to applying for permit reissuance

Footnote:

^[1] Monitoring performed under NPDES Permit CA0037869 (for the EBDA Common Outfall) may be used to satisfy monitoring required by this Order.

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

- 9.2.5.1. 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).

- 9.2.5.2. 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 Discharger shall require the laboratory to 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 (\pm a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

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

- 9.2.5.4. 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.

- 9.2.6. **Compliance Determination.** Compliance with effluent limitations shall be determined using sample reporting protocols defined above, in the Fact Sheet, and in 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 pollutant in the monitoring sample is greater than the effluent limitation and, if applicable, greater than or equal to the RL.

- 9.3. **Discharge Monitoring Reports (DMRs).** DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using 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](https://waterboards.ca.gov/water_issues/programs/discharge_monitoring) (waterboards.ca.gov/water_issues/programs/discharge_monitoring).

- 9.4 **Recycled Water Reports.** The Discharger shall electronically submit annual reports to the State Water Board by April 30 each year covering the previous calendar year using the [State Water Board's GeoTracker website](https://geotracker.waterboards.ca.gov) (geotracker.waterboards.ca.gov) under a site-specific global identification number.) The annual report shall include the elements specified in section 8, above.

Information for setting up and using the GeoTracker system can be found in the ESI Guide for Responsible Parties document on the [State Water Board's website](https://waterboards.ca.gov/ust/electronic_submittal/index.html) (waterboards.ca.gov/ust/electronic_submittal/index.html).

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

1. Definition of Terms

- 1.1. No observed effect level (NOEL).** For compliance determination, the NOEL is equal to IC25 or EC25. If the IC25 or EC25 cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- 1.2. Effective concentration (EC).** The EC is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.
- 1.3. Inhibition concentration (IC).** The 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.
- 1.4. No observed effect concentration (NOEC).** The 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.

2. Chronic Toxicity Screening Phase Requirements

- 2.1.** The Discharger shall perform screening phase monitoring 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 changes already described in accordance with Provision 6.3.5.1 of this Order.
- 2.2** Design of the screening phase shall, at a minimum, consist of the following elements:
- 2.2.1.** Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables.
- 2.2.2.** Two stages:

- 2.2.2.1. 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).
- 2.2.2.2. 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.
- 2.2.3. Appropriate controls.
- 2.2.4. Concurrent reference toxicant tests.
- 2.2.5. Dilution series of 100%, 50%, 25%, 12.5%, 6.25%, and 0.0%, where “%” is percent effluent as discharged, or as otherwise approved by the Executive Officer if different dilution ratios are needed to reflect discharge conditions.
- 2.3.** The Discharger shall submit a screening phase proposal. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

APPENDIX E-2 SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

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

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

Toxicity Test References:

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

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

Species	Scientific Name	Effect	Test Duration	Reference
Fathead minnow	<i>Pimephales promelas</i>	Survival; growth rate	7 days	1
Water flea	<i>Ceriodaphnia dubia</i>	Survival; number of young	7 days	1
Alga	<i>Selenastrum capricornutum</i>	Final cell density	4 days	1

Toxicity Test Reference:

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

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

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

Footnotes:

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

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ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. As described in section 2.2 of the Order, the Regional Water Board incorporates this Fact Sheet as findings supporting the issuance of the Order.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	2 019123001
CIWQS Place ID	222123
Discharger	East Bay Dischargers Authority (EBDA) and its member agencies: <ul style="list-style-type: none"> • City of Hayward • City of San Leandro • Oro Loma Sanitary District • Castro Valley Sanitary District • Union Sanitary District Livermore-Amador Valley Water Management Agency (LAVWMA)
Facility Name	EBDA Common Outfall City of Hayward Water Pollution Control Facility and collection system City of San Leandro Water Pollution Control Plant and collection system Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant and collection systems Raymond A. Boege Alvarado Wastewater Treatment Plant and collection system LAVWMA Export and Storage Facilities
Facility Address	EBDA Common Outfall: 14150 Monarch Bay Drive San Leandro, CA 94577 Alameda County
Facility Contact, Title, Phone, and Email	Jacqueline Zipkin, General Manager, (510) 278-5910, jzipkin@ebda.org
Authorized Person to Sign and Submit Reports	Same as facility contact
Mailing Address	East Bay Dischargers Authority 2651 Grant Avenue San Lorenzo, CA 94580
Billing Address	Same as Mailing Address
Facility Type	Publicly-Owned Treatment Works (POTW)
Major or Minor Facility	Major
Water Quality Threat	1
Complexity	A
Pretreatment Program	Yes
Recycling Requirements	State Water Board Order WQ 2016-0068-DDW

Mercury and PCBs Requirements	NPDES Permit CA0038849
Nutrients Requirements	NPDES Permit CA0038873
Watershed	San Francisco Bay
Receiving Water	Lower San Francisco Bay
Receiving Water Type	Marine

Table F-2. Facility Flow Information

Agency	2021 Average Dry Weather Influent Flow (MGD)	Permitted Flow – Average Dry Weather Influent Flow (MGD)	Proposed Permitted Flow – Average Dry Weather Influent Flow (MGD)	Design Flow – Peak Wet Weather Influent Flow (MGD)
City of Hayward	10.0	18.5	18.5	35.0 ^[6]
City of San Leandro	4.3	7.6	7.6	22.3 ^[6]
Oro Loma/Castro Valley Sanitary Districts	11.2	20.0	20.0	69.2 ^[6]
Union Sanitary District	22.0	33.0 ^[1]	38.0	42.9
EBDA Total	47.5	79.1	84.1	169.4
LAVWMA	5.4	28.7 ^[2]	35.0 ^[4]	41.2
Total	52.9	107.8 ^[3]	119.1 ^[5]	189.1 ^[7]

Footnotes:

- ^[1] Union Sanitary District may increase its average dry weather flow to 38.0 MGD upon satisfaction of Provision 6.3.5.4 of this Order.
- ^[2] This is the sum of the permitted average dry weather influent flows for the Dublin San Ramon Services District and City of Livermore.
- ^[3] This total flow is the permitted average dry weather flow to be discharged at the EBDA Common Outfall.
- ^[4] This is the sum of the proposed (i.e., future) average dry weather influent flows for the Dublin San Ramon Services District and City of Livermore.
- ^[5] Current planning projections indicate that the considered flow expansions are not expected to occur for at least another 20 years.
- ^[6] Each EBDA member agency is permitted to discharge to the EBDA pipeline at this maximum flow rate. However, EBDA's Joint Exercise of Powers Agreement (JEPA) provides for a smaller maximum flow rate capacity in the EBDA pipeline for each member agency. However, the JEPA does not prohibit the member agency from using its full permitted discharge capacity during wet weather to minimize wet weather bypasses (see Discharge Prohibition 3.2).
- ^[7] This total does not equal the sum of the EBDA and LAVWMA peak wet weather flows. The maximum LAVWMA flow to the EBDA system is 41.2 MGD, which includes Zone 7 reverse osmosis reject water. However, by agreement between LAVWMA and EBDA, in the event of peak wet weather flows to the EBDA system from the EBDA member agencies (169.4 MGD), LAVWMA can only discharge 19.7 MGD to the EBDA system. NPDES Permit CA0038679 authorizes LAVWMA to discharge its remaining 21.5 MGD peak wet weather flow to San Lorenzo Creek. Therefore, the total peak daily wet weather flow at the EBDA Common Outfall is the sum of 169.4 MGD from the EBDA member agencies and 19.7 MGD from LAVWMA.

1.1. The East Bay Dischargers Authority (EBDA) and its member agencies are a Joint Powers Agency (JPA). Member agencies separately own and operate their treatment plants and wastewater collection systems (see Table F-1). The Livermore Amador Valley Water Management Agency (LAVWMA) is another JPA, whose member agencies are the Dublin San Ramon Services District, the City of Livermore, and the City of Pleasanton. While LAVWMA is subject to this Order, the Dublin San Ramon Services District and City of Livermore operate pursuant to NPDES Permits CA0037613 and CA0038008. The City of Pleasanton operates

and maintains a collection system only (covered by State Water Board Order 2006-0003-DWQ, as amended by State Water Board Order WQ 2013-0058-EXEC), which conveys wastewater to the Dublin San Ramon Services District's treatment plant. EBDA, its member agencies, and LAVWMA (collectively, the Discharger) discharge secondary treated wastewater collected from their respective service areas and reverse osmosis reject water from the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency) through the EBDA Common Outfall to Lower San Francisco Bay.

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.

- 1.2.** The Discharger is regulated pursuant to NPDES Permit CA0037869. The Discharger is authorized to discharge subject to the WDRs in this Order at the discharge location described in Table 1 of this Order.
- 1.3** The Discharger was previously subject to Order R2-2017-0016 (previous order) as amended by Orders R2-2016-0008, R2-2021-0019, and R2-2021-0028.
 - Order R2-2016-0008 amended the previous order to provide for an alternate monitoring program.
 - Order R2-2021-0028 amended Order R2-2016-0008 and the previous order to provide updated monitoring requirements and require supplemental funding for the Regional Monitoring Program (RMP).
 - Order R2-2021-0019 amended the previous order to update effluent limits and monitoring requirements for total residual chlorine and remove effluent limits and monitoring requirements for oil and grease.

Provisions of these orders have been incorporated into this Order as appropriate and applicable.

- 1.4.** The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on September 30, 2021.
- 1.5.** Regulations in 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, this Order limits the effective period for the discharge authorization. Pursuant to 40 C.F.R. section 122.6(d) and California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all requirements for continuation of expired permits.
- 1.6.** The Discharger is also regulated under NPDES Permits CA0038849 and CA0038873, which establish requirements on mercury and polychlorinated

biphenyls (PCBs) and nutrients from wastewater discharges to San Francisco Bay. This Order does not affect those permits.

- 1.7. LAVWMA, Oro Loma Sanitary District/Castro Valley Sanitary District, and Union Sanitary District have separate NPDES permits (CA0038679, CA0037559, and CA0038733) for wet weather discharges. Union Sanitary District, East Bay Regional Park District, and EBDA also have an NPDES permit (CA0038636) to discharge to Hayward Marsh through the EBDA pipeline. The City of San Leandro has a separate NPDES permit (CA0038881) to discharge from a demonstration treatment wetland.
- 1.8. When applicable, state law requires dischargers to file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce such requirements under Water Code section 1211. This is not an NPDES permit requirement.

2. FACILITY DESCRIPTION

2.1. Wastewater Collection and Treatment

- 2.1.1. **Locations and Service Areas.** EBDA is comprised of five member agencies: the City of Hayward, Oro Loma Sanitary District, Castro Valley Sanitary District, City of San Leandro, and Union Sanitary District. The member agencies convey treated wastewater to the Marina Dechlorination Facility, located at 14150 Monarch Bay Drive in San Leandro. LAVWMA and its member agencies, the Dublin San Ramon Services District, the City of Livermore, and the City of Pleasanton, also convey wastewater to the Marina Dechlorination Facility. Attachment B shows a map of the EBDA and LAVWMA member agency facilities.
 - 2.1.1.1. **City of Hayward Water Pollution Control Facility.** The City of Hayward Water Pollution Control Facility is located at 3700 Enterprise Avenue in Hayward. It provides secondary treatment of domestic, commercial, and industrial wastewater for the City of Hayward, serving a population of about 160,000.
 - 2.1.1.2. **City of San Leandro Water Pollution Control Plant.** The City of San Leandro Water Pollution Control Plant is located at 3000 Davis Street in San Leandro. It provides secondary treatment of domestic, commercial, and industrial wastewater for the northern portion of the City of San Leandro, serving a population of about 60,000.
 - 2.1.1.3. **Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant.** The Oro Loma and Castro Valley Sanitary Districts jointly own a

wastewater treatment plant located at 2600 Grant Avenue in San Lorenzo. It provides secondary treatment of domestic, commercial, and industrial wastewater for the communities of San Lorenzo, Ashland, Cherryland, Fairview, Castro Valley, and portions of the cities of San Leandro and Hayward, serving a population of about 192,000.

- 2.1.1.4. **Raymond A. Boege Alvarado Wastewater Treatment Plant.** The Raymond A. Boege Alvarado Wastewater Treatment Plant is located at 5072 Benson Road. It provides secondary treatment of domestic, commercial, and industrial wastewater for the cities of Fremont, Newark, and Union City, serving a population of about 356,800.
- 2.1.1.5. **LAVWMA Export and Storage Facilities.** The LAVWMA Export and Storage Facilities begin at 7176 Johnson Drive in Pleasanton and extend west to San Lorenzo. They receive, export, and store secondary treated domestic, commercial, and industrial wastewater from the cities of Dublin, Livermore, and Pleasanton, serving a population of about 320,600. LAVWMA wastewater also contains reverse osmosis reject water from the Zone 7 Water Agency that is mixed with the Dublin San Ramon Services District's final effluent. This reject water results from the Zone 7 Water Agency's Demineralization and Brine Disposal Project, which removes salts from groundwater in the Zone 7 Water Agency's jurisdiction.

2.1.2. Collection Systems

- 2.1.2.1. **City of Hayward.** The City of Hayward collection system conveys wastewater to the City of Hayward Water Pollution Control Facility. It is a separate sewer system comprised of approximately 325 miles of publicly-owned pipes and 9 lift stations.
- 2.1.2.2. **City of San Leandro.** The City of San Leandro collection system conveys wastewater to the City of San Leandro Water Pollution Control Plant. It is a separate sewer system comprised of approximately 130 miles of publicly-owned pipes and 13 lift stations.
- 2.1.2.3. **Oro Loma and Castro Valley Sanitary Districts.** The Oro Loma Sanitary District collection system conveys wastewater to the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant. It is a separate sewer system comprised of approximately 272 miles of publicly-owned pipes and 14 lift stations. The Castro Valley Sanitary District collection system also conveys wastewater to the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant. It is a separate sewer system comprised of approximately 148 miles of publicly-owned pipes and 9 lift stations.
- 2.1.2.4. **Union Sanitary District.** The Union Sanitary District collection system conveys wastewater to the Raymond A. Boege Alvarado Wastewater

Treatment Plant. It is a separate sewer system comprised of approximately 835 miles of publicly-owned pipes, 3 lift stations, and 4 pump stations.

- 2.1.2.5. **LAVWMA.** The collection systems serving LAVWMA are covered by NPDES Permits CA0037613 and CA0038008.

- 2.1.3. **Wastewater Treatment.** Attachment C provides treatment schematics for each treatment plant.

- 2.1.3.1. **City of Hayward Water Pollution Control Facility.** The City of Hayward Water Pollution Control Facility can provide secondary treatment for an average daily dry weather design flow of 18.5 MGD. In 2021, the average daily dry weather influent flow was 10.0 MGD. The treatment process consists of comminution, grit removal, primary sedimentation, flow equalization, trickling filtration, activated sludge aeration, secondary clarification, and chlorine disinfection. The plant also has 240 acres of out-of-service oxidation ponds that can be used for emergency storage (e.g., during peak wet weather).

- 2.1.3.2. **City of San Leandro Water Pollution Control Plant.** The City of San Leandro Water Pollution Control Plant can provide secondary treatment for an average daily dry weather design flow of 7.6 MGD. In 2021, the average daily dry weather influent flow was 4.3 MGD. The treatment process consists of screening, grit removal, primary sedimentation, flow equalization, trickling filtration, activated sludge aeration, secondary clarification, and chlorine disinfection. The plant also has five acres of out-of-service oxidation ponds that can be used for emergency storage.

- 2.1.3.3. **Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant.** The Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant can provide secondary treatment for an average daily dry weather design flow of 20.0 MGD. In 2021, the average daily dry weather influent flow was 11.2 MGD. The treatment process consists of screening, grit removal, primary sedimentation, modified Ludzack-Ettigner nitrification and denitrification, secondary clarification, and sodium hypochlorite disinfection.

- 2.1.3.4. **Raymond A. Boege Alvarado Wastewater Treatment Plant.** The Raymond A. Boege Alvarado Wastewater Treatment Plant can provide secondary treatment for an average daily dry weather design flow of 33.0 MGD. In 2021, the average daily dry weather influent flow was 22.0 MGD. The treatment process consists of screening, primary sedimentation, activated sludge aeration, secondary clarification, and chlorine disinfection. During this Order term, the Discharger plans to implement wastewater treatment plant upgrades (see Fact Sheet section 2.6., Planned Changes).

Historically, Union Sanitary District discharged up to 5.0 MGD of treated wastewater from this plant to Hayward Marsh through the EBDA pipeline but Union Sanitary District intends to formally cease this discharge during this Order term.

- 2.1.3.5. **Marina Dechlorination Facility.** The Marina Dechlorination Facility dechlorinates treated and disinfected effluent from the EBDA and LAVWMA member agencies using sodium bisulfite.

2.1.4. **Sludge and Biosolids Management**

- 2.1.4.1. **City of Hayward Water Pollution Control Facility.** Sludge at the City of Hayward Water Pollution Control Facility is anaerobically digested, dewatered in dewatering beds, and air dried for up to two years. The City hauls dried biosolids to an authorized disposal site for use as alternative daily cover.
- 2.1.4.2. **City of San Leandro Water Pollution Control Plant.** Sludge at the City of San Leandro Water Pollution Control Plant is anaerobically digested, dewatered using a belt filter press, and air dried. The City hauls dried biosolids to an authorized disposal site or applies the biosolids to land as Class A Exceptional Quality biosolids or Class B biosolids (as defined in 40 C.F.R. part 503) depending on available bed space.
- 2.1.4.3. **Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant.** Sludge at the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant is anaerobically digested, dewatered using a belt filter press, and air dried in a solar drying facility for 3 to 18 months. The Districts haul biosolids to an authorized land application site.
- 2.1.4.4. **Raymond A. Boege Alvarado Wastewater Treatment Plant.** Sludge at the Raymond A. Boege Alvarado Wastewater Treatment Plant is thickened, anaerobically digested, and dewatered using centrifuges. The Union Sanitary District hauls biosolids off-site for land application, composting, or used as alternative daily cover for municipal landfill. Up to 30 percent of the biosolids are composted offsite to make Class A Exceptional Quality biosolids (as defined in 40 C.F.R. part 503).
- 2.1.5. **Stormwater Management.** All stormwater flows in contact with equipment or wastewater at each treatment plant are collected and directed to the plant headworks for treatment. Stormwater does not interact with the Marina Dechlorination Facility because all treatment units there and all chemicals associated with the facility are indoors. Therefore, no stormwater requirements are necessary.

- 2.2. **Discharge Point and Receiving Water.** The Discharger discharges treated effluent to Lower San Francisco Bay through the EBDA Common Outfall

(Discharge Point 001). Lower San Francisco Bay is located in the Lower San Francisco Bay Basin watershed between the San Francisco-Oakland Bay Bridge and the San Mateo-Hayward Bridge. The outfall's diffuser is located 37,000 feet (about 7 miles) offshore and is submerged 23.5 feet under the water surface. The diffuser consists of 251 six-inch bell mouth riser ports that each splits into 2 three-inch perpendicular discharge points. In August 2016, EBDA completed a two-week diver and remote operated vehicle inspection of the outfall and concluded that it is in good working order. The outfall meets the requirements to be considered a deepwater discharge as defined in Basin Plan section 4.6.1.

2.3. 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-3. Previous Order Effluent Limitations and Monitoring Data

Agency/Parameter	Unit	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Other Limit	Long-Term Average ^[1]	Highest Daily Value ^[1]
City of Hayward (EFF-002A)	-	-	-	-	-	-	-
Carbonaceous Biochemical Oxygen Demand (5 day @ 20°C) (CBOD)	mg/L	25	40	-	-	10	25
CBOD percent removal	%	85 (minimum)	-	-	-	97	96 ^[2]
Total Suspended Solids (TSS)	mg/L	30	45	-	-	11	84 ^[3]
TSS percent removal	%	85 (minimum)	-	-	-	96	93 ^[2]
pH	s.u.	-	-	-	6.5 – 8.5 ^[4]	7.3	6.4 – 7.8 ^[5, 6]
City of San Leandro (EFF-002B)	-	-	-	-	-	-	-
CBOD	mg/L	25	40	-	-	12	35 ^[3]
CBOD percent removal	%	85 (minimum)	-	-	-	98	96 ^[2]
TSS	mg/L	30	45	-	-	11	45 ^[3]
TSS percent removal	%	85 (minimum)	-	-	-	97	94 ^[2]
pH	s.u.	-	-	-	6.5 – 8.5 ^[4]	7.3	6.9 – 7.7 ^[5]
Oro Loma and Castro Valley Sanitary Districts (EFF-002C)	-	-	-	-	-	-	-
CBOD	mg/L	25	40	-	-	5.1	20
CBOD percent removal	%	85 (minimum)	-	-	-	98	95 ^[2]
TSS	mg/L	30	45	-	-	6.5	190 ^[3]

Agency/Parameter	Unit	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Other Limit	Long-Term Average ^[1]	Highest Daily Value ^[1]
TSS percent removal	%	85 (minimum)	-	-	-	98	94 ^[2]
pH	s.u.	-	-	-	6.5 – 8.5 ^[4]	7.1	6.5 – 7.6 ^[5]
Union Sanitary District (EFF-002D)	-	-	-	-	-	-	-
CBOD	mg/L	25	40	-	-	6.9	17
CBOD percent removal	%	85 (minimum)	-	-	-	98	96 ^[2]
TSS	mg/L	30	45	-	-	13	35 ^[3]
TSS percent removal	%	85 (minimum)	-	-	-	96	95 ^[2]
pH	s.u.	-	-	-	6.5 – 8.5 ^[4]	7.3	7.0 – 7.6 ^[5]
EBDA Common Outfall (EFF-001 or EFF-001D)	-	-	-	-	-	-	-
Chlorine, Total Residual	mg/L	-	-	0.0	-	0.0 ^[7]	0.0 ^[7]
Ammonia, Total	mg/L	91	-	120	-	33	41
Copper, Total Recoverable	µg/L	53	-	69	-	7.2	10
Cyanide, Total	µg/L	21	-	40	-	1.5	3.1
Dioxin-TEQ	µg/L	1.4 x 10 ⁻⁸	-	2.8 x 10 ⁻⁸	-	0.0 ^[8]	0.0 ^[8]
Enterococcus Bacteria	MPN/100 mL	-	-	-	240 (monthly geometric mean)	52	42 ^[9]
Fecal Coliform Bacteria	MPN/100 mL	-	-	-	500 (monthly geometric mean)	105	126 ^[9]
Fecal Coliform Bacteria	MPN/100 mL	-	-	-	1,100 (11-sample 90 th percentile)	105	900 ^[10]
Acute Toxicity	% survival	-	-	-	Not less than 90% (11-Sample Median)	93	90 ^[11]
Acute Toxicity	% survival	-	-	-	Not less than 70% (11-Sample 90 th Percentile)	93	85 ^[12]
Chronic Toxicity	TU _c	-	-	-	10 (3-sample median)	1.2	1.5 ^[13]

Agency/Parameter	Unit	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Other Limit	Long-Term Average ^[1]	Highest Daily Value ^[1]
Chronic Toxicity	TU _c	-	-	-	20 (single sample maximum)	1.2	3.2
Oil and Grease	mg/L	10	-	20	-	<1.5 ^[14]	2.7

Footnotes:

- ^[1] Based on monitoring data from July 1, 2017, through December 31, 2021.
- ^[2] Lowest percent removal value on a monthly basis.
- ^[3] The Discharger did not violate the effluent limitations in this instance because the maximum reported concentration was a daily value.
- ^[4] Instantaneous minimum and instantaneous maximum.
- ^[5] Range of lowest to highest pH values.
- ^[6] The Discharger did not violate the instantaneous minimum effluent limitation in this instance because the excursion did not exceed 60 minutes.
- ^[7] All values were below the method detection limit and were counted as 0.0 mg/L for compliances purposes.
- ^[8] All congener values were below the minimum level and were counted as 0.0 µg/L for compliances purposes (see Attachment G section 5.3.1.4.4).
- ^[9] Highest geometric mean value on a monthly basis.
- ^[10] Highest 11-sample 90th percentile value.
- ^[11] Lowest 11-sample median value.
- ^[12] Lowest 11-sample 90th percentile value.
- ^[13] Highest 3-sample median value.
- ^[14] The long-term average was below the method detection limit of 1.5 mg/L.

2.4. Compliance Summary

2.4.1. Wastewater Treatment. The Discharger did not violate its effluent limitations at the individual treatment plants or at the EBDA Common Outfall during the previous order term.

2.4.2. Collection System. The table below summarizes the Discharger's Category 1 sanitary sewer overflow (SSO) rates for the last five years. Category 1 SSOs are those that reach waters of the United States and thus may violate Prohibition 3.4 of this Order.

Table F-4. Collection Systems and Category 1 SSO Rates

(Values based on CIWQS data analysis completed in October 2021) ^[1]

Agency/Region	Length (miles) ^[2]	Average Pipe Age (years) ^[3]	2016	2017	2018	2019	2020
City of Hayward	325	43.5	0	0	0	0	0
City of San Leandro	130	70	0	0	0	0	0
Oro Loma Sanitary District	272	54.5	0.37	0.36	0.37	0.37	0.37
Castro Valley Sanitary District	148	60	0	0.68	0.68	0	0.67
Union Sanitary District	835	40	0.12	0	0	0	0
San Francisco Bay Region	17,700	46	1.2	1.7	0.71	1.4	0.67

State of California	111,000	44	0.46	0.68	0.39	0.57	0.33
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Footnotes:

- [1] The State Water Board's *Enrollee's Guide to the SSO Database* defines "Total number of SSOs per 100 miles of Sewer" as "...the number of SSOs, for which the reporting enrollee is responsible, for every 100 miles of pipe or sewer lines in an enrollee's sanitary sewer system. Due to the large variation in facility specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of enrollees and their sanitary sewer systems."
- [2] Lengths shown are based on 2020 data.
- [3] The average pipe age for the State of California is estimated based on the percentages of piping constructed during each decade as reported by enrollees under State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC.

The above SSO rates are normalized relative to a distance of 100 miles. During the previous order term, the Discharger's Category 1 SSO rates were below the San Francisco Bay Region rates and generally below the statewide rates.

Below is a description of each EBDA member agency's collection system management program:

- 2.4.2.1. **City of Hayward.** The City of Hayward inspects its entire collection system via closed-circuit television (CCTV) on average every seven years and plans on replacing between 3 and 5 miles of pipeline per year. The City also routinely inspects hot-spot (high frequency SSO) areas and contracts every year for root control.
- 2.4.2.2. **City of San Leandro.** The City of San Leandro inspects its entire collection system via CCTV on average every five to seven years. The City also routinely inspects hot-spot areas with a program goal to flush all hot spot sewer lines each year, and has an annual program to implement root control, which is expected to cover the entire collection system on two-to-three year cycles.
- 2.4.2.3. **Oro Loma Sanitary District.** The Oro Loma Sanitary District has a sewer pipe rehabilitation and replacement rate of approximately 1 to 1.5 percent and plans to increase this rate to 2 percent during the Order term. The District inspects its entire collection system via CCTV on average every two-to-three years. The District also routinely inspects hot-spot areas with a program goal to reduce its high frequency cleaning lines (i.e., lines that are cleaned more frequently than every 900 days) to no more than 10 percent of the system. Since 2013, the District reduced its high frequency lines from 17 percent to 12.5 percent.
- 2.4.2.4. **Castro Valley Sanitary District.** The Castro Valley Sanitary District inspects its entire collection system via CCTV on average every 5 years and replaces up to 1 mile of its sewer pipes annually, with a program goal to increase this rate during this Order term. The District inspects hot-spot areas every 3 months, with routine maintenance for the remaining collection system sections on 6, 12, or 36-month cycles. The District also implements root

control on affected lines every 3 to 6 months, depending on the severity of root intrusion.

- 2.4.2.5. **Union Sanitary District.** The Union Sanitary District inspects all of its vitrified clay pipes via CCTV on average every 7 years and all of its polyvinyl chloride pipes via CCTV on average every 14 years. The District rehabilitates or replaces its sewer pipes based on the CCTV inspections. The District also routinely inspects hot-spot areas and cleans its entire collection system every 7 years, and has a root control program that treats all pipelines vulnerable to root intrusion every 3 years.

- 2.5. Sea Level Rise.** Below is a description of Discharger's specific sea level rise vulnerability assessments and adaptation planning relative to each EBDA member agency:

- 2.5.1. **City of Hayward Water Pollution Control Facility.** Sea level rise does not threaten the City of Hayward Water Pollution Control Facility. The plant is located above the 100-year flood plain. According to the *Hayward Regional Shoreline Adaptation Master Plan* (February 2021), the plant and its critical infrastructure would likely not experience direct flood impacts until approximately 7 feet of sea level rise occurs, which is unlikely to occur by 2050. In the event of 4 feet of sea level rise, the City of Hayward's outlying facilities, such as its oxidation ponds and effluent channel, would likely become regularly inundated. The City is planning to prepare an adaptation plan with a timeline for implementation of adaptation measures in response to the master plan's sea level rise impact assessments.
- 2.5.2. **City of San Leandro Water Pollution Control Plant.** Sea level rise does not threaten the City of San Leandro Water Pollution Control Plant. According to the City of San Leandro's Climate Action Plan, sea levels are projected to rise approximately 2 feet by 2050 along the San Leandro shoreline where the treatment plant is located, which is consistent with the "median – high" risk projections in the California Ocean Protection Council's *State of California Sea Level Rise Guidance* (2018). However, the plant is protected on all sides by levees and surrounding high ground that can accommodate 3.5 feet of sea level rise. Additionally, most of the plant's critical control systems are elevated several feet above ground level or are designed to operate while submerged during a flood.
- 2.5.3. **Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant.** Sea level rise does not immediately threaten the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant. The plant is currently protected by a perimeter levee, and critical infrastructure is located on higher ground that can accommodate 3.5 feet of sea level rise, which is the California Ocean Protection Council's general recommendation for sea level rise planning in *State of California Sea Level Rise Guidance* (2018). The Oro Loma Sanitary

District plans to conduct a detailed risk assessment of its perimeter levee during this Order term. Additionally, the District recognizes that the plant and adjacent shoreline will need additional protection in the longer-term. Therefore, the District is supporting research, planning, and design efforts associated with a horizontal levee concept to increase shoreline resiliency.

2.5.4. **Raymond A. Boege Alvarado Treatment Plant.** Sea level rise does not immediately threaten the Raymond A. Boege Alvarado Treatment Plant. According to a preliminary study the Union Sanitary District conducted in 2013, the plant is located an average of 9.5 feet above mean sea level. Its northern and western sides are surrounded by levees above that height, and its southern and eastern sides are surrounded by levees below that height. The preliminary study did not identify any critical infrastructure at risk of sea level rise impacts by 2050. The District plans to update the preliminary study to reflect updated guidance, and plans to base future infrastructure decisions on the updated study.

2.5.5. **Marina Dechlorination Facility.** Sea level rise does not threaten the Marina Dechlorination Facility and its critical infrastructure. The facility is located above the 100-year flood plain and several feet above the 2050 sea level rise projections made in the *National Academy of Sciences Report: Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012). The facility also has two berms to protect against high tides and storm surges. Additionally, the Discharger installed new sump pumps at the facility.

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

2.6.1. **City of Hayward.** The City of Hayward plans replace its trickling filter with a biological nutrient removal system that will treat half of the plant's dry weather flow, upgrade the main switchboard that powers the older features of the plant, and install a new final clarifier.

2.6.2. **City of San Leandro.** The City is constructing a demonstration treatment wetland that would accept up to 0.95 MGD of its wastewater for polishing treatment. The City of San Leandro also plans to install a second high-efficiency

turbo blower in its aeration basins, a high-strength waste receiving station, and battery energy storage.

- 2.6.3. **Oro Loma Sanitary District.** The Oro Loma Sanitary District is planning a digester replacement project and Supervisory Control and Data Acquisition system and cybersecurity improvements.
- 2.6.4. **Union Sanitary District.** The Union Sanitary District is constructing a new discharge structure, flap gate, and pipeline, and new dechlorination equipment to improve its Old Alameda Creek outfall. Once completed, wet weather flows above its contracted EBDA pipeline capacity will be discharged through this outfall under its wet weather discharge NPDES permit (CA0038733).

By 2028, the Union Sanitary District plans to complete plant upgrades that will enhance effluent quality by providing significant nitrogen removal (approximately 50 percent total inorganic nitrogen removal and 90 percent total ammonia removal on an average annual basis) and more reliable solids removal. In addition, the District plans to replace aging facilities and may provide up to 2.5 MG of wet weather storage by repurposing its existing secondary clarifiers into equalization basins. The planned upgrades include the following changes:

- Retrofitting existing aeration basins to operate with an anaerobic selector and a biological nutrient removal process. This will include constructing deoxygenation, anoxic, and flexible aeration zones; installing internal recycle pumps; and establishing new step-feed aeration and surface wasting operations.
- Constructing new effluent facilities. This will include building new chlorination and dechlorination contact basins and a new effluent pump station, and relocating the existing effluent force main.
- Constructing larger secondary clarifiers. This will include constructing four 160-foot diameter secondary clarifiers, a mixed liquor control box, and a centralized return-activated sludge pump station.
- Retrofitting existing secondary clarifiers to operate as wet weather flow equalization basins.

In addition, the District is building a new, 2.4 million-gallon primary digester to meet the plant's current solids capacity.

The District also plans to increase its average daily dry weather flow capacity from 33.0 MGD to 38.0 MGD. The upgrades necessary to increase its capacity by the additional 5.0 MGD are unlikely to occur within this Order term; however,

like the previous order, this Order authorizes this change, subject to conditions set forth in Provision 6.3.5.4 of this Order.

- 2.6.5. **EBDA.** EBDA plans to upgrade and refurbish effluent pumps and drivers at several pump stations throughout its system and replace online monitoring at the Marina Dechlorination Facility.

Additionally, EBDA may accept and discharge up to 2 MGD of brine composed of mixed sea salts dissolved in San Francisco Bay water. The brine would come from Cargill, an agribusiness that operates salt ponds in Newark for salt production. Cargill's Newark facility takes in San Francisco Bay water and runs it through a series of evaporation ponds to concentrate and recover two commercial products, sodium chloride and magnesium chloride. In the process, other salts crystallize, generating mixed sea salts, which accumulate in the evaporation ponds. In anticipation of sea level rise, Cargill proposes to further process mixed sea salts to recover additional commercial products. The remaining mixed sea salt brine would be blended with EBDA's effluent for disposal. This project would include the construction of a pipeline from the Newark facility to the EBDA pipeline. If this project proceeds, EBDA plans to occasionally and temporarily cease acceptance of Cargill brine for operational reasons, such as during wet weather, to ensure that the EBDA pipeline retains capacity for its member agencies. The brine discharge is expected to last 10 to 20 years.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

- 3.1. **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 the U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It serves as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order.

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

3.3. State and Federal Laws, Regulations, Policies, and Plans

- 3.3.1. **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. State Water Board Resolution 88-63, establishes as state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on Lower San Francisco Bay, total dissolved solids levels exceed 3,000 mg/L; therefore, Lower San Francisco Bay meets an exception to State Water Board Resolution 88-63. Beneficial uses applicable to Lower San Francisco Bay are as follows:

Table F-5. Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Lower San Francisco Bay	Industrial Service Supply (IND) Ocean, Commercial and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC-1) Non-Contact Water Recreation (REC-2) Navigation (NAV)

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

3.3.3. 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 establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. 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 through 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. Requirements of this Order implement the SIP.

3.3.4. Bacteria Objectives. The State Water Board adopted the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of*

California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy on August 7, 2018, and it became effective on March 22, 2019. This plan establishes enterococcus bacteria water quality objectives and related implementation provisions for discharges to marine and estuarine waters that support the water contact recreation beneficial use.

- 3.3.5. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. The State Water Board adopted amendments to the plan on June 5, 2018, that became effective on March 11, 2019. This plan establishes sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.
- 3.3.6. **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 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.
- 3.3.7. **Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
- 3.3.8. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or 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.
- 3.3.9. **Sewage Sludge and Biosolids.** U.S. EPA administers 40 C.F.R. part 503, Standards for the Use or Disposal of Sewage Sludge, which regulates the final use or disposal of sewage sludge generated during the treatment of domestic

sewage in a municipal wastewater treatment facility. This Order does not authorize any act that violates those requirements. The Discharger is responsible for meeting applicable requirements of 40 C.F.R. part 503.

3.4. Impaired Water Bodies on CWA section 303(d) List. On April 6, 2018, U.S. EPA approved a revised list of impaired waters pursuant to CWA section 303(d), which requires identification of water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for nonpoint sources and are established to achieve water quality standards.

Lower San Francisco Bay is listed as impaired by mercury, PCBs, dioxin-like PCBs, chlordane, DDT, dieldrin, dioxin compounds (including 2,3,7,8-TCDD), furan compounds, invasive species, and trash. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. NPDES Permit CA0038849 implements the mercury and PCBs TMDLs.

As shown in Fact Sheet section 4.3.3, the discharge is not a significant source of chlordane, DDT, and dieldrin because these pollutants have not been detected in the discharge. The discharge is an insignificant source of dioxins and furans because concentrations of these pollutants in the Discharger's effluent are consistently below water quality objectives. The discharge is not a source of invasive species because it is disinfected. The discharge is also not a source of trash because it is screened and treated to at least secondary treatment standards.

4. 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.

4.1. Discharge Prohibitions

4.1.1. Discharge Prohibition 3.1 (No discharge other than as described): 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.

- 4.1.2. **Discharge Prohibition 3.2 (No bypass to waters of the United States):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section 1.7). This Order approves certain wet-weather bypasses in accordance with 40 C.F.R. section 122.41(m)(4)(ii) (see Attachment D section 1.7.4) as described below.

The EBDA member agencies' collection and treatment systems are generally designed for up to a 10-year storm; however, the capacity of the EBDA Common Outfall may be reduced by as much as 10 MGD during peak wet weather, when elevated groundwater levels increase infiltration into the EBDA pipeline, storm tide pressure on the outfall diffuser inhibits discharge, and anticipated engineering response time necessitates bypassing before projected influent flows flood a facility or adjacent property. Under such conditions, the City of San Leandro Water Pollution Control Plant and the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant may be unable to convey all of their treated wastewater through the EBDA pipeline to the EBDA Common Outfall. If that occurs, a portion of the City of San Leandro and the Oro Loma and Castro Valley Sanitary Districts effluent may need to be directed to overflow weirs to Lower San Francisco Bay. These wet weather bypasses meet the conditions listed in 40 C.F.R. section 122.41(m)(4)(i) (see Attachment D section 1.7.3):

- 4.1.2.1. **Bypass Is Unavoidable.** The bypasses would be unavoidable to prevent personal injury and severe property damage because, if treated water could not be discharged, the collection systems serving the City of San Leandro Water Pollution Control Plant and the Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant would exceed their capacity and flood those plants and their service areas, resulting in sanitary sewer overflows in the neighborhoods they serve.
- 4.1.2.2. **No Feasible Alternatives Exist.** There would be no feasible alternatives to avoid bypasses. The Discharger would implement wet weather bypass Standard Operating Procedures and use the full capacity of the EBDA Common Outfall (considering groundwater elevation, storm tides, and engineering response time) and available equalization and storage at the Oro Loma Sanitary District, Castro Valley Sanitary District, City of San Leandro, and City of Hayward facilities.

Additional measures are infeasible at this time. EBDA member agencies routinely inspect, rehabilitate, and replace their collection system pipelines (see Fact Sheet section 2.4.2) to reduce infiltration. Additionally, EBDA member agencies cannot readily construct additional storage because sufficient property is unavailable at their facilities and the costs to acquire

additional property (millions of dollars) are infeasible given the infrequency of wet weather bypasses (approximately once every 10 years). It is unlikely for the EBDA pipeline to be vulnerable to infiltration since it is under pressure, so any additional measure for the pipeline would be limited to a capacity increase. It is similarly infeasible to construct a higher-capacity pipeline to the EBDA Common Outfall because it would cost millions of dollars to increase capacity to a relatively small part of the overall EBDA system.

- 4.1.2.3. **Discharger Provided Notice.** The Discharger submitted notice of these anticipated bypasses to the Regional Water Board with its Report of Waste Discharge on September 30, 2026.

The Regional Water Board may approve anticipated bypasses after considering their adverse effects. In this case, adverse effects will not occur because the bypasses will consist of secondary-treated wastewater that will comply with all effluent limits. Furthermore, these bypasses will occur rarely and only during peak wet weather, when tidal mixing will greatly dilute the discharges within Lower San Francisco Bay. Moreover, approving these bypasses potentially prevents more frequent discharges to San Lorenzo Creek covered by NPDES Permit CA0038679. Bypassing to Lower San Francisco Bay is preferable to discharging to San Lorenzo Creek because San Lorenzo Creek is a smaller, more sensitive water body, comprised entirely of shallow and fresh waters not subject to the strong tidal mixing that occurs in Lower San Francisco Bay.

Because approved wet weather bypasses will not affect effluent quality, this Order does not require the accelerated monitoring described in Attachment G section 3.1.3.2.5.

- 4.1.3. **Discharge Prohibition 3.3 (No discharge without minimum initial dilution of at least 75:1, or, after accepting Cargill brine, 72:1):** This prohibition is based on the Discharger's dilution study, *East Bay Dischargers Authority Common Outfall Summary of Dilution Modeling Conditions and Results* (April 2021). The study modeled mixing conditions and found a minimum initial dilution of 75:1 (72:1 after the Discharger accepts Cargill brine). Thus, after the Discharger satisfies Provision 6.3.5.1 (Commencement of Cargill Brine Discharge), this Order prohibits discharge without a minimum initial dilution of at least 72:1. This Order's water quality-based effluent limitations for ammonia and total residual chlorine are based on these initial dilutions. Therefore, this prohibition is necessary to ensure that this Order's effluent limitations remain protective of water quality.
- 4.1.4. **Discharge Prohibition 3.4 (No average dry weather influent flow above individual discharge capacities):** This prohibition is based on each treatment plant's design treatment capacity (i.e., the historic and tested reliability of the treatment plant). Exceeding the average dry weather influent flow design

capacity of an individual plant (listed in Table 2 of the Order) could lower plant reliability with respect to complying with this Order's requirements.

- 4.1.5. **Discharge Prohibition 3.5 (No sanitary sewer overflows to waters of the United States):** This prohibition is based on Discharge Prohibition 15 of Basin Plan Table 4-1 and the CWA, which prohibit the discharge of wastewater to surface waters, except as authorized under an NPDES permit. Publicly-owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards. A sanitary sewer overflow that results in the discharge to waters of the United States of raw sewage or wastewater not meeting this Order's effluent limitations is therefore prohibited under the Basin Plan and CWA.
- 4.1.6. **Discharge Prohibition 3.6 (No brine flow above four percent of total flow):** This Order prohibits the addition of Cargill brine to the EBDA pipeline at a flow greater than four percent of the total secondary-treated wastewater flow. This prohibition is necessary to ensure that brine is appropriately managed and is consistent with the discharge buoyancy assumption on which the Discharger's dilution study is based. The study evaluated dilution using secondary treated wastewater mixed with 2 MGD brine under chronic discharge conditions, resulting in a discharge consisting of about four percent brine. This prohibition is also consistent with the Discharger's chronic toxicity species screening study. The Discharger conducted side-by-side toxicity tests using samples consisting of 100 percent secondary treated wastewater and a blend of treated wastewater to brine as high as a 25:1 (i.e., four percent brine), which demonstrated that the brine addition does not increase effluent toxicity and thus will not harm receiving water quality, particularly when considering the initial dilution achieved at the outfall.

4.2. Technology-Based Effluent Limitations

4.2.1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the secondary treatment standards at 40 C.F.R. section 133 as summarized below. Basin Plan Table 4-2 contains additional requirements for certain pollutants.

Table F-6. Secondary Treatment Standards

Parameter	Monthly Average	Weekly Average
Biochemical Oxygen Demand (BOD) ^[1,2]	30 mg/L	45 mg/L
Carbonaceous Biochemical Oxygen Demand (CBOD) ^[1,2]	25 mg/L	40 mg/L

Parameter	Monthly Average	Weekly Average
Total Suspended Solids TSS ^[2]	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnotes:

^[1] CBOD effluent limitations may be substituted for BOD limitations.

^[2] The monthly average percent removal, by concentration, is not to be less than 85 percent.

4.2.2. Technology-Based Effluent Limitations

4.2.2.1. **CBOD and TSS.** The CBOD and TSS effluent limitations, including the 85 percent removal requirement, are based on the secondary treatment standards and Basin Plan Table 4-2.

4.2.2.2. **pH.** The pH effluent limitations are based on the secondary treatment standards and Basin Plan Table 4-2.

4.2.2.3. **Total Residual Chlorine.** The total residual chlorine effluent limitation is based on Basin Plan Table 4-2. This technology-based effluent limitation will be replaced by a water quality-based effluent limitation (see Fact Sheet section 4.3.4.4) on the first day of the month following U.S. EPA approval of the chlorine water quality objectives set forth in Regional Water Board Resolution R2-2020-0031.

The Monitoring and Reporting Program (MRP, Attachment E) provides an allowance for determining false positives when using continuous devices based on the fact that continuous instruments occasionally have anomalous spikes, and it is chemically improbable to have free chlorine in the presence of sodium bisulfite. The allowance for using only on-the-hour measurements for mandatory minimum penalty assessment purposes under Water Code section 13385.1 is based on a 2004 strategy developed between the Regional Water Board and the Bay Area Clean Water Agencies.

4.3. Water Quality-Based Effluent Limitations

4.3.1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require permits to include limitations more stringent than federal technology-based requirements where necessary to achieve 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, water quality-based effluent limitations (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. The process for determining reasonable potential and calculating WQBELs when necessary is intended to achieve applicable water quality objectives and criteria, and thereby protect designated beneficial uses of receiving waters.

4.3.2. Beneficial Uses and Water Quality Criteria and Objectives

Discharge Point 001 discharges to Lower San Francisco Bay. Fact Sheet section 3.3.1 identifies the beneficial uses of Lower San Francisco Bay. Water quality criteria and objectives to protect these beneficial uses are described below.

4.3.2.1. **Basin Plan Objectives.** The Basin Plan specifies numerous water quality objectives, including numeric objectives for 10 priority pollutants, un-ionized ammonia, total residual chlorine, and bacteria, and narrative objectives for toxicity and bioaccumulation.

4.3.2.1.1. **Ammonia.** Basin Plan section 3.3.20 contains water quality objectives for un-ionized ammonia of 0.025 mg/L (as nitrogen) as an annual median and 0.4 mg/L (as nitrogen) as a maximum for Lower San Francisco Bay and upstream 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.

To translate the un-ionized ammonia objectives into total ammonia criteria, pH, salinity, and temperature data were obtained from the Regional Monitoring Program (RMP) station nearest the outfall (Yerba Buena, BC10). The un-ionized fraction of the total ammonia was calculated using the following equations (*Ambient Water Quality Criteria for Ammonia (Saltwater)*—1989, EPA Publication 440/5-88-004, 1989):

$$\text{Fraction of un-ionized ammonia} = (1 + 10^{[pK - pH]})^{-1}$$

Where, for salinity less than 1 ppt:

$$pK = 0.09018 + 2729.92/T$$

T = temperature in Kelvin

Where, for salinity greater than 10 ppt:

$$pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T$$

I = molal ionic strength of saltwater = $19.9273*(S)/(1000-1.005109*S)$

S = salinity (parts per thousand)

T = temperature in Kelvin

P = pressure (one atmosphere)

The 90th percentile and median un-ionized ammonia fractions were then used to express the maximum and annual average un-ionized objectives as acute and 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 from a Dissolved Criterion*, EPA Publication 823-B96-007). The equivalent acute and chronic total ammonia criteria are 10 mg/L and 1.3 mg/L (as nitrogen).

- 4.3.2.1.2. **Total Residual Chlorine.** On November 18, 2020, the Regional Water Board adopted Resolution R2-2020-0031 to amend the Basin Plan to eliminate the requirement for a technology-based effluent limit for chlorine of 0.0 mg/L, and to establish water quality objectives for chlorine and a process to implement the new objectives through water quality-based effluent limits. For marine and estuarine waters, the new objectives are 7.5 µg/L as a four-day average and 13 µg/L as a one-hour average (see Basin Plan section 3.3.23). U.S. EPA must approve the new objectives before they become effective.
- 4.3.2.1.3. **Fecal Coliform Bacteria.** Basin Plan section 3.3.1 contains water quality objectives for fecal coliform bacteria to protect the shellfish harvesting beneficial use, which are a median value of less than 14 most probable number per 100 milliliters (MPN/100 mL) and a 90th percentile value of less than 43 MPN/100 mL.
- 4.3.2.1.4. **Toxicity.** The narrative toxicity objective (Basin Plan § 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. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. ...There shall be no chronic toxicity in ambient waters.”

This Order translates the narrative objective for chronic toxicity into a numeric criterion of 1.0 chronic toxicity unit (TUc). At 1.0 TUc, there is no observable detrimental effect when the indicator organism is exposed to 100 percent effluent; therefore, 1.0 TUc 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 TUc 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.

- 4.3.2.1.5. **Bioaccumulation and Dioxin-TEQ.** The narrative bioaccumulation objective (Basin Plan § 3.3.2) states, “Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.” Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan’s narrative bioaccumulation water quality objective applies to these pollutants. Elevated levels of dioxins and furans in San Francisco Bay fish tissue demonstrate that the narrative bioaccumulation water quality objective is not being met. U.S. EPA has therefore placed Central San Francisco Bay on its 303(d) list of receiving waters where water quality objectives are not being met after imposition of applicable technology-based requirements.

When the CTR was promulgated, U.S. EPA stated its support for the regulation of dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs). U.S. EPA stated, “For California waters, if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limits for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme” (Fed. Reg. Vol. 65, No. 97, pages 31695-31696, May 18, 2000). This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization developed in 2005, and a set of bioaccumulation equivalency factors (BEFs) U.S. EPA developed for the Great Lakes region (40 C.F.R. § 132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). Although the 2005 World Health Organization scheme includes TEFs for dioxin-like PCBs, they are not included in this Order’s TEQ scheme. The CTR has established a specific water quality criterion for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

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

- 4.3.2.2. **CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” The criteria applicable to “organisms only” apply to Lower San Francisco Bay because it is not a source of drinking water.
- 4.3.2.3. **NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Lower San Francisco Bay.
- 4.3.2.4. **Bacteria Objectives.** The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* establishes enterococcus bacteria water quality objectives to limit cases of gastrointestinal illness from water contact recreation. The enterococcus bacteria objectives apply to marine and estuarine waters.
- 4.3.2.5. **Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains the following narrative water quality objectives:
- 4.3.2.5.1. “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California.” This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.
- 4.3.2.5.2. “Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California.” This objective is to be implemented by a three-tiered procedure based on pollutant concentrations in sediment and fish tissue.
- 4.3.2.5.3. “Pollutants shall not be present in sediment at levels that alone or in combination are toxic to wildlife and resident finfish by direct exposure or bioaccumulate in aquatic life at levels that are harmful to wildlife or resident finfish by indirect exposure in bays and estuaries of California.” This objective is to be implemented on a case-by-case basis, based upon an ecological risk assessment.
- 4.3.2.6. **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.

Lower San Francisco Bay is marine based on salinity data collected through the RMP at the Yerba Buena sampling station (BC10) between 1993 and 2017. During that period, the average salinity was 26 ppt, with a range from 12 to 36 ppt. Because the salinity was greater than 10 ppt in 100 percent of the samples, the reasonable potential analysis and effluent limitations in this Order are based on saltwater water quality objectives.

- 4.3.2.7. **Metals Translators.** Regulations at 40 C.F.R. section 122.45(c) require effluent limitations for metals to be expressed as total recoverable metal. Since the water quality objectives for metals are typically expressed as dissolved metals, 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 metals (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

CTR default translators were used for all metals other than copper, nickel and zinc. Basin Plan Table 7.2.1-2 sets forth site-specific copper translators. The Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (March 2005) contains similar translators for nickel. Additionally, this Order retains site-specific zinc translators from the previous order, which were calculated using RMP data collected between 1993 and 2003 at the Alameda RMP monitoring station (BB70) and two other Central San Francisco Bay stations near the EBDA Common Outfall (CB004W and CB006W). The site-specific copper, nickel, and zinc translators are listed below.

Table F-7. Site-Specific Translators

Parameter	Chronic Translator	Acute Translator
Copper	0.73	0.87
Nickel	0.65	0.85

Parameter	Chronic Translator	Acute Translator
Zinc	0.46	0.30

4.3.3. Reasonable Potential Analysis

4.3.3.1. **Available Information.** The reasonable potential analysis for this Order is based on plant effluent data collected from July 2017 through December 2021 and ambient background data summarized in the RMP's *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (2017), which includes data collected through the RMP at the Yerba Buena RMP station (BC10) from 1993 through 2017, supplemented by additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004).

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. RMP monitoring station BC10, relative to other RMP stations, fits SIP guidance for establishing priority pollutant and ammonia background conditions at Discharge Point 001.

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 6.3.2 of the Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

4.3.3.2. **Priority Pollutants, Ammonia, and Dioxin-TEQ.** SIP section 1.3 sets forth the methodology used to assess whether priority pollutants have reasonable potential to exceed CTR and NTR water quality objectives. Here, SIP section 1.3 is also used as guidance for ammonia and dioxin-TEQ. 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:

- **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).
- **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.

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

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. Based on this analysis, ammonia, copper, and cyanide exhibit reasonable potential by Trigger 1. Additionally, Basin Plan sections 7.2.1.2 and 4.7.2.2 require copper and cyanide WQBELs for all individual NPDES permits for municipal wastewater treatment facilities (Trigger 3). Dioxin-TEQ exhibits reasonable potential by Triggers 2 and 3 because it is present in the discharge and the receiving water is impaired for dioxin-TEQ.

Table F-8. Reasonable Potential Analysis for Various Pollutants

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 Result ^[3]
1	Antimony	4,300	0.49	1.8	No
2	Arsenic	36	1.3	2.5	No
3	Beryllium	No Criterion	<0.035	0.22	U
4	Cadmium	9.36	0.23	0.13	No
5a	Chromium (III) ^[4]	No Criterion	1.1	4.4	U
5b	Chromium (VI)	50	1.1	4.4	No
6	Copper	8.2	10	2.5	Yes
7	Lead	8.5	0.36	0.80	No
8	Mercury ^[5]	-	-	-	-
9	Nickel	13	7.7	3.7	No
10	Selenium	5.0	1.0	0.39	No
11	Silver	2.2	0.082	0.052	No
12	Thallium	6.3	<0.025	0.023	No
13	Zinc	196	32	5.1	No
14	Cyanide	2.9	3.1	0.52	Yes
15	Asbestos (fibers/L) ^[6]	-	-	-	U
16	2,3,7,8-TCDD	1.4 x 10 ⁻⁸	<2.3 x 10 ⁻⁷	2.7 x 10 ⁻⁸	U
	Dioxin-TEQ	1.4 x 10⁻⁸	11.1 x 10⁻⁹ DNQ	4.1 x 10⁻⁸	Yes ^[7]
17	Acrolein	780	<0.94	<0.50	No
18	Acrylonitrile	0.66	<0.39	0.030	No
19	Benzene	71	<0.10	<0.050	No
20	Bromoform	360	<0.18	<0.15	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 Result ^[3]
21	Carbon Tetrachloride	4.4	<0.14	0.060	No
22	Chlorobenzene	21,000	<0.12	<0.18	No
23	Chlorodibromomethane	34	<0.13	<0.05	No
24	Chloroethane	No Criterion	<0.18	<0.38	U
25	2-Chloroethylvinyl ether	No Criterion	<0.25	<0.28	U
26	Chloroform	No Criterion	1.1	<0.19	U
27	Dichlorobromomethane	46	<0.20	<0.050	No
28	1,1-Dichloroethane	No Criterion	<0.13	<0.050	U
29	1,2-Dichloroethane	99	<0.14	0.040	No
30	1,1-Dichloroethylene	3.2	<0.19	<0.21	No
31	1,2-Dichloropropane	39	<0.13	<0.050	No
32	1,3-Dichloropropylene	1,700	<0.18	<0.16	No
33	Ethylbenzene	29,000	<0.13	<0.26	No
34	Methyl Bromide	4,000	<0.23	<0.30	No
35	Methyl Chloride	No Criterion	<0.32	<0.30	U
36	Methylene Chloride	1,600	<0.24	22	No
37	1,1,2,2-Tetrachloroethane	11	<0.12	<0.050	No
38	Tetrachloroethylene	8.9	<0.18	<0.050	No
39	Toluene	200,000	0.55	<0.19	U
40	1,2-Trans-Dichloroethylene	140,000	<0.19	<0.22	No
41	1,1,1-Trichloroethane	No Criterion	<0.16	<0.19	No
42	1,1,2-Trichloroethane	42	<0.20	<0.050	No
43	Trichloroethylene	81	<0.16	<0.20	No
44	Vinyl Chloride	525	<0.090	<0.25	No
45	2-Chlorophenol	400	<0.18	<0.70	No
46	2,4-Dichlorophenol	790	<0.17	<0.90	No
47	2,4-Dimethylphenol	2,300	<0.11	<0.80	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.94	<0.60	No
49	2,4-Dinitrophenol	14,000	<0.62	<0.70	No
50	2-Nitrophenol	No Criterion	<0.84	<0.80	U
51	4-Nitrophenol	No Criterion	<0.097	<0.50	U
52	3-Methyl 4-Chlorophenol	No Criterion	<0.19	<0.80	U
53	Pentachlorophenol	7.9	<1.8	<0.60	No
54	Phenol	4,600,000	<0.085	<0.50	No
55	2,4,6-Trichlorophenol	6.5	<0.80	<0.97	No
56	Acenaphthene	2,700	0.034 DNQ	0.0020	No
57	Acenaphthylene	No Criterion	0.020 DNQ	0.0010	U
58	Anthracene	110,000	<0.010	0.0010	No
59	Benzidine	0.00054	<1.6	<0.00030	U
60	Benzo(a)Anthracene	0.049	<0.0077	0.0050	No
61	Benzo(a)Pyrene	0.049	<0.011	0.0020	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 Result ^[3]
62	Benzo(b)Fluoranthene	0.049	<0.0092	0.0050	No
63	Benzo(ghi)Perylene	No Criterion	<0.0079	0.0030	U
64	Benzo(k)Fluoranthene	0.049	<0.0064	0.0020	No
65	Bis(2-Chloroethoxy)Methane	No Criterion	<0.40	<0.30	U
66	Bis(2-Chloroethyl)Ether	1.4	<0.16	<0.30	No
67	Bis(2-Chloroisopropyl)Ether	170,000	<0.12	<0.60	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	<3.6	<0.50	No
69	4-Bromophenyl Phenyl Ether	No Criterion	<0.13	<0.23	U
70	Butylbenzyl Phthalate	5,200	1.6 DNQ	<0.50	No
71	2-Chloronaphthalene	4,300	<0.094	<0.30	No
72	4-Chlorophenyl Phenyl Ether	No Criterion	<0.11	<0.30	U
73	Chrysene	0.049	<0.0081	0.0020	No
74	Dibenzo(a,h)Anthracene	0.049	<0.0092	0.0010	No
75	1,2-Dichlorobenzene	17,000	<0.13	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.17	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.15	<0.18	No
78	3,3 Dichlorobenzidine	0.077	<0.25	<0.00020	U
79	Diethyl Phthalate	120,000	<0.092	<0.20	No
80	Dimethyl Phthalate	2,900,000	<0.11	<0.20	No
81	Di-n-Butyl Phthalate	12,000	0.10 DNQ	<0.50	No
82	2,4-Dinitrotoluene	9.1	<0.12	<0.27	No
83	2,6-Dinitrotoluene	No Criterion	<0.14	<0.29	U
84	Di-n-Octyl Phthalate	No Criterion	<0.089	<0.38	U
85	1,2-Diphenylhydrazine	0.54	<0.13	0.0040	No
86	Fluoranthene	370	0.042 DNQ	0.011	No
87	Fluorene	14,000	<0.015	0.002	No
88	Hexachlorobenzene	0.00077	<0.11	0.000020	U
89	Hexachlorobutadiene	50	<0.092	<0.30	No
90	Hexachlorocyclopentadiene	17,000	<0.18	<0.30	No
91	Hexachloroethane	8.9	<0.10	<0.20	No
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.085	0.0040	No
93	Isophorone	600	<0.13	<0.30	No
94	Naphthalene	No Criterion	<0.017	0.0090	U
95	Nitrobenzene	1,900	<0.11	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.08	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.18	<0.00020	No
98	N-Nitrosodiphenylamine	16	<0.096	<0.0010	No
99	Phenanthrene	No Criterion	<0.014	0.0060	U
100	Pyrene	11,000	<0.01	0.019	No
101	1,2,4-Trichlorobenzene	No Criterion	<0.12	<0.30	No
102	Aldrin	0.00014	<0.002	<0.0000085	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 Result ^[3]
103	Alpha-BHC	0.013	<0.0029	0.00050	No
104	Beta-BHC	0.046	<0.0029	0.00040	No
105	Gamma-BHC	0.063	<0.0019	0.0010	No
106	Delta-BHC	No Criterion	<0.0029	0.00010	U
107	Chlordane	0.00059	<0.014	0.00014	U
108	4,4'-DDT	0.00059	<0.003	0.00020	U
109	4,4'-DDE	0.00059	<0.0029	0.0010	U
110	4,4'-DDD	0.00084	<0.0019	0.00030	U
111	Dieldrin	0.00014	<0.0039	0.00030	U
112	Alpha-Endosulfan	0.0087	<0.0030	0.00010	No
113	beta-Endosulfan	0.0087	<0.0030	0.00010	No
114	Endosulfan Sulfate	240	<0.0019	0.00010	No
115	Endrin	0.0023	<0.0029	0.000040	U
116	Endrin Aldehyde	0.81	<0.0039	<0.0050	No
117	Heptachlor	0.00021	<0.0029	0.000020	U
118	Heptachlor Epoxide	0.00011	<0.0029	0.00010	U
119-125	PCBs sum ^[5]	-	-	-	-
126	Toxaphene	0.00020	<0.070	<0.00000082	U
	Total Ammonia	1.3	41	0.43	Yes

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 (MDL).
- ^[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] The maximum effluent and ambient background concentrations are the total chromium concentration. The chromium (III) and chromium (VI) concentrations are unknown but less than these values.
- ^[5] SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs.
- ^[6] Asbestos sampling is only required for discharges to waters with the municipal or domestic supply (MUN) beneficial use. Lower San Francisco Bay does not have the MUN beneficial use.
- ^[7] Reasonable potential is based on Triggers 2 and 3 because San Francisco Bay is 303(d)-listed for dioxin-TEQ and elevated levels of dioxin-TEQ are found in San Francisco Bay fish tissue. Dioxin-TEQ is also present in the discharge.

4.3.3.3. Total Residual Chlorine. Basin Plan Table 4-2 requires a total residual chlorine effluent limitation for all treatment facilities with the potential to discharge chlorine. Following U.S. EPA approval of the chlorine water quality objectives set forth in Regional Water Board Resolution R2-2020-0031, a water quality-based effluent limitation for total residual chlorine will be required because the Facility disinfects its effluent with chlorine and, without

sufficient dichlorination, the discharge could contain chlorine above the new water quality objective.

- 4.3.3.4. **Enterococcus Bacteria.** The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy* requires *Enterococcus* bacteria effluent limitations for discharges to marine and estuarine receiving waters that support the water contact recreation (REC1) beneficial use.
- 4.3.3.5. **Fecal Coliform Bacteria.** Basin Plan Table 4-2A requires total coliform effluent limitations for discharges to receiving waters that support the shellfish harvesting beneficial use. Footnote f allows substitution with fecal coliform limits provided that doing so will not result in unacceptable adverse impacts on beneficial uses (i.e., shellfish harvesting).
- 4.3.3.6. **Chronic Toxicity.** There is no reasonable potential for chronic toxicity in the receiving water, and no WQBEL is required. The *Technical Support Document for Water Quality-based Toxics Control* allows for dilution credits to be considered when conducting a reasonable potential analysis. This Order establishes a chronic toxicity dilution credit of 10:1 (D = 9) consistent with Basin Plan section 4.5.5.3.2, which allows chronic toxicity dilution credits “comparable to those allowed for numeric chemical-specific objectives.” Fact Sheet section 4.3.4.2.2 establishes a comparable dilution credit of 10:1 for several non-bioaccumulative pollutants.
- During the previous order term, the Discharger conducted chronic toxicity tests at least quarterly. The maximum single-sample chronic toxicity result was 3.2 TUC. Applying the dilution credit of 10:1 to 3.2 TUC results in toxicity less than the translated chronic toxicity objective (1.0 TUC).
- 4.3.3.7. **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.
- 4.3.3.8. **Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives. Nevertheless, the Discharger continues to participate in the RMP, which routinely monitors San Francisco Bay sediment and seeks to identify stressors responsible for degraded sediment quality.

4.3.4. Water Quality-Based Effluent Limitations

WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. With the exception of total residual chlorine, *Enterococcus* bacteria, fecal coliform bacteria, and acute toxicity (discussed below), the WQBEL calculations are based on the procedures in SIP section 1.4.

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

4.3.4.2. **Mixing Zones and Dilution Credits.** The Basin Plan and SIP allow mixing zones and dilution credits under certain circumstances. The Discharger's dilution study, *Technical Support for Dilution Credits and Calculation of Effluent Limitations based on Chlorine Acute Water Quality Objective* (April 2021), supplemented by information in its Report of Waste Discharge (September 2021), estimated mixing at Discharge Point 001 using the CORMIX 11 mixing zone model to evaluate near-field mixing (i.e., mixing resulting from the initial momentum and buoyancy of the discharge upon exiting the outfall). The study is conservatively based on the Discharger's current peak discharge flow (acute conditions) and modeled dilution under current discharge conditions and future discharge conditions after the Discharger begins discharging Cargill brine (see Provision 6.3.5.1). The following table summarizes the modeling results:

Table F-9. Minimum Initial Discharge Dilution

Condition	Discharge Flow (MGD)	Dilution ^[3]
Current Acute	126.9 ^[1] (secondary-treated effluent)	75:1
Future Acute	128.9 ^[2] (secondary-treated effluent + brine)	72:1

Footnotes:

^[1] This flow is the sum of the contracted maximum flows the EBDA member agencies can discharge through the EBDA pipeline.

^[2] This flow is the sum of the maximum contracted flow the EBDA member agencies can discharge through the EBDA pipeline plus 2 MGD of Cargill brine.

^[3] These dilution ratios compare the total receiving water volume after mixing to the effluent volume within that total.

4.3.4.2.1. **Bioaccumulative Pollutants.** For certain bioaccumulative pollutants, no mixing zone is established and dilution credit is denied. Specifically, these pollutants include dioxin and furan compounds, which appear on the CWA

section 303(d) list for Lower San Francisco Bay because, based on available data on the concentrations of these pollutants in aquatic organisms, sediment, and the water column, they impair Lower San Francisco Bay beneficial uses. The following factors suggest insufficient assimilative capacity in San Francisco Bay for these pollutants.

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

4.3.4.2.2. **Non-Bioaccumulative Pollutants (except ammonia and total residual chlorine).** For non-bioaccumulative pollutants (except ammonia and total residual chlorine), mixing zones corresponding to a conservative dilution credit of 10:1 ($D=9$) have been established. The 10:1 dilution credit is based, in part, on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit. The dilution credit is limited for the following reasons:

- 4.3.4.2.2.1. San Francisco Bay is a complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. A water body-by-water body approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.
- 4.3.4.2.2.2. Because of the complex hydrology of San Francisco Bay, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider the three-dimensional nature of San Francisco Bay currents resulting from the interaction of tidal flushes and seasonal freshwater outflows. Being heavier and

colder than freshwater, ocean saltwater enters San Francisco Bay on a twice-daily tidal cycle, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters. The locations of this mixing and interaction change depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of San Francisco Bay, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

4.3.4.2.3. **Ammonia and Total Residual Chlorine.** For ammonia and total residual chlorine, a mixing zone corresponding to a conservative estimate of actual initial dilution of 75:1 (D=74) is established for discharges before the Discharger accepts Cargill brine, and 72:1 (D=71) is established for discharges after the Discharger accepts Cargill brine. This is justified because ammonia and chlorine are both non-persistent pollutants that quickly disperse and degrade. Cumulative toxicity associated with ammonia and chlorine from other unrelated discharges is unlikely.

4.3.4.3. **WQBEL Calculations.** The following tables show the copper, cyanide, dioxin-TEQ, and ammonia WQBEL calculations in accordance with SIP section 1.4.

Table F-10. WQBEL Calculations –Copper, Cyanide, and Dioxin-TEQ

Pollutant	Copper	Cyanide	Dioxin-TEQ
Units	µg/L	µg/L	µg/L
Basis and Criteria type	Basin Plan and CTR Aquatic Life	Basin Plan and CTR Aquatic Life	Basin Plan Narrative Objective
Aquatic Life Criteria - Acute	-	-	-
Aquatic Life Criteria - Chronic	-	-	-
Site-Specific Objective Criteria - Acute	10.8	9.4	-
Site-Specific Objective Criteria - Chronic	8.2	2.9	-
Water Effects Ratio (WER)	1	1	1
Lowest WQO	8.2	2.9	-
Site Specific Translator - MDEL	0.87	-	-
Site Specific Translator - AMEL	0.73	-	-
Dilution Factor (D)	9	9	0
No. of samples per month	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	N
HH criteria analysis required? (Y/N)	N	Y	Y
Applicable Acute WQO	10.8	9.4	-
Applicable Chronic WQO	8.2	2.9	-
HH Criteria	-	220,000	1.4 x 10 ⁻⁸

Pollutant	Copper	Cyanide	Dioxin-TEQ
Background (Maximum Conc. for Aquatic Life Calc.)	2.5	0.52	3.1×10^{-8}
Background (Average Conc. for Human Health Calc.)	-	0.42	2.2×10^{-8}
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	Y
ECA Acute	85	89	-
ECA Chronic	59	24	-
ECA HH	-	2,200,000	1.4×10^{-8}
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N	Y
Avg of effluent data points	7.1	1.3	5.8×10^{-9}
Std Dev of effluent data points	1.1	0.79	6.5×10^{-9}
CV Calculated	0.15	0.61	N/A
CV (Selected) - Final	0.15	0.61	0.60
ECA Acute Mult99	0.71	0.32	-
ECA Chronic Mult99	0.84	0.52	-
LTA Acute	60	29	-
LTA Chronic	49	13	-
Minimum of LTAs	49	13	-
AMEL Mult95	1.1	1.6	1.6
MDEL Mult99	1.4	3.1	3.1
AMEL (Aquatic Life)	56	20	-
MDEL (Aquatic Life)	70	40.0	-
MDEL/AMEL Multiplier	1.25	2.0	2.0
AMEL (Human Health)	-	2,200,000	1.4×10^{-8}
MDEL (Human Health)	-	4,400,000	2.8×10^{-8}
Minimum of AMEL for Aq. Life vs HH	53	20	-
Minimum of MDEL for Aq. Life vs HH	70	40.0	-
Previous Order Limit - AMEL	53	21	1.4×10^{-8}
Previous Order Limit - MDEL	69	40	2.8×10^{-8}
Final Limit - AMEL	53	20	1.4×10^{-8}
Final Limit - MDEL	69	40	2.8×10^{-8}

Table F-11. WQBEL Calculations – Ammonia

Pollutant	Total Ammonia (acute) Pre-Brine	Total Ammonia (chronic) Pre-Brine	Total Ammonia (acute) Post-Brine	Total Ammonia (chronic) Post-Brine
Units	mg/L	mg/L	mg/L	mg/L
Basis and Criteria type	Basin Plan Aquatic Live	Basin Plan Aquatic Live	Basin Plan Aquatic Live	Basin Plan Aquatic Live
Aquatic Life Criteria - Acute	10	-	10	-
Aquatic Life Criteria - Chronic	-	1.3	-	1.3
Site-Specific Objective Criteria - Acute	-	-	-	-
Site-Specific Objective Criteria - Chronic	-	-	-	-
Water Effects Ratio (WER)	1	1	1	1
Lowest WQO	10	1.3	10	1.3
Site Specific Translator - MDEL	-	-	-	-
Site Specific Translator - AMEL	-	-	-	-
Dilution Factor (D)	74	74	71	71
No. of samples per month	4	30 ^[1]	4	30 ^[1]
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y
HH criteria analysis required? (Y/N)	N	N	N	N
Applicable Acute WQO	10	-	10	-
Applicable Chronic WQO	-	1.3	-	1.3
HH Criteria				
Background (Maximum Conc. for Aquatic Life Calc.)	0.43	0.12	0.43	0.12
Background (Average Conc. for Human Health Calc.)				
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N
ECA Acute	750	-	720	
ECA Chronic	-	85	-	81
ECA HH				
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N	N	N
Avg of effluent data points	33	33	33	33
Std Dev of effluent data points	3.7	3.7	3.7	3.7
CV Calculated	0.11	0.11	0.11	0.11
CV (Selected) - Final	0.11	0.11	0.11	0.11
ECA Acute Mult99	0.78	-	0.78	-
ECA Chronic Mult99	-	0.99	-	0.99
LTA Acute	580		560	
LTA Chronic		84		80
Minimum of LTAs	580	84	560	80

Pollutant	Total Ammonia (acute) Pre-Brine	Total Ammonia (chronic) Pre-Brine	Total Ammonia (acute) Post-Brine	Total Ammonia (chronic) Post-Brine
AMEL Mult95	1.1	1.0	1.1	1.0
MDEL Mult99	1.3	1.3	1.3	1.3
AMEL (Aquatic Life)	640	86	610	83
MDEL (Aquatic Life)	750	110	730	100
MDEL/AMEL Multiplier	1.2	1.3	1.2	1.3
AMEL (Human Health)				
MDEL (Human Health)				
Minimum of AMEL for Aq. Life vs HH	640	86	610	83
Minimum of MDEL for Aq. Life vs HH	750	110	720	100
Previous Order Limit - AMEL	91	91	91	91
Previous Order Limit - MDEL	120	120	120	120
Final Limit - AMEL	[2]	86	[2]	83 [3]
Final Limit - MDEL	[2]	110	[2]	100 [3]

Footnotes:

[1] Statistical adjustments were made to the total ammonia WQBEL calculations. The SIP assumes a 4-day average concentration and a monthly sampling frequency of 4 days per month to calculate effluent limitations based on chronic criteria, but the Basin Plan chronic water quality objective for un-ionized ammonia is based on an annual median instead of the typical 4-day average. Therefore, a 365-day average and a monitoring frequency of 30 days per month (the maximum daily sampling frequency in a month since the averaging period for the chronic criteria is longer than 30 days) were used. These statistical adjustments are supported by U.S. EPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia* (64 Fed. Reg. 71974-71980, December 22, 1999).

[2] The final total ammonia WQBELs are based on the chronic water quality objective because they result in lower effluent concentrations.

[3] These WQBELs will replace the pre-brine total ammonia WQBELs when the Discharger satisfies Provision 6.3.5.1 (Commencement of Cargill Brine Discharge).

4.3.4.4. Total Residual Chlorine. The total residual chlorine effluent limitation is based on Basin Plan Table 4-2. Following U.S. EPA approval of the chlorine water quality objectives set forth in Regional Water Board Resolution R2-2020-0031, this technology-based effluent limitation will be replaced by a water quality-based effluent limitation. For the water quality-based effluent limitation, this Order establishes a mixing zone corresponding to initial dilutions of 75:1 (D=74, pre-brine discharge) and 72:1 (D=71, post-brine discharge) to calculate the total residual chlorine effluent limitation (see Fact Sheet section 4.3.4.2.3). This Order uses a simplified equation from SIP section 1.4 because background concentrations for total residual chlorine are assumed to be zero:

$$ECA = (D+1) * C$$

where:

ECA = Effluent Concentration Allowance (effluent limitation)

C = Water quality objective (0.013 mg/L)

D = Dilution factor (D=74 pre-brine, D=71 post-brine)

This calculation results in a one-hour average effluent limitation of 0.98 mg/L before the Discharger accepts Cargill brine, and a one-hour average effluent limitation of 0.94 mg/L after the Discharger accepts Cargill brine.

- 4.3.4.5. **Enterococcus Bacteria.** The enterococcus effluent limitations are based on the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy*. This Order establishes a mixing zone corresponding to an initial dilution of 10:1 (D=9) to calculate the enterococcus effluent limitation (see Fact Sheet section 4.3.4.2.1). To establish background conditions, the Discharger collected two enterococcus receiving water samples near its outfall. The maximum sample result was 2 colony forming units per 100 milliliters (CFU/100 mL).

The enterococcus effluent limitation was calculated using the following equation as specified in SIP section 1.4:

$$ECA = C + D*(C - B)$$

where:

ECA = Effluent Concentration Allowance (effluent limitation)

C = Water quality objective (30 CFU/100 mL, 110 CFU/100mL)

D = Dilution factor (D=9)

B = Background concentration (2 CFU/100 mL)

This calculation results in a six-week rolling geometric mean enterococcus effluent limitation of 280 CFU/100 mL and a limitation of no more than 10 percent of enterococcus samples in a calendar month exceeding 1,100 CFU/100mL.

- 4.3.4.6. **Fecal Coliform Bacteria.** Order includes fecal coliform effluent limitations based on Basin Plan Table 4-2A footnote f (substituting total coliform limitations with fecal coliform limitations).

The Discharger's study, *Study to Verify Protectiveness of Alternative Fecal Coliform Limits, Final Report* (February 22, 2011), verified that alternate fecal coliform limitations do not adversely affect beneficial uses in Lower San Francisco Bay. The study was conducted when the Discharger was complying with the fecal coliform limitations. It showed that, at the same time, water quality objectives were met in the receiving water. For fecal coliform, the maximum single concentration was 17 MPN/100 mL and the maximum

median concentration was 2 MPN/100 mL in the receiving water. These concentrations were well below the fecal coliform water quality objectives for shellfish harvesting (90th percentile no greater than 43 MPN/100 mL and monthly median no greater than 14 MPN/100 mL). Therefore, consistent with Basin Plan Table 4-2A, this Order retains the previous effluent limitations for fecal coliform of 500 MPN/100 mL (monthly geometric mean) and 1,100 MPN/100 mL (11-sample 90th percentile) because they are protective of the shellfish harvesting beneficial use.

- 4.3.4.7. **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 in excess of the acute toxicity limitations in this Order, and that the ammonia in the discharge complies with the ammonia effluent limitations in this Order, then such toxicity does not constitute a violation of the effluent limitations for whole effluent acute toxicity.

4.4. Discharge Requirement Considerations

- 4.4.1. **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.

This Order contains new enterococcus effluent limitations based on the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy*. The new effluent limitations are expressed using different averaging periods than the previous limits and are therefore not directly comparable. Otherwise, this Order contains effluent limitations as stringent as the previous order.

- 4.4.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 (federal policy) and State Water Board Resolution 68-16 (state policy). Permitted discharges must be consistent with these policies. This Order does not decrease the quality nor increase the quantity of the Discharger's discharges to Lower San Francisco Bay.

The previous order authorized increasing the Discharger's total average dry weather flow to Discharge Point 001 to 119.1 MGD, concluding that the Union Sanitary District's and LAVWMA's proposed flow increases of 5.0 MGD and 6.3 MGD would not degrade water quality. The Discharger's *Anti-Degradation Analysis for Proposed Wastewater Treatment Plant Discharge* (June 2, 2006) found that the overall flow increase would increase maximum annual pollutant loads from all dischargers to San Francisco Bay by less than 0.15 percent. This increase would not be observable, particularly considering the continuous tidal mixing and flushing that occurs and the size of San Francisco Bay relative to

the increase, and water quality would not be lowered. Therefore, this Order complies with federal and state antidegradation policies.

Order R2-2021-0019 replaced the previous order's technology-based effluent limitation for total residual chlorine (0.0 mg/L) with a higher water quality-based effluent limitation (0.98 mg/L) and removed the previous order's technology-based effluent limit for oil and grease. Order R2 2021-0019 explains that these changes comply with federal and state antidegradation policies.

This Order authorizes the Discharger to discharge up to 2 MGD of mixed sea salt brine from Cargill (see Fact Sheet section 2.6.5, Planned Changes, EBDA). The addition of brine to the EBDA pipeline and subsequent discharge through the EBDA Common Outfall would not increase the total discharge flow above the total flow evaluated in the Discharger's 2006 antidegradation study cited above. Additionally, the brine would not increase salinity concentrations above ambient levels nor introduce pollutants to Lower San Francisco Bay since the source of the brine will have originated from Lower San Francisco Bay. The Discharger verified this by evaluating a 25:1 blend of its effluent-to-Cargill brine, which found no significant difference in priority pollutant concentrations when compared to samples of 100 percent effluent. Therefore, the brine discharge would not lower water quality and complies with federal and state antidegradation policies.

- 4.4.3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations 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 also applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

5. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in sections 5.1 and 5.2 of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in section 5.3 of the Order requires compliance with federal and state water quality standards in accordance with the CWA and regulations adopted thereunder.

6. RATIONALE FOR PROVISIONS

6.1. 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 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.

Because wet weather bypasses approved in Discharge Prohibition 3.2 of this Order and described in Fact Sheet section 4.1.1.2 will not affect effluent quality, this Order does not require the accelerated monitoring described in Attachment G section 3.1.3.2.5.

6.2. Monitoring and Reporting Provisions

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes 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 information, see Fact Sheet section 7.

6.3. Special Provisions

6.3.1. 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.

6.3.2. Effluent Characterization Study and Report

This Order does not include WQBELs for pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to evaluate monitoring data to verify that the 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 13383, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

6.3.3. Pollutant Minimization Program

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

6.3.4. Special Provisions for Publicly-Owned Treatment Works

- 6.3.4.1. **Pretreatment Program.** This provision is based on 40 C.F.R. part 403. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the individual treatment plants. This provision lists the Discharger's responsibilities regarding its pretreatment program and requires compliance with the provisions in Attachment H, Pretreatment Requirements.
- 6.3.4.2. **Sludge and Biosolids Management.** This provision is based on Basin Plan section 4.17. "Sludge" refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. "Biosolids" refers to sludge that has been treated and may be beneficially reused.
- 6.3.4.3. **Collection System Management.** The Discharger's collection system is part of the Facility regulated through this Order. This provision requires compliance with Attachments D and G and states that these requirements may be satisfied by separately complying with State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC and any subsequent order updating these requirements.

These statewide WDRs require public agencies that own or operate sanitary sewer systems with one or more miles of sewer lines to enroll for coverage and comply with requirements to develop sanitary sewer management plans and report sanitary sewer overflows, among other provisions and prohibitions. The statewide WDRs contain requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive and, therefore, more stringent than the standard provisions in Attachments D and G. Compliance with the statewide WDRs will satisfy the corresponding requirements in Attachments D and G.

- 6.3.4.4. **Resource Recovery from Anaerobically Digestible Material.** Standard Operating Procedures are required for publicly-owned treatment works that accept hauled waste food, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt this activity from separate and redundant permitting programs. Some POTWs choose to accept organic material, such as waste food, fats, oils, and grease, into their anaerobic digesters to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the collection system and potentially causing sanitary sewer overflows. The California Department of Resources Recycling and Recovery has proposed to exempt publicly-owned treatment works from Process Facility/Transfer Station permit requirements when the same activity is regulated under WDRs or NPDES permits. The proposed exemption is restricted to anaerobically digestible materials that have been prescreened, slurried, processed, and conveyed in a closed system for codigestion with regular sewage sludge. The exemption requires that the publicly-owned treatment works develop Standard Operating Procedures for proper handling, processing, tracking, and management of anaerobically digestible material.

6.3.5. Other Special Provisions

- 6.3.5.1. **Commencement of Cargill Brine Discharge.** This provision is based on 40 C.F.R. section 122.41(l). It specifies conditions that must be met before the Discharger begins discharging Cargill brine through Discharge Point 001. It is necessary so the Regional Water Board knows when the brine discharge will commence and to ensure that the Discharger complies with Discharge Prohibitions 3.3 and 3.6 and total ammonia and total residual chlorine effluent limitations that become effective when the brine discharge commences.
- 6.3.5.2. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that use of copper site-specific objectives is

consistent with antidegradation policies. This Order requires the Discharger to implement source control and pollution prevention for identified sources. Additional actions may be necessary depending on the three-year rolling mean copper concentration in Central San Francisco Bay. Data the San Francisco Estuary Institute compiled for 2015-2019 indicate no degradation of San Francisco Bay water quality with respect to copper (<https://www.sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0>).

- 6.3.5.3. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible “significant cyanide discharge” in the Discharger’s service area is set at 17 µg/L. This trigger is retained from the previous order, which was calculated using the 99th percentile cyanide concentration of all individual treatment plant influent samples between March 2012 and August 2016.
- 6.3.5.4. **Union Sanitary District Flow Capacity Increase.** This provision is necessary for the Regional Water Board to know when the Union Sanitary District’s average daily dry weather influent flow capacity will increase and to ensure that plant upgrades can effectively and reliably handle the increased flows.
- 6.3.5.5. **City of Hayward Plant Upgrades.** This provision is necessary for the Regional Water Board to know when the City of Hayward’s biological nutrient removal plant upgrades will come online and to ensure that they can effectively and reliably treat the City’s wastewater as designed.
- 6.3.5.6. **Wet Weather Bypass.** This provision is necessary if the Discharger seeks Regional Water Board approval for wet weather bypasses to occur during the next permit term. It requires the Discharger to demonstrate that it meets the requirements of 40 C.F.R. sections 122.41(m)(4)(i) and (ii) (see Attachment D sections 1.7.3 and 1.7.4).

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The following provides the rationale for the monitoring and reporting requirements in the MRP.

7.1. Monitoring Requirements Rationale

- 7.1.1. **Influent Monitoring.** Influent monitoring at Monitoring Locations INF-002A through INF-002D is necessary to understand Facility operations and to evaluate compliance with Prohibition 3.4, which prohibits average dry weather influent flows greater than the individual treatment plant permitted flows in Table 2 of this Order. Influent CBOD and TSS monitoring is necessary to

evaluate compliance with this Order's 85 percent removal requirement. Finally, Basin Plan section 4.7.2.2 requires influent cyanide monitoring because this Order is based on site-specific cyanide water quality objectives.

- 7.1.2. **Effluent Monitoring.** Effluent monitoring at Monitoring Location EFF-001 is necessary to understand Facility operations, to evaluate compliance with this Order's effluent limitations, and to conduct future reasonable potential analyses. Effluent monitoring at Monitoring Locations EFF-002A through EFF-002D is also necessary to understand Facility operations and to evaluate compliance with this Order's effluent limitations. Effluent monitoring at Monitoring Location EFF-001D (after disinfection and before dechlorination) is necessary to evaluate compliance with this Order's bacteria effluent limitations. Monitoring Location EFF-001D can be collocated with Monitoring Location EFF-001 if enterococcus and fecal coliform bacteria regrowth does not significantly interfere with the monitoring results. Finally, effluent monitoring at Monitoring Location EFF-002 is necessary to ensure that brine discharges comply with Discharge Prohibition 3.6.
- 7.1.3. **Toxicity Monitoring.** Acute and chronic toxicity tests are necessary to evaluate compliance with the acute toxicity effluent limitations and to conduct future reasonable potential analyses. Additionally, chronic toxicity tests are necessary to evaluate whether chronic toxicity exceeds triggers 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. Chronic toxicity tests are also necessary to evaluate compliance with the chronic toxicity effluent limitations and to conduct future reasonable potential analyses.

This Order allows the Discharger to conduct acute toxicity tests by measuring survival of test organisms during chronic toxicity tests using 100 percent effluent (versus standard toxicity tests). These tests will be at least as sensitive as those conducted under standard bioassays because the test organisms will be younger.

Conducting the toxicity tests using fathead minnow (*Pimephales promelas*), a freshwater organism, is necessary because the Discharger's March 2011 final chronic toxicity screening report identified it to be the most sensitive species to the current discharge, with results as high as 9.3 TUc. Upon satisfying Provision 6.3.5.1 (Commencement of Cargill Brine Discharge), conducting the acute and chronic toxicity tests using the rainbow trout (*Onchorhynchus mykiss*), an anadromous (freshwater and marine) organism, and blue mussel (*Mytilus galloprovincialis*), a marine organism, are necessary because the discharge will contain increased brine concentrations that are likely to be toxic to strictly freshwater organisms. The Discharger conducted quarterly chronic toxicity screening studies dated February, May, August, and November 2020 using various effluent-to-brine blends (ranging from 100 percent effluent to a 25:1 effluent-to-brine ratio) and identified blue mussel as the most sensitive marine

species. These results showed near identical toxicity for blue mussel, ranging between 3.2 TUC and 6.7 TUC, in each wastewater blend.

- 7.1.4. **Receiving Water Monitoring.** The Discharger is required to continue participating in the Regional Monitoring Program, which involves collecting data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. This monitoring is necessary to characterize the receiving water and the effects of the discharge this Order authorizes.
- 7.1.5. **Pretreatment and Biosolids Monitoring.** The pretreatment and biosolids monitoring requirements for influent, effluent, and biosolids are necessary to evaluate compliance with pretreatment requirements.
- 7.1.6. **Recycled Water Monitoring.** The recycled water monitoring and reporting requirements incorporate the existing requirements of State Water Board Order WQ 2019-0037-EXEC (Amending Monitoring and Reporting Programs for Waste Discharge Requirements, National Pollutant Discharge Elimination System Permits, Water Reclamation Requirements, Master Recycling Permits, and General Waste Discharge Requirements), issued on July 24, 2019, pursuant to Water Code sections 13267 and 13383.
- 7.1.7. **Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires some dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program that evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories and evaluates each laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES program. There are two options to comply: (1) the Discharger may obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, the Discharger may submit results from the most recent Water Pollution Performance Evaluation Study. MRP section 1.4 requires the Discharger to ensure that the results of the DMR-QA Study or most recent Water Pollution Performance Evaluation Study are submitted to the State Water Board, which forwards the results to U.S. EPA.
- 7.2. **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. In addition to undertaking the monitoring below, the Discharger must conduct receiving water monitoring by continuing to participate in the RMP.

Table F-12. Monitoring Requirements Summary

Parameter ^[1]	Influent INF-002A through INF-002D ^[2]	Effluent EFF-002A through EFF-002D ^[2]	Effluent EFF-001 or EFF-001D ^[2]	Effluent EFF-002 ^[2]	Biosolids BIO-002A through BIO-002D ^[2]
Flow	Continuous/D	Continuous/D	Continuous/D	Continuous/D	Continuous/D
pH	-	2/Week	-	-	-
CBOD	1/Week	1/Week	-	-	-
TSS	1/Week	3/Week	-	-	-
Chlorine, Total Residual	-	-	Continuous/D	-	-
Ammonia, Total	-	-	2/Month	-	-
Copper, Total Recoverable	-	-	1/Month	-	-
Cyanide, Total	1/Quarter	1/Month	1/Month	-	1/Year
Dioxin-TEQ	-	-	Once	-	-
Enterococcus Bacteria	-	-	2/Week	-	-
Fecal Coliform Bacteria	-	-	2/Week	-	-
Acute Toxicity	-	-	1/Quarter	-	-
Chronic Toxicity	-	-	1/Quarter	-	-
VOC	1/Year (for INF-002A, INF-002B, and INF-002D) Once (for INF-002C)	Once	Once	-	1/Year (for BIO-002A, BIO-002B, and BIO-002D) Once (for BIO-002C)
BNA	1/Year (for INF-002A, INF-002B, and INF-002D) Once (for INF-002C)	Once	Once	-	1/Year (for BIO-002A, BIO-002B, and BIO-002D) Once (for BIO-002C)
Metals and Other Elements ^[3]	1/Year	1/Month	-	-	1/Year
Hexavalent Chromium	1/Year	1/Month	-	-	1/Year
Mercury	1/Quarter	1/Quarter	-	-	1/Year
Priority Pollutants	-	-	Once	-	-

Footnotes:

^[1] The Discharger must also comply with the monitoring requirements in the Mercury and PCBs Watershed Permit (NPDES Permit CA0038849) and the Nutrients Watershed Permit (NPDES Permit CA0038873).

^[2] The MRP defines these sampling frequencies.

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

8. 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.

8.1. 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. The public had access to the agenda and any changes in dates and locations through the [Regional Water Board's website](https://waterboards.ca.gov/sanfranciscobay) (waterboards.ca.gov/sanfranciscobay).

8.2. 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, by e-mail, or by mail to the Executive Office at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of James Parrish.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on [month, day], 2022.

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

Date: July 13, 2022
Time: 9:00 a.m.

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

Interested persons were provided notice of the hearing and information on how to participate. 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.

If the date or venue of any public hearing changes, the changes will be reflected in the most current agenda posted on the [Regional Water Board's website](https://waterboards.ca.gov/sanfranciscobay) (waterboards.ca.gov/sanfranciscobay).

8.4. Reconsideration of Waste Discharge Requirements. Any person aggrieved by this Regional Water Board action may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050. The State Water Board must receive the petition at the following address within 30 calendar days of the date of Regional Water Board action:

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

A petition may also be filed by email at waterqualitypetitions@waterboards.ca.gov.

For instructions on how to file a water quality petition for review, see the [Water Board's petition instructions](https://waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml) (waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

- 8.5. Information and Copying.** Supporting documents and comments received are on file. To review these documents, contact Melinda Wong the Regional Water Board's custodian of records by calling (510) 622-2300 or emailing Melinda.Wong@waterboards.ca.gov. Document copying may be arranged.
- 8.6. 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.
- 8.7. Additional Information.** Requests for additional information or questions regarding this Order should be directed to James Parrish, (510) 622-2381, James.Parrish@waterboards.ca.gov.

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

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

APPLICABILITY

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

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply – Not Supplemented

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

1.3. Duty to Mitigate – Supplement to Attachment D, Provision 1.3.

1.3.1. 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 1.3.2, 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:

- 1.3.1.1. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;
- 1.3.1.2. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;
- 1.3.1.3. Emergency standby power;
- 1.3.1.4. Protection against vandalism;
- 1.3.1.5. Expedition action to repair failures of, or damage to, equipment, including any sewer lines;

- 1.3.1.6. Reporting of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges; and
- 1.3.1.7. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.
- 1.3.2. **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:
 - 1.3.2.1. Identify the possible sources of accidental discharge, untreated or partially-treated waste bypass, and polluted drainage;
 - 1.3.2.2. State when current facilities and procedures became operational and evaluate their effectiveness; and
 - 1.3.2.3. 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.

1.4. Proper Operation and Maintenance – Supplement to Attachment D,
Provision 1.4

- 1.4.1. **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.
- 1.4.2. **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.
- 1.4.3. **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.

1.5. Property Rights – Not Supplemented

1.6. Inspection and Entry – Not Supplemented

1.7. Bypass – Not Supplemented

1.8. Upset – Not Supplemented

1.9. Other – Addition to Attachment D

- 1.9.1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code section 13050.
- 1.9.2. 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.
- 1.9.3. 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.

2. STANDARD PROVISIONS – PERMIT ACTION – NOT SUPPLEMENTED

3. STANDARD PROVISIONS – MONITORING

3.1. Sampling and Analyses – Supplement to Attachment D, Provisions 3.1 and 3.2

- 3.1.1. **Certified Laboratories.** Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code section 13176.
- 3.1.2. **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.
- 3.1.3. **Monitoring Frequency.** The MRP specifies the minimum sampling and analysis schedule.
 - 3.1.3.1. **Sample Collection Timing**
 - 3.1.3.1.1. 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.

- 3.1.3.1.2. 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.
- 3.1.3.1.3. 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).
- 3.1.3.1.4. 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.
- 3.1.3.1.4.1. 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
- 3.1.3.1.4.2. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un ionized ammonia whenever test results fail to meet effluent limitations.

3.1.3.2. **Conditions Triggering Accelerated Monitoring**

- 3.1.3.2.1. **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.
- 3.1.3.2.2. **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.

- 3.1.3.2.3. **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.
- 3.1.3.2.4. **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.
- 3.1.3.2.5. **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.
- 3.1.3.2.5.1. **Bypass for Essential Maintenance.** If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section 1.7.2, 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.
- 3.1.3.2.5.2. **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 1.7.4, 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.

3.2. Standard Observations – Addition to Attachment D

3.2.1. **Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. Standard observations shall include the following:

- 3.2.1.1. **Floating and Suspended Materials (e.g., oil, grease, algae, and other macroscopic particulate matter)** — presence or absence, source, and size of affected area.
- 3.2.1.2. **Discoloration and Turbidity** — color, source, and size of affected area.
- 3.2.1.3. **Odor** — presence or absence, characterization, source, and distance of travel.
- 3.2.1.4. **Beneficial Water Use** — estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.
- 3.2.1.5. **Hydrographic Condition** — time and height of high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time).
- 3.2.1.6. **Weather Conditions** — wind direction, air temperature, and total precipitation during five days prior to observation.

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

- 3.2.2.1. **Floating and Suspended Material of Wastewater Origin** (e.g., oil, grease, algae, and other macroscopic particulate matter) — presence or absence.
- 3.2.2.2. **Odor** — presence or absence, characterization, source, distance of travel, and wind direction.

3.2.3. **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:

3.2.3.1. **Material of Wastewater Origin** — presence or absence, description of material, estimated size of affected area, and source.

3.2.3.2. **Beneficial Use** — estimate of number of people participating in recreational water contact, non-water contact, and fishing activities.

3.2.4. **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:

3.2.4.1. **Odor** — presence or absence, characterization, source, and distance of travel.

3.2.4.2. **Weather Conditions** — wind direction and estimated velocity.

4. STANDARD PROVISIONS – RECORDS

4.1. Records to be Maintained – Supplement to Attachment D, Provision 4.1

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.

4.2. Records of Monitoring – Supplement to Attachment D, Provision 4.2

Monitoring records shall include the following:

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

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

4.2.2.1. For bacteriological analyses:

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

- 4.2.2.1.2. Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in the MRP).
- 4.2.2.2. For the chlorination process (when chlorine is used for disinfection), at least daily average values for the following:
 - 4.2.2.2.1. Chlorine residual of treated wastewater as it enters the chlorine contact basin (mg/L);
 - 4.2.2.2.2. Chlorine dosage (kg/day); and
 - 4.2.2.2.3. Dechlorination chemical dosage (kg/day).
- 4.2.3. **Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
 - 4.2.3.1. Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and
 - 4.2.3.2. Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- 4.2.4. **Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:
 - 4.2.4.1. Chronological log of treatment process bypasses;
 - 4.2.4.2. Identification of treatment processes bypassed;
 - 4.2.4.3. Beginning and ending dates and times of bypasses;
 - 4.2.4.4. Bypass durations;
 - 4.2.4.5. Estimated bypass volumes; and
 - 4.2.4.6. 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.
- 4.2.5. **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 5.5.2, below.

4.3. Claims of Confidentiality – Not Supplemented

5. STANDARD PROVISIONS – REPORTING

5.1. Duty to Provide Information – Not Supplemented

5.2. Signatory and Certification Requirements – Not Supplemented

5.3. Monitoring Reports – Supplement to Attachment D, Provision 5.3

5.3.1. 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:

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

- 5.3.1.1.1. Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;
- 5.3.1.1.2. Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;
- 5.3.1.1.3. Causes of the violations;
- 5.3.1.1.4. 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);
- 5.3.1.1.5. 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;
- 5.3.1.1.6. 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;

- 5.3.1.1.7. 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
- 5.3.1.1.8. Signature. The transmittal letter shall be signed in accordance with Attachment D, Provision 5.2.
- 5.3.1.2. **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.
- 5.3.1.3. **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.
- 5.3.1.4. **Analysis Results**
 - 5.3.1.4.1. **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.
 - 5.3.1.4.2. **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:
 - 5.3.1.4.2.1. 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.
 - 5.3.1.4.2.2. 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).

- 5.3.1.4.3. **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 5.3.1.4.2, above]). For bacteria indicators, the Discharger shall report the geometric mean of the duplicate analyses.
- 5.3.1.4.4. **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:

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

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

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

Dioxin or Furan Congener	Minimum Level (pg/L)	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

- 5.3.1.5. **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.
- 5.3.1.6. **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:
- 5.3.1.6.1. 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;
 - 5.3.1.6.2. List of approved analyses, including the following:
 - 5.3.1.6.2.1. List of analyses for which the Discharger is certified;
 - 5.3.1.6.2.2. 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
 - 5.3.1.6.2.3. List of “waived” analyses, as approved;
 - 5.3.1.6.3. Plan view drawing or map showing the Discharger’s facility, flow routing, and sampling and observation station locations; and
 - 5.3.1.6.4. 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.

5.4. Compliance Schedules – Not supplemented

5.5. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision 5.5

5.5.1. Oil or Other Hazardous Material Spills

- 5.5.1.1. 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:
 - 5.5.1.1.1. 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).
 - 5.5.1.1.2. 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).
- 5.5.1.2. 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:
 - 5.5.1.2.1. Date and time of spill, and duration if known;
 - 5.5.1.2.2. Location of spill (street address or description of location);
 - 5.5.1.2.3. Nature of material spilled;
 - 5.5.1.2.4. Quantity of material spilled;
 - 5.5.1.2.5. Receiving water body affected, if any;
 - 5.5.1.2.6. Cause of spill;
 - 5.5.1.2.7. Estimated size of affected area;
 - 5.5.1.2.8. Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
 - 5.5.1.2.9. Corrective actions taken to contain, minimize, or clean up the spill;
 - 5.5.1.2.10. Future corrective actions planned to prevent recurrence, and implementation schedule; and
 - 5.5.1.2.11. Persons or agencies notified.

5.5.2. Unauthorized Municipal Wastewater Treatment Plant Discharges¹

5.5.2.1. **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:

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

5.5.2.2. **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 5.5.2.1, above, the following:

- 5.5.2.2.1. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
- 5.5.2.2.2. Efforts implemented to minimize public exposure to the unauthorized discharge;
- 5.5.2.2.3. 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;

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

- 5.5.2.2.4. Corrective measures taken to minimize the impact of the unauthorized discharge;
- 5.5.2.2.5. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;
- 5.5.2.2.6. 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
- 5.5.2.2.7. Quantity and duration of the unauthorized discharge, and the amount recovered.

5.6. Planned Changes – Not supplemented

5.7. Anticipated Noncompliance – Not supplemented

5.8. Other Noncompliance – Not supplemented

5.9. Other Information – Not supplemented

6. STANDARD PROVISIONS – ENFORCEMENT – NOT SUPPLEMENTED

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – NOT SUPPLEMENTED

8. DEFINITIONS – ADDITION TO ATTACHMENT D

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

8.1. Arithmetic Calculations

- 8.1.1. **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:

$$\text{Geometric Mean} = \text{Anti log } (1/N \sum \text{Log } C_i)$$

or

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

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

- 8.1.2. **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:

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

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

- 8.1.3. **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):

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

- 8.2. **Blending** – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.
- 8.3. **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.

- 8.4. 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).
- 8.5. 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.
- 8.6. 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.
- 8.7. 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.
- 8.8. Untreated waste** – raw wastewater.

Table B
List of Monitoring Parameters, Analytical Methods, and Minimum Levels (µg/L)^[1]

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

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
20	Bromoform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
21	Carbon Tetrachloride	601	0.5	2	-	-	-	-	-	-	-	-	-	-
22	Chlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
23	Chlorodibromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
24	Chloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
25	2-Chloroethylvinyl Ether	601	1	1	-	-	-	-	-	-	-	-	-	-
26	Chloroform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
75	1,2-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
76	1,3-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
77	1,4-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
27	Dichlorobromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
28	1,1-Dichloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
29	1,2-Dichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
31	1,2-Dichloropropane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
34	Methyl Bromide or Bromomethane	601	1.0	2	-	-	-	-	-	-	-	-	-	-
35	Methyl Chloride or Chloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
36	Methylene Chloride or Dichloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
37	1,1,2,2-Tetrachloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
38	Tetrachloroethylene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
40	1,2-Trans-Dichloroethylene	601	0.5	1	-	-	-	-	-	-	-	-	-	-
41	1,1,1-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
42	1,1,2-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
43	Trichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
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 Benzo(b)fluoranthene	610 HPLC	-	10	10	-	-	-	-	-	-	-	-	-
63	Benzo(ghi)Perylene	610 HPLC	-	5	0.1	-	-	-	-	-	-	-	-	-
64	Benzo(k)Fluoranthene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
74	Dibenzo(a,h)Anthracene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
86	Fluoranthene	610 HPLC	10	1	0.05	-	-	-	-	-	-	-	-	-
87	Fluorene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
92	Indeno(1,2,3-cd)Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
100	Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
70	Butylbenzyl Phthalate	606 or 625	10	10	-	-	-	-	-	-	-	-	-	-
79	Diethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
80	Dimethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
81	Di-n-Butyl Phthalate	606 or 625	-	10	-	-	-	-	-	-	-	-	-	-
84	Di-n-Octyl Phthalate	606 or 625	-	10	-	-	-	-	-	-	-	-	-	-
59	Benzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
65	Bis(2-Chloroethoxy)Methane	625	-	5	-	-	-	-	-	-	-	-	-	-
66	Bis(2-Chloroethyl)Ether	625	10	1	-	-	-	-	-	-	-	-	-	-
67	Bis(2-Chloroisopropyl) Ether	625	10	2	-	-	-	-	-	-	-	-	-	-
69	4-Bromophenyl Phenyl Ether	625	10	5	-	-	-	-	-	-	-	-	-	-
71	2-Chloronaphthalene	625	-	10	-	-	-	-	-	-	-	-	-	-
72	4-Chlorophenyl Phenyl Ether	625	-	5	-	-	-	-	-	-	-	-	-	-
73	Chrysene	625	-	10	5	-	-	-	-	-	-	-	-	-
78	3,3'-Dichlorobenzidine	625	-	5	-	-	-	-	-	-	-	-	-	-
82	2,4-Dinitrotoluene	625	10	5	-	-	-	-	-	-	-	-	-	-
83	2,6-Dinitrotoluene	625	-	5	-	-	-	-	-	-	-	-	-	-
85	1,2-Diphenylhydrazine ^[7]	625	-	1	-	-	-	-	-	-	-	-	-	-
88	Hexachlorobenzene	625	5	1	-	-	-	-	-	-	-	-	-	-
89	Hexachlorobutadiene	625	5	1	-	-	-	-	-	-	-	-	-	-
90	Hexachlorocyclopentadiene	625	5	5	-	-	-	-	-	-	-	-	-	-
91	Hexachloroethane	625	5	1	-	-	-	-	-	-	-	-	-	-
93	Isophorone	625	10	1	-	-	-	-	-	-	-	-	-	-
94	Naphthalene	625	10	1	0.2	-	-	-	-	-	-	-	-	-
95	Nitrobenzene	625	10	1	-	-	-	-	-	-	-	-	-	-
96	N-Nitrosodimethylamine	625	10	5	-	-	-	-	-	-	-	-	-	-
97	N-Nitrosodi-n-Propylamine	625	10	5	-	-	-	-	-	-	-	-	-	-
98	N-Nitrosodiphenylamine	625	10	1	-	-	-	-	-	-	-	-	-	-
99	Phenanthrene	625	-	5	0.05	-	-	-	-	-	-	-	-	-
101	1,2,4-Trichlorobenzene	625	1	5	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
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	-	-	-	-	-	-	-	-	-	-	-

Footnotes:

- ^[1] 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.
- ^[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] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 ug/l).

- ^[4] The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 ug/l).
- ^[5] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.
- ^[6] Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.
- ^[7] Detected as azobenzene.

ATTACHMENT H– PRETREATMENT REQUIREMENTS

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ATTACHMENT H: PRETREATMENT REQUIREMENTS

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

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

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

- 2.** The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Discharger shall cause nondomestic users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
- 3.** The Discharger shall perform the pretreatment functions as required in 40 C.F.R. 403 and amendments or modifications thereto including, but not limited to:
 - 3.1.** Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 C.F.R. 403.8(f)(1);
 - 3.2.** Implement the programmatic functions as provided in 40 C.F.R. 403.8(f)(2);
 - 3.3.** Publish an annual list of nondomestic users in significant noncompliance as provided per 40 C.F.R. 403.8(f)(2)(viii);

- 3.4.** Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 C.F.R. 403.8(f)(3); and
- 3.5.** Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 C.F.R. 403.5 and 403.6, respectively.
- 4.** The Discharger shall submit annually a report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous calendar year. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix H-1 entitled, "Requirements for Pretreatment Annual Reports." The annual report is due each year on February 28.
- 5.** The Discharger shall submit a pretreatment semiannual report to U.S. EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, information specified in Appendix H-2 entitled, "Requirements for Pretreatment Semiannual Reports." The semiannual report is due July 31 for the period January through June. The information for the period July through December of each year shall be included in the Annual Report identified in Appendix H-1. The Executive Officer may exempt the Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and U.S. EPA's comment and approval.
- 6.** The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge (biosolids) as described in Appendix H-4 entitled, "Requirements for Influent, Effluent and Sludge (Biosolids) Monitoring." (The term "biosolids," as used in this Attachment, shall have the same meaning as wastewater treatment plant "sludge" and will be used from this point forward.) The Discharger shall evaluate the results of the sampling and analysis during the preparation of the semiannual and annual reports to identify any trends. Signing the certification statement used to transmit the reports shall be deemed to certify the Discharger has completed this data evaluation. A tabulation of the data shall be included in the pretreatment annual report as specified in Appendix H 4. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX H-1: REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

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

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

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

1. Cover Sheet

The cover sheet shall include:

- 1.1. The name(s) and National Pollutant Discharge Elimination System (NPDES) permit number(s) of the Discharger(s) that is part of the Pretreatment Program;
- 1.2. The name, address and telephone number of a pretreatment contact person;
- 1.3. The period covered in the report;
- 1.4. A statement of truthfulness; and
- 1.5. The dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the publicly-owned treatment works (POTW) (40 C.F.R. 403.12(m)).

2. Introduction

This section shall include:

- 2.1. Any pertinent background information related to the Discharger and/or the nondomestic user base of the area;
- 2.2. List of applicable interagency agreements used to implement the Discharger's pretreatment program (e.g., Memoranda of Understanding (MOU) with satellite sanitary sewer collection systems); and
- 2.3. A status summary of the tasks required by a Pretreatment Compliance Inspection (PCI), Pretreatment Compliance Audit (PCA), Cleanup and Abatement Order (CAO), or other pretreatment-related enforcement actions required by the

Regional Water Board or the U.S. EPA. A more detailed discussion can be referenced and included in the section entitled, "Program Changes," if needed.

3. Definitions

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

4. Discussion of Upset, Interference and Pass Through

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

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

5. Influent, Effluent and Biosolids Monitoring Results

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

This section shall include:

- 5.1. Description of the sampling procedures and an analysis of the results (see Appendix H-4 for specific requirements);

- 5.2. Tabular summary of the compounds detected (compounds measured above the detection limit for the analytical method used) for the monitoring data generated during the reporting year as specified in Appendix H-4;
- 5.3. Discussion of the investigation findings into any contributing sources of the compounds that exceed NPDES limits; and
- 5.4. Graphical representation of the influent and effluent metal monitoring data for the past five years with a discussion of any trends.

6. Inspection, Sampling and Enforcement Programs

This section shall include at a minimum the following information:

- 6.1. Inspections: Summary of the inspection program (e.g., criteria for determining the frequency of inspections and inspection procedures);
- 6.2. Sampling Events: Summary of the sampling program (e.g., criteria for determining the frequency of sampling and chain of custody procedures); and
- 6.3. Enforcement: Summary of Enforcement Response Plan (ERP) implementation including dates for adoption, last revision and submission to the Regional Water Board.

7. Updated List of Regulated SIUs

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

- 7.1. CIUs - Include a table that alphabetically lists the CIUs regulated by the Discharger as of the end of the reporting period. This list shall include:
 - 7.1.1. Name;
 - 7.1.2. Address;
 - 7.1.3. Applicable federal category(ies);
 - 7.1.4. Reference to the location where the applicable Federal Categorical Standards are presented in the report;

- 7.1.5. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and
- 7.1.6. Information, calculations and data used to determine the limits for those CIUs for which a combined waste stream formula is applied.
- 7.2. Non-categorical SIUs -** Include a table that alphabetically lists the SIUs not subject to any federal categorical standards that were regulated by the Discharger as of the end of the reporting period. This list shall include:
 - 7.2.1. Name;
 - 7.2.2. Address;
 - 7.2.3. A brief description of the type of business;
 - 7.2.4. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and
 - 7.2.5. Indicate the applicable discharge limits (e.g., different from local limits) to which the SIUs are subject and reference to the location where the applicable limits (e.g., local discharge limits) are presented in the report.

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

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

- 8.1. Inspection and Sampling Summary:** This section shall contain a summary of all the SIU inspections and sampling activities conducted by the Discharger and sampling activities conducted by the SIU over the reporting year to gather information and data regarding SIU compliance. The summary shall include:
 - 8.1.1. The number of inspections and sampling events conducted for each SIU by the Discharger;
 - 8.1.2. The number of sampling events conducted by the SIU. Identify SIUs that are operating under an approved Total Toxic Organic Management Plan;
 - 8.1.3. The quarters in which the above activities were conducted; and
 - 8.1.4. The compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

- 8.1.4.1. Consistent compliance;
- 8.1.4.2. Inconsistent compliance;
- 8.1.4.3. Significant noncompliance;
- 8.1.4.4. On a compliance schedule to achieve compliance (include the date final compliance is required);
- 8.1.4.5. Not in compliance and not on a compliance schedule; and
- 8.1.4.6. Compliance status unknown, and why not.

8.2. Enforcement Summary: This section shall contain a summary of SIU compliance and enforcement activities during the reporting year. The summary may be included in the summary table developed in section 8A and shall include the names and addresses of all SIUs affected by the actions identified below. For each notice specified in enforcement action 8.2.1 through 8.2.4, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

- 8.2.1. Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- 8.2.2. Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- 8.2.3. Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- 8.2.4. Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;
- 8.2.5. Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty;
- 8.2.6. Order to restrict/suspend discharge to the Discharger; and
- 8.2.7. Order to disconnect the discharge from entering the Discharger.

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

- 8.3.1. Name and facility address of the SIU;
- 8.3.2. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;
- 8.3.3. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;
- 8.3.4. Indicate the compliance status of the SIU for the two quarters of the reporting period; and
- 8.3.5. For violations/noncompliance identified in the reporting period, provide:
 - 8.3.5.1. The date(s) of violation(s);
 - 8.3.5.2. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and
 - 8.3.5.3. A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

9. Baseline Monitoring Report Update

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

10. Pretreatment Program Changes

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

- 10.1. Legal authority;
- 10.2. Local limits;
- 10.3. Monitoring/ inspection program and frequency;
- 10.4. Enforcement protocol;
- 10.5. Program's administrative structure;
- 10.6. Staffing level;

10.7. Resource requirements;

10.8. Funding mechanism;

10.9. If the manager of the Discharger's pretreatment program changed, a revised organizational chart shall be included; and

10.10. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

11. Pretreatment Program Budget

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

12. Public Participation Summary

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

13. Biosolids Storage and Disposal Practice

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

14. Other Pollutant Reduction Activities

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

15. Other Subjects

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

16. Permit Compliance System (PCS) Data Entry Form

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

- 16.1.** Discharger's name,
- 16.2.** NPDES Permit number,
- 16.3.** Period covered by the report,
- 16.4.** Number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule,
- 16.5.** Number of notices of violation and administrative Orders issued against SIUs,
- 16.6.** Number of civil and criminal judicial actions against SIUs,
- 16.7.** Number of SIUs that have been published as a result of being in SNC, and
- 16.8.** Number of SIUs from which penalties have been collected.

APPENDIX H-2: REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

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

1. Influent, Effluent and Biosolids Monitoring

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

2. Significant Industrial User (SIU) Compliance Status

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

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

- 2.1.** Name and facility address of the SIU;
- 2.2.** Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;
- 2.3.** For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;
- 2.4.** Indicate the compliance status of the SIU for the two quarters of the reporting period; and
- 2.5.** For violations/noncompliance identified in the reporting period, provide:

- 2.5.1. The date(s) of violation(s);
- 2.5.2. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and
- 2.5.3. A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

3. Discharger's Compliance with Pretreatment Program Requirements

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

- 3.1. Date of latest PCA or PCI report;
- 3.2. Date of the Discharger's response;
- 3.3. List of unresolved issues; and
- 3.4. Plan(s) and schedule for resolving the remaining issues.

**APPENDIX H-3:
SIGNATURE REQUIREMENTS
FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS**

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger (POTW - 40 C.F.R. section 403.12[m]). Signed copies of the reports shall be submitted to the State Water Board and the Regional Water Board through the electronic self-monitoring report (eSMR) module of the California Integrated Water Quality System (CIWQS). Signed copies of the reports shall also be submitted electronically to U.S. EPA at R9Pretreatment@epa.gov or as instructed otherwise.

APPENDIX H-4: REQUIREMENTS FOR INFLUENT, EFFLUENT, AND BIOSOLIDS MONITORING

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

1. Reduction of Monitoring Frequency

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

Table H-1. Minimum Frequency of Pretreatment Program Monitoring

Number of SIUs	Minimum Frequency
< 5	Once every five years
> 5 and < 50	Once every year
> 50	Twice per year

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

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

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

2. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required sampling and test methods listed in the pretreatment table of the MRP. Any test method substitutions must have received prior written Executive Officer approval. Influent

and effluent sampling locations shall be the same as those sites specified in the MRP.

The influent and effluent samples should be taken at staggered times to account for treatment plant detention time. Appropriately staggered sampling is considered consistent with the requirement for collection of effluent samples coincident with influent samples in Section 3.1.3.1.2 of Attachment G. All samples must be representative of daily operations. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 C.F.R. 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated ML, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

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

- 2.1.** Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 C.F.R. 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.
- 2.2.** A tabulation of the test results for the detected parameters shall be provided.
- 2.3.** Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

3. Biosolids Monitoring

Biosolids should be sampled in a manner that will be representative of the biosolids generated from the influent and effluent monitoring events except as noted in 3.3 below. The same parameters required for influent and effluent analysis shall be

included in the biosolids analysis. The biosolids analyzed shall be a composite sample of the biosolids for final disposal consisting of:

- 3.1.** Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or
- 3.2.** Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or
- 3.3.** Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5-day composite.

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

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

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

- Sampling Procedures and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 C.F.R. 136 and amendments thereto. The Discharger shall make available upon request its biosolids sampling procedures and data validation methods.
- Test Results – Tabulate the test results for the detected parameters and include the percent solids.
- Discussion of Results – Include a complete discussion of test results for the detected parameters. If the detected pollutant(s) is reasonably deemed to have an adverse effect on biosolids disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or

destruction of pollutants attributable to chlorination/dechlorination
sampling and analysis practices shall be noted.

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