

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

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**TENTATIVE ORDER R2-2023-00XX
NPDES PERMIT CA0038598**

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

Discharger **Sewer Authority Mid-Coastside**
Name of Facility **Sewer Authority Mid-Coastside Wastewater Treatment Plant and Intertie Pipeline System**
Facility Address **1000 N. Cabrillo Highway
Half Moon Bay, CA 94019
San Mateo County**

Table 1. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary Treated Municipal Wastewater and reverse osmosis concentrate	37.47306°	-122.4436°	Pacific Ocean

This Order was adopted on: **Month XX, 2023**
This Order shall become effective on: **May 1, 2023**
This Order shall expire on: **April 30, 2028**
CIWQS regulatory measure number: **XXXXX**

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 **August 1, 2027**. 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.

Eileen White, Executive Officer

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1. FACILITY INFORMATION

Information describing the Sewer Authority Mid-Coastside Wastewater Treatment Plant and its collection system (collectively, 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 contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments A through E and G are also incorporated into this Order.
- 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 R2-2017-0040 (previous order) 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.
- 3.3. Discharge at Discharge Point 001 is prohibited when treated wastewater does not receive an initial dilution of at least 79:1, 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. The Discharger shall describe measures taken to ensure this in its application for permit reissuance.
- 3.4. Average dry weather influent flow in excess of 4.0 MGD is prohibited. Average dry weather influent flow shall be determined from three consecutive dry weather months each year, with compliance measured at Monitoring Location INF-001 as described in the Monitoring and Reporting Program (MRP, Attachment E).
- 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 The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.
- 3.7 The discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.

4. EFFLUENT LIMITATIONS

- 4.1. **Effluent Limitations.** The discharge at Discharge Point 001 shall meet the following effluent limitations, with compliance measured at Monitoring Location EFF-001 or EFF-001D as described in the MRP:

Table 2. Effluent Limitations

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	–	–	–	–
Total Suspended Solids	mg/L	30	45	–	–	–	–
pH ^[1]	s.u.	–	–	–	6.0	9.0	–
Chlorine, Total Residual	mg/L	–	–	0.64	–	4.8	0.36
Chlorine, Total Residual	kg/day	–	–	9.7	–	–	4.2
Acute Toxicity	TU _a	–	–	2.7	–	–	–

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
Chronic Toxicity	TU _c	–	–	80	–	–	–

Footnote:

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

4.2. Percent Removal. The average monthly percent removal of biochemical oxygen demand (BOD) and total suspended solids (TSS) at Discharge Point 001 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD and TSS, by concentration, of effluent samples collected at Monitoring Location EFF-001 as described in the MRP shall not exceed 15 percent of the arithmetic mean of BOD and TSS, by concentration, for influent samples collected at Monitoring Location INF-001 as described in the MRP at approximately the same times during the same periods).

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 2,400 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 samples 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 8,800 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 Total Coliform. The discharge at Discharge Point 001 shall meet the following total coliform effluent limitations, with compliance measured at Monitoring Location EFF-001D as described in the MRP:

4.4.1 The monthly median of total coliform shall not exceed 5,600 CFU/100 mL.

4.4.2 No more than 10 percent of all total coliform samples collected in a calendar month shall exceed 18,000 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.

5. RECEIVING WATER LIMITATIONS

- 5.1. The discharge shall comply with the following conditions at all places in receiving waters:
- 5.1.1. Floating particulates and grease and oil shall not be visible;
 - 5.1.2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface;
 - 5.1.3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste;
 - 5.1.4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded;
 - 5.1.5. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally as a result of the discharge of oxygen demanding waste material;
 - 5.1.6. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally;
 - 5.1.7. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions;
 - 5.1.8. The concentrations of substances set forth in Ocean Plan Table 3 in marine sediment shall not be increased to levels that would degrade indigenous biota;
 - 5.1.9. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life;
 - 5.1.10. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota;
 - 5.1.11. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Ocean Plan Tables 1, 2, and 3;
 - 5.1.12. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded;
 - 5.1.13. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered;
 - 5.1.14. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health; or

5.1.15. Discharge of low-level radioactive waste shall not degrade marine life.

5.2. 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. The TCDD Equivalents defined in Attachment A supersede those for dioxin-TEQ described in Attachment G section 5.3.1.4.4. The Minimum Levels specified in *Ocean Plan* Appendix II supersede those listed in Attachment G section 3.1.2 and Table B.
- 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

- 6.2.1 **Monitoring and Reporting Program.** 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.
- 6.2.2 **Monterey Bay National Marine Sanctuary (MBNMS).** In addition to reporting to the Regional Water Board, the Discharger shall also concurrently notify the MBNMS office in Monterey, in writing, about any violations of this Order’s effluent limitations, receiving water limitations, and sludge management practices. The MBNMS shall be notified at the following address:

Permit Coordinator
Monterey Bay National Marine Sanctuary
99 Pacific Street, Building 455A
Monterey, CA 93940
(831) 647-4251

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 the Pacific Ocean (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 does not 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. The Discharger shall collect representative samples (e.g., if the Recycled Water Project operates during the calendar year, the Discharger shall collect the sample while the Recycled Water Project is operating) at the monitoring station set forth in the MRP. Each year, the Discharger shall evaluate if the concentrations of any of the

priority pollutants listed in Ocean Plan Table 3 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 Tables F-8, F-9, and F-10 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 2 of this Order).

6.3.2.2.2. **Final Reporting.** The Discharger shall summarize the data evaluation and source investigation in the applicable annual self-monitoring report.

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. The Discharger shall submit an annual report no later than February 28 of each calendar year. 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, the Discharger shall analyze its circumstances to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.

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

- 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 Discharger's pollutants of concern. The Discharger may implement the tasks by itself or participate in group, regional, or national tasks that address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that address its pollutants of concern whenever it is efficient and appropriate to do so. An implementation timeline shall be included for each task.
- 6.3.3.2.5. **Outreach to employees.** The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the Facility. The Discharger may provide a forum for employees to provide input.
- 6.3.3.2.6. **Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or web sites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.
- 6.3.3.2.7. **Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions 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.** The Discharger 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, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the treatment plant, and subsequently in its effluent.
- 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. Sludge and Biosolids Management

- 6.3.4.1.1. Sludge and biosolids treatment and storage shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
- 6.3.4.1.2. Sludge and biosolids treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect site boundaries from erosion, and to prevent 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.
- 6.3.4.1.3. 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.

- 6.3.4.2. **Collection System Management.** The Discharger 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 Order WQ 2013-0058-EXEC, and superseded by State Water Board Order WQ 2022-0103-DWQ (Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems, effective June 5, 2023) (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.

- 6.3.4.3. **Resource Recovery from Anaerobically Digestible Material.** If the Discharger receives hauled-in anaerobically-digestible material for injection

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

6.3.5. Recycled Water Project

6.3.5.1. **Start-Up.** If the Discharger completes construction of the Recycled Water Project (as described in Fact Sheet section 2.1.5), it shall notify the Regional Water Board prior to commencing Recycled Water Project operations. The notification shall specify the anticipated date the operations will commence, describe the project as constructed, and include documentation that “reject water” (concentrate) from the reverse osmosis process will completely mix with treated wastewater prior to Monitoring Location EFF-001 and EFF-001D. Within 120 days of commencing the Recycled Water Project, the Discharger shall submit a technical report that includes the following:

- 6.3.5.1.1. Volume of reverse osmosis concentrate relative to treated wastewater for worst-case conditions;
- 6.3.5.1.2. Acute and chronic toxicity test results that use worst-case conditions (maximum reverse osmosis concentrate to treated wastewater ratio);
- 6.3.5.1.3. Concentrations for pollutants listed in Ocean Plan Table 3 in reverse osmosis concentrate;
- 6.3.5.1.4. Analysis of whether pollutant concentrations will trigger reasonable potential under worst-case conditions for the water quality objectives listed in Fact Sheet Tables F-8, F-9, and F-10; and
- 6.3.5.1.5. Documentation that the Discharger will comply with all effluent limits (including acute and chronic toxicity) under worst-case conditions.

6.3.5.2. **Dilution Study.** If construction of the Recycled Water Project (as described in Fact Sheet 2.1.5.) is completed within the term of this Order, the Discharger shall submit an updated dilution study that reflects flow and

effluent characteristics within 120 days of commencing the Recycled Water Project.

ATTACHMENT A - DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

Acute Toxicity

1. Acute Toxicity Units (TUa)

$$\text{TUa} = 100 / (96\text{-hr LC } 50\%)$$

2. Lethal Concentration 50% (LC50)

Percent waste giving 50% survival of test organisms (to be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III). If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$\text{TUa} = \log (100 - S) / 1.7$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Areas of Special Biological Significance (ASBS)

Areas designated by the State Water Resources Control Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is assured. All Areas of Special Biological Significance are also classified as a subset of State Water Quality Protection Areas. ASBS are also referred to as State Water Quality Protection Areas – Areas of Special Biological Significance (SWQPA-ASBS).

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.

Chlordane

Sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity

Parameter used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

1. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$\text{TUc} = 100 / \text{NOEL}$$

2. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix III, Table III-1.

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.

DDT

Sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade

Degradation shall be determined by comparison of the waste field and reference site or sites for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other

groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ)

Sample results less than the Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dichlorobenzenes

Sum of 1,2-dichlorobenzene and 1,3-dichlorobenzene.

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.

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Dredged Material

Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

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.

Endosulfan

Sum of endosulfan-alpha, endosulfan-beta, and endosulfan sulfate.

Estimated Chemical Concentration

Concentration that results from the confirmed detection of a substance below the ML by the analytical method.

Estuaries and Coastal Lagoons

Waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-

San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers. Estuaries do not include inland surface waters or ocean waters.

Geometric Mean (GM)

Type of mean or average that indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the arithmetic mean, which uses their sum). See Attachment G section 8.1.1.

Halomethanes

Sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

HCH

Sum of the alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.

Initial Dilution

The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

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).

Kelp Beds

Aggregations of marine algae of the order Laminariales, including species in the genera *Macrocystis*, *Nereocystis*, and *Pelagophycus*. Kelp beds include the total foliage canopy throughout the water column.

LOEC

Lowest observed effect concentration or lowest concentration of effluent that causes observable adverse effects in exposed test organisms.

Mariculture

Culture of plants and animals in marine waters independent of any pollution source.

Material

(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging, and the disposal of dredged material and fill: matter of any kind or description that is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See “dredged material.”

Maximum Daily Effluent Limitation (MDEL)

Highest allowable daily discharge of a pollutant.

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, Attachment 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.

Natural Light

Reduction of natural light may be determined by measurement of light transmissivity or total irradiance or both, according to the monitoring needs of the Regional Water Board.

Not Detected (ND)

Sample results less than the laboratory’s MDL.

Ocean Waters

Territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to ensure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons)

Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4 benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3 cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls)

Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor 1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

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.

Reported Minimum Level

The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. 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 reported ML.

Shellfish

Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference

Statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Single Sample Maximum (SSM)

Maximum value not to be exceeded in any single sample.

Six-Month Median Effluent Limitation

Highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs)

Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All “areas of special biological significance” (ASBS) that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

State Water Quality Protection Areas—General Protection (SWQPA-GP)

Areas designated by the State Water Board to protect marine species and biological communities from an undesirable alteration in natural water quality within State Marine Parks and State Marine Conservation Areas.

Statistical Threshold Value (STV)

For the bacteria water quality objective, a set value that approximates the 90th percentile of the water quality distribution of a bacterial population. The STV for the bacteria water quality objective is 110 cfu/100 mL.

TCDD Equivalents

The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1

Isomer Group	Toxicity Equivalence Factor
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

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.

Waste

As used in the Ocean Plan, a Discharger’s total discharge, of whatever origin (i.e., gross, not net, discharge).

Water Reclamation (Water Recycling)

Treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ABBREVIATIONS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
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
CIWQS	California Integrated Water Quality System
Continuous	Measured continuously
Continuous/D	Measured continuously, and recorded and reported daily
Continuous/H	Measured continuously, and recorded and reported hourly
CTR	California Toxics Rule
CV	Coefficient of Variation
DMR	Discharge Monitoring Report
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
NTR	National Toxics Rule
ND	Not detected
NTU	Nephelometric turbidity units

RL	Reporting level
RPA	Reasonable potential analysis
SIP	<i>Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California</i> (State Implementation Policy)
SMR	Self Monitoring Report
s.u.	Standard pH units
TIE	Toxicity identification evaluation
TRE	Toxicity reduction evaluation
TUa	Acute toxicity units
TUc	Chronic toxicity units
WDRs	Waste discharge requirements
WQBEL	Water quality-based effluent limitation

ATTACHMENT B - MAP

Figure B-1. Facility Location

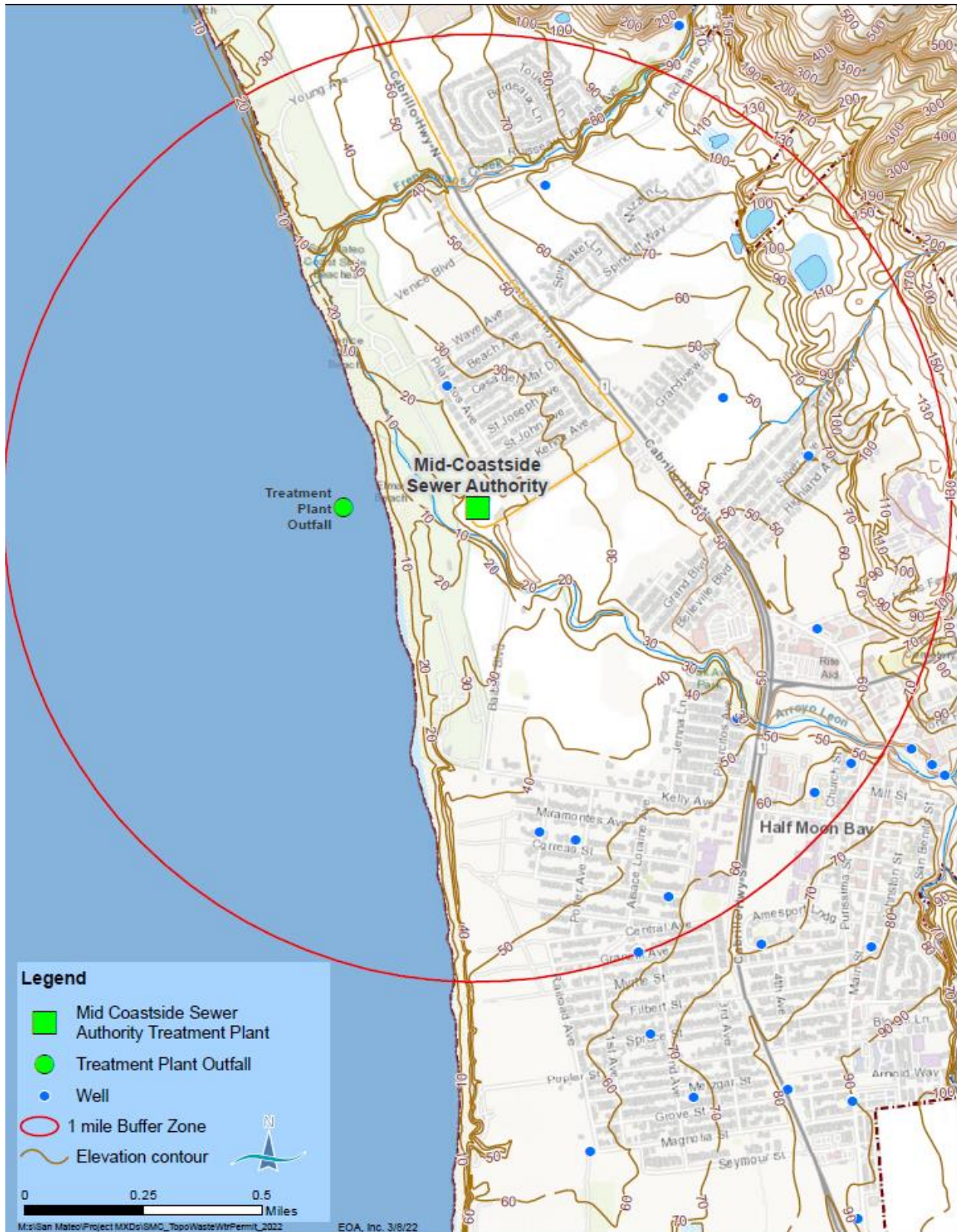


Figure B-2. Facility Map

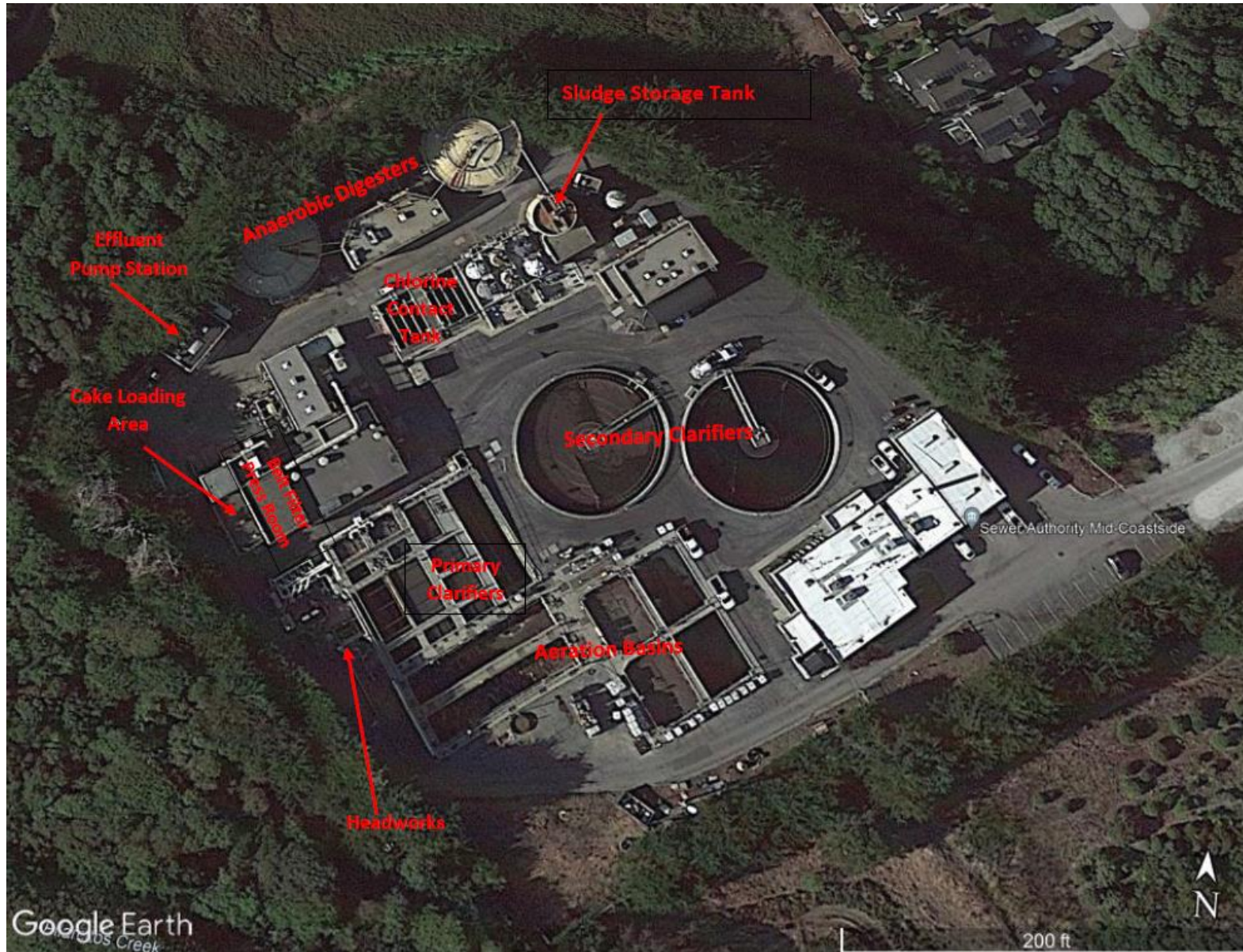
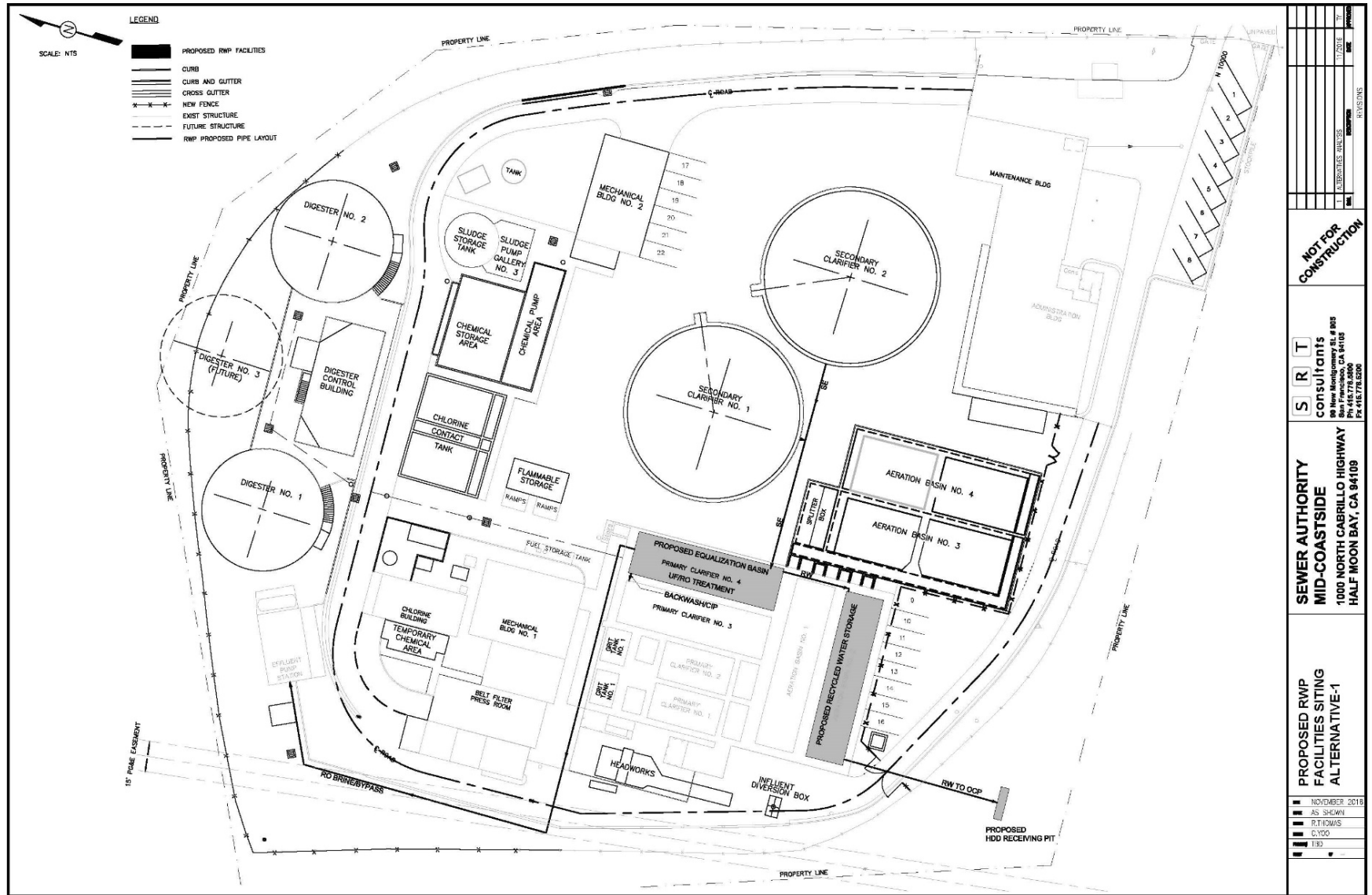


Figure B-3. Potential Site Layout with Recycled Water Project



DATE	
BY	
CHECKED	
APPROVED	
REVISIONS	

NOT FOR CONSTRUCTION

SRT CONSULTANTS
 88 New Montgomery St., # 805
 San Francisco, CA 94109
 PH: 415.778.8200

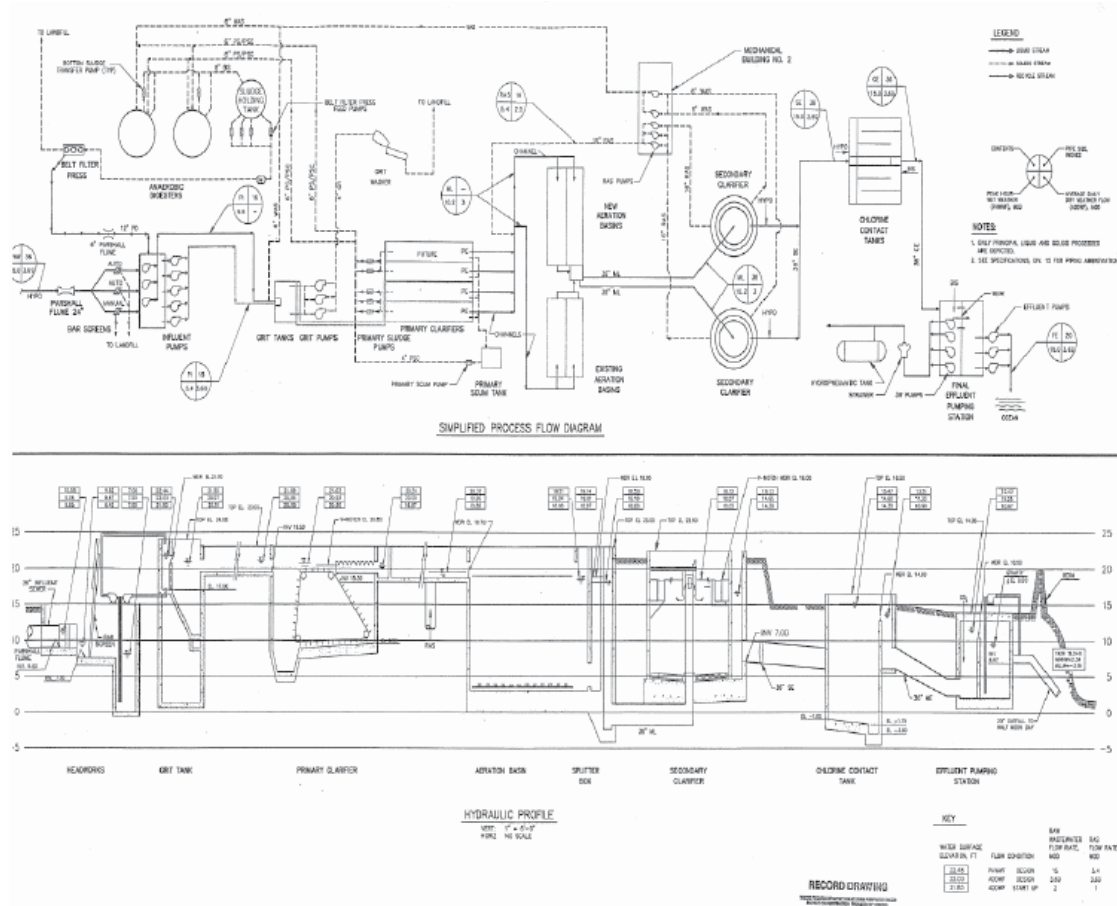
SEWER AUTHORITY MID-COASTSIDE
 1000 NORTH CABRILLO HIGHWAY
 HALF MOON BAY, CA 94109

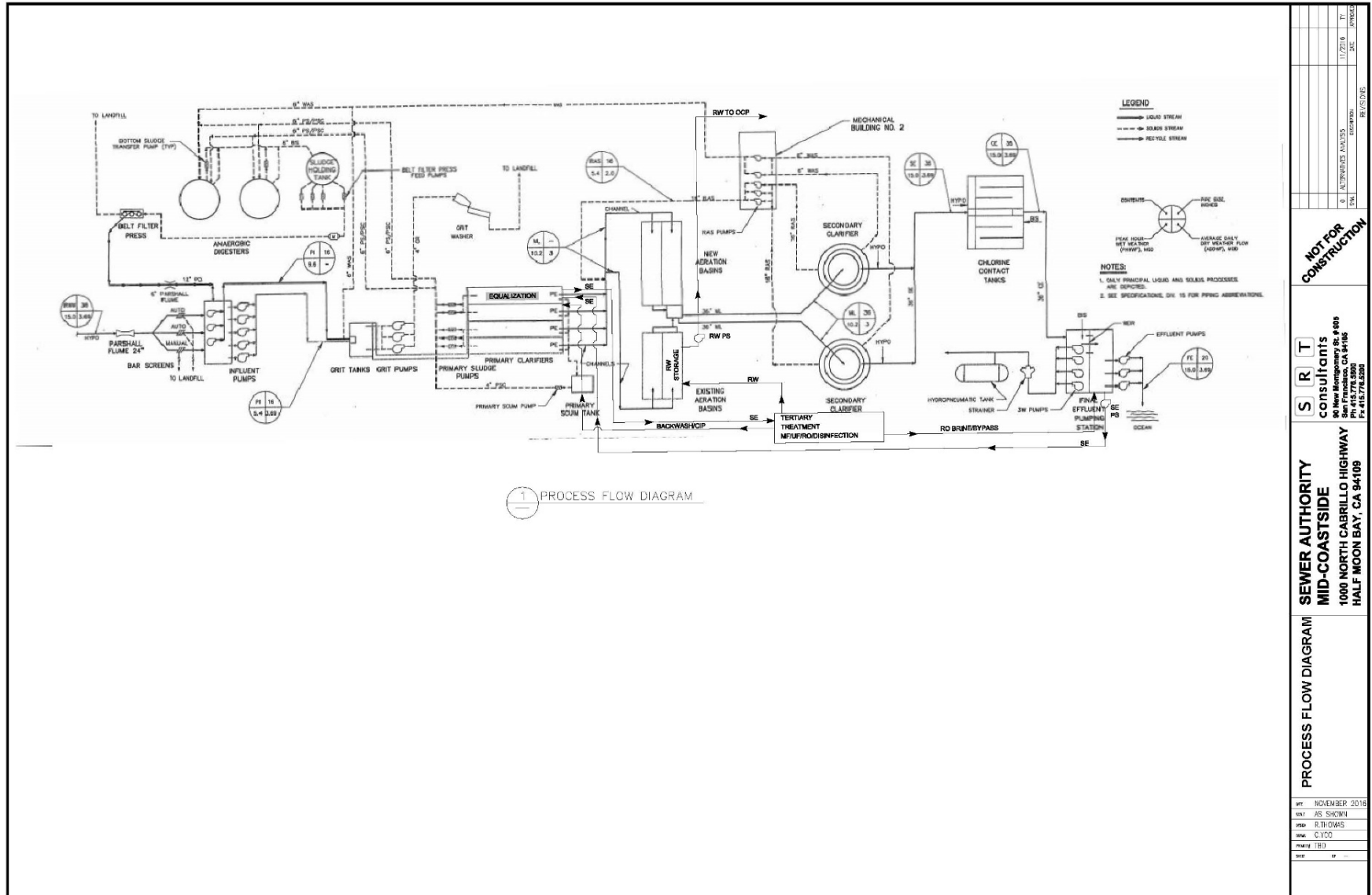
PROPOSED RWP FACILITIES SITING ALTERNATIVE-1

NOVEMBER 2018	
RS-SHEWAN	
P.THOMAS	
C.YOO	
TRD	

ATTACHMENT C - FLOW SCHEMATIC

Figure C-1. Process Flow Diagram





<p>NOT FOR CONSTRUCTION</p>	<p>S R T</p> <p>consultants</p> <p>90 New Montgomery St. # 400 San Francisco, CA 94115 P: 415.774.5200</p>									
<p>PROCESS FLOW DIAGRAM</p>	<p>SEWER AUTHORITY MID-COASTSIDE</p> <p>1000 NORTH CABRILLO HIGHWAY HALF MOON BAY, CA 94108</p>									
<p>DATE: NOVEMBER 2016</p> <p>BY: JIS SKOVIN</p> <p>CHKD: B. THOMAS</p> <p>INCH: C. YOO</p> <p>REVISED: []</p> <p>BY: []</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	DESCRIPTION						
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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 ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(1)(i));

7.1.1.2. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ 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 ($\mu\text{g/L}$) (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

Monitoring Location Type	Monitoring Location	Monitoring Location Description
Influent	INF-001	A point in the treatment plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment, exclusive of any return flows or process side streams
Effluent	EFF-001	A point following all treatment, including dechlorination, at which all waste tributary to Discharge Point 001 is present but prior to discharge to the Pacific Ocean
Effluent	EFF-001D	A point after disinfection is complete. This location may be the same as Monitoring Location EFF-001
Effluent	REC-001	Any point after full treatment, including disinfection, that represents all treated wastewater directed offsite for recycled water distribution and thus not discharged to the Pacific Ocean at Discharge Point 001
Receiving Water	RSW-001	The northeast corner of a 500-foot by 500-foot square directly over the outfall, having one side parallel to the shore
Receiving Water	RSW-002	The southeast corner of a 500-foot by 500-foot square directly over the outfall, having one side parallel to the shore
Receiving Water	RSW-003	The southwest corner of a 500-foot by 500-foot square directly over the outfall, having one side parallel to the shore
Receiving Water	RSW-004	The northwest corner of a 500-foot by 500-foot square directly over the outfall, having one side parallel to the shore
Receiving Water	RSW-005	A reference location approximately 7,500 feet north of the outfall, parallel to the shoreline at Magellan Avenue

3. INFLUENT MONITORING

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

Table E-2. Influent Monitoring

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

Footnote:

^[1] Flow shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:

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

4. EFFLUENT MONITORING

4.1. The Discharger shall monitor treatment plant effluent at Monitoring Location EFF-001, or for enterococcus and total coliform at Monitoring Location EFF-001D, as follows:

Table E-3. Effluent Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow ^[1]	MG/MGD	Continuous	Continuous/D
BOD ^[2]	mg/L	C-24	1/Week
TSS ^[2]	mg/L	C-24	2/Week
pH	s.u.	Grab	1/Day
Chlorine, Total Residual ^[3]	mg/L	Continuous	1/Hour
Ammonia, Total (as N)	mg/L	C-24	1/Month
Enterococcus	CFU/100 mL ^[4]	Grab	1/Week
Total Coliform	CFU/100mL ^[4]	Grab	2/Year ^[5]
Acute Toxicity	TUa	Flow-through or Static Renewal	1/Year
Chronic Toxicity	TUc	C-24	1/Year
Ocean Plan Table 3 Pollutants ^[6]	µg/L	Grab	1/Year

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] BOD and TSS effluent samples shall be collected concurrently with BOD and TSS influent samples. BOD and TSS percent removal shall be reported for each calendar month in accordance with section 4.2 of this Order.

^[3] Effluent residual chlorine concentrations shall be monitored continuously or, at a minimum, every hour. 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.

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.

^[4] Results may be reported as either Most Probable Number (MPN)/100 mL if the laboratory method used provides results in MPN/100 mL or Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.

^[5] Total Coliform monitoring shall be conducted in the months of March and September.

^[6] The Discharger shall monitor for the pollutants listed in Ocean Plan Table 3.

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 or static renewal bioassays.
- 5.1.2. Test organisms shall be inland silverside (*Menidia beryllina*). Alternatively, the Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.
- 5.1.3. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, 5th Edition (EPA-821-R-02-012). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.
- 5.1.4. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger is authorized to adjust the acute toxicity sample pH in order to suppress the level of un-ionized (free) ammonia. This adjustment shall be achieved by monitoring test tank pH and the addition of analytical grade acid as needed.
- 5.1.5. 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. The sample may be taken from final secondary effluent prior to disinfection. 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. 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 the mussel (*Mytilus galloprovincialis*). If the mussel proves unworkable, the Executive Officer may specify a different species in writing up the Discharger's request with justification.

The Discharger shall conduct a screening chronic toxicity test as described in Appendix E-1, following any significant change in the nature of the effluent. If there is no significant change in the nature of the effluent, the Discharger shall conduct a screening test and submit the results with its application for permit reissuance. Upon completion of the chronic toxicity screening, the Discharger shall use the most sensitive species to conduct subsequent monitoring.

5.2.1.3 **Frequency.** Chronic toxicity monitoring shall be as specified in Table E-3 above.

5.2.1.3.1 The Discharger shall accelerate monitoring to monthly after exceeding a single-sample effluent limit of 80 TUc. Based on the TUc results, the Executive Officer may specify a different accelerated monitoring frequency to ensure that accelerated monitoring provides useful information.

5.2.1.3.2. The Discharger shall return to routine monitoring if accelerated monitoring does not exceed the effluent limit in section 5.2.1.3.1, above.

5.2.1.3.3. If accelerated monitoring confirms consistent toxicity greater than the effluent limit in section 5.2.1.3.1, above, the Discharger shall continue accelerated monitoring and initiate toxicity reduction evaluation (TRE) procedures in accordance with section 5.3, below.

5.2.1.3.4. The Discharger shall return to routine monitoring after implementing appropriate elements of the TRE, and either the toxicity drops below the effluent limit in 5.2.1.3.1, above, or, based on the TRE results, the Executive Officer determines that accelerated monitoring would no longer provide useful information.

5.2.1.3.5. 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), *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, currently third edition (EPA-821-R-02-014) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth edition (EPA-821-R2-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

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

5.2.1.5. **Dilution Series.** The Discharger shall conduct tests with a control and concentrations of 5.2%, 2.6%, 1.3%, 0.63%, 0.32%. 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) shall equal to the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms based on a critical life stage toxicity test;

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

- 5.2.2.7. TUc values (100/NOEL and upper and lower confidence intervals, where NOEL = IC₂₅, EC₂₅, or NOEC);
- 5.2.2.8. Mean percent mortality (\pm standard deviation) after 96 hours in 100% effluent (if applicable);
- 5.2.2.9. IC₅₀ or EC₅₀ values for reference toxicant tests; and
- 5.2.2.10. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia.)

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 effluent limit, 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 effluent limit, 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 effluent limit).
- 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 effluent limit.
- 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

The Discharger shall monitor ambient receiving water conditions in the Pacific Ocean at Monitoring Locations RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005 as follows:

Table E-4. Receiving Water Monitoring

Parameter	Unit	Sample Type	Minimum Sampling Frequency
pH ^[1]	s.u.	Grab	1/Year
Temperature ^[1]	°C	Grab	1/Year
Dissolved Oxygen	mg/L	Grab	1/Year
Dissolved Oxygen	% Saturation	Grab	1/Year
Ammonia, Total (as N) ^[1]	mg/L	Grab	1/Year
Fecal Coliform	CFU/100mL ^[2]	Grab	1/Year
Enterococcus	CFU/100mL ^[2]	Grab	1/Year
Total Coliform	CFU/100mL ^[2]	Grab	1/Year
Salinity	ppt	Grab	1/Year
Standard Observations ^[3]	---	Observations	1/Year

Footnotes:

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

^[2] Results may be reported as either Most Probable Number (MPN)/100 mL if the laboratory method used provides results in MPN/100 mL or Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.

^[3] Standard Observations are specified in Attachment G section 3.2.1.

7. RECYCLED WATER POLICY ANNUAL REPORTS

In accordance with Section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy), the Discharger shall electronically submit an annual report of monthly data to the State Water Board by April 30 annually covering the previous calendar year using the State Water Board's [GeoTracker website](https://geotracker.waterboards.ca.gov/) (<https://geotracker.waterboards.ca.gov/>). 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 for [Electronic Submittal of Information](https://waterboards.ca.gov/ust/electronic_submittal/index.html) (https://waterboards.ca.gov/ust/electronic_submittal/index.html).

The annual report to GeoTracker must include the volumetric reporting of the items listed in [Section 3.2 of the Recycled Water Policy](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf) (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf).

8. REPORTING REQUIREMENTS

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

8.2. Self-Monitoring Reports (SMRs)

8.2.1. 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.

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

8.2.2.1. 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.

8.2.2.2. 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 6.3.4.3 (Anaerobically-Digestible Material) of the Order, and Attachment G section 5.3.1.6.

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

Table E-5. CIWQS Reporting

Parameter	Method of Reporting: EDF/CDF data upload	Record Keeping
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.

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

Table E-6. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous/D	Order effective date	All times
1/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

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
		continuing through 11:59 p.m.)
1/Week 2/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 ^[2]
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 March 1 or September 1 before or after Order effective date ^[1]	March 1 through August 31 September 1 through February 28
Once	Order effective date	Once during the term of the Order within 12 months prior to applying for permit reissuance

Footnotes:

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

^[2] See Attachment A for the definition of a calendar month for chronic toxicity testing.

8.2.5. 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:

8.2.5.1. 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).

8.2.5.2. 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.

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

- 8.2.5.4. 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.
- 8.2.6. 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.
- 8.3. 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).

APPENDIX E-1 CHRONIC TOXICITY DEFINITION OF TERMS AND SPECIES SENSITIVITY SCREENING 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 Species Sensitivity Screening

- 2.1. The Discharger shall perform species sensitivity screening:**
 - 2.1.1.** The Discharger shall conduct species sensitivity screening and submit a technical report that identifies the most sensitive test species no later than 18 months after any significant change in the nature of the effluent discharged due to changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts.
 - 2.1.2.** The Discharger shall conduct species sensitivity screening and submit a technical report that identifies the most sensitive test species with the application for permit reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

- 2.2.** Species sensitivity screening shall, at a minimum, reflect the following elements:
- 2.2.1. Test species specified in Appendix E-2, attached, and protocols referenced in those tables. Test species shall be Tier I unless those species are unavailable. In such cases, the Executive Officer may approve a Tier II test species.
- 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%, 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 species sensitivity screening proposal at least 30 days prior to initiating any species sensitivity screening. The proposal shall address each of the elements listed above.
- 2.4.** Unless the Executive Officer specifies otherwise, the most sensitive species shall be the species exhibiting the highest percent effect.

APPENDIX E-2: SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Table AE-1. West Coast Marine Chronic Toxicity Test Species and Methods

Species	(Scientific Name)	Tier	Effect	Test Duration	Reference
Giant kelp	<i>(Macrocystis pyrifera)</i>	I	Percent germination; germ tube length	48 hours	1
Red Abalone	<i>(Haliotis rufescens)</i>	I	Larval development	48 hours	1
Oyster Mussel	<i>(Crassostrea gigas)</i> <i>(Mytilus sp.)</i>	I	Larval development	48 hours	1
Purple Urchin Sand dollar	<i>(Strongylocentrotus purpuratus)</i> <i>(Dendraster excentricus)</i>	I	Percent fertilization or larval development	1 hour or 72 hours	1
Shrimp	<i>(Americamysis bahia)</i>	II	Percent survival; growth	7 days	2
Topsmelt	<i>(Atherinops affinis)</i>	I	Percent survival; growth	7 days	2
Silverside	<i>(Menidia beryllina)</i>	II	Larval growth rate; percent survival	7 days	2

Toxicity Test References:

1. 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.
2. 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. Freshwater Chronic Toxicity Test Species and Method

Species	Scientific Name	Tier	Effect	Test Duration	Reference
Fathead minnow	<i>Pimephales promelas</i>	I	Survival; growth rate	7 days	1
Water flea	<i>Ceriodaphnia dubia</i>	I	Survival; number of young	7 days	1
Green Alga	<i>Selenastrum capricornutum</i>	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 Species Sensitivity Screening

Requirements	Discharge to Coast	Discharges to Marine or Estuarine Water (San Francisco Bay) ^[1]	Discharges to Freshwater ^[1]
Taxonomic diversity	1 plant 1 invertebrate	1 plant 1 invertebrate	1 plant 1 invertebrate

	1 fish	1 fish	1 fish
Screening Requirement	3 Marine species from Table AE-1	A total of 3 Marine and/or Freshwater species from Table AE-1 and Table AE-2	3 Freshwater species from Table AE-2 ^[2]

Footnotes:

- ^[1] (a) "Marine" refers to receiving water salinities greater than 1.0 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 1.0 ppt at least 95 percent of the time during a normal water year.
(c) "Estuarine" refers to all other cases (i.e., when receiving water salinity is above 1.0 less than 95 percent of the time and below 1.0 less than 95% of the time).
- ^[2] The freshwater species may be substituted with a 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 IWC 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 417068001
CIWQS Place ID	255139
Discharger	Sewer Authority Mid-Coastside
Facility Name	Sewer Authority Mid-Coastside Wastewater Treatment Plant and its wastewater collection system
Facility Address	1000 N. Cabrillo Highway Half Moon Bay, CA 94019 San Mateo County
Facility Contact, Title, and Phone	Kishen Prathivadi, General Manager, (650) 726-0124
Authorized Person to Sign and Submit Reports	Same as facility contact
Mailing Address	1000 N. Cabrillo Highway, Half Moon Bay, CA 94019
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	No
Recycling Requirements	State Water Board Order WQ 2016-0068-DDW
Facility Permitted Flow	4.0 million gallons per day (MGD) – average dry weather flow
Facility Design Flow	4.0 million gallons per day (MGD) – average dry weather treatment capacity 15 million gallons per day (MGD) – peak wet weather treatment capacity
Watershed	North San Mateo Coastal
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters
Date of Last Inspection	September 29, 2022

1.1. The Sewer Authority Mid-Coastside (Discharger) owns and operates the Sewer Authority Mid-Coastside Wastewater Treatment Plant and wastewater collection facility (collectively, the Facility), a Publicly Owned Treatment Works (POTW) that provides secondary treatment of wastewater collected from its service area and discharges to the Pacific Ocean.

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

- 1.2. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit CA0038598. The Discharger was previously subject to Order R2-2017-0040 (previous order). The previous order expired on December 31, 2022. The terms and conditions of the previous order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on April 5, 2022.
- 1.3. The Discharger is authorized to discharge subject to the WDRs in this Order at the discharge location described in Table 1 of this Order. 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.
- 1.4. 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 and Biosolids Treatment

- 2.1.1. **Service Area and Collection System.** The Discharger owns and operates the wastewater treatment plant located at 1000 North Cabrillo Highway in Half Moon Bay. The plant provides secondary treatment of domestic wastewater to a population of approximately 26,000 through three satellite collection systems: the City of Half Moon Bay, the Granada Community Services District, and the Montara Water and Sanitary District. Attachment B shows a map of the Facility area.

The collection system, also called the Intertie Pipeline System, is a separate sewer system comprised of approximately 8 miles of force mains and gravity interceptors, and three pump stations. The City of Half Moon Bay, the Montara Water and Sanitary District, and the Granada Community Services District act

independently under the direction of their governing boards, and own, operate, and maintain the satellite sewer collection systems for their respective service areas.

The plant has an average dry weather design capacity of 4 MGD and a peak wet weather capacity of 15 MGD. In 2021, the average daily flow was 1.52 MGD. The Discharger does not anticipate needing to increase its permitted flow within the next five years.

- 2.1.2. Wastewater Treatment.** The Facility provides secondary treatment as described below and as shown in the Process Flow Diagram in Attachment C. The treatment process consists of screening, grit removal, primary clarification, activated sludge aeration, secondary clarification, chlorination by sodium hypochlorite, and dechlorination by sodium bisulfite.
- 2.1.3. Sludge and Biosolids Management.** During the wastewater treatment process, the primary basins collect settleable solids that are pumped to a rotary drum thickener. The thickened solids are pumped to two anaerobic digesters. Supernatant from the rotary drum thickener is returned back to the headworks. Digested biosolids are dewatered via a belt filter press prior to landfill disposal.
- 2.1.4. Stormwater Management.** The Discharger directs all onsite stormwater to the plant headworks for treatment; therefore, coverage under the State Water Board's *General NPDES Permit for Stormwater Dischargers Associated with Industrial Activities* (NPDES General Permit CAS000001) is unnecessary.
- 2.1.5. Planned Upgrades.** The Discharger is evaluating development of a recycled water treatment process, and this Order accounts for this potential project. (Use of the recycled water would be governed by the State Water Board's Water Reclamation Requirements for Recycled Water Use, Order 2016-0068-DDW.) The Discharger would use ultrafiltration and reverse osmosis to further treat secondary-treated effluent and provide ultraviolet disinfection. The Discharger would route about 50 percent of its secondary-treated effluent through ultrafiltration, and then about 50 percent of the ultrafiltration permeate through reverse osmosis. Reject water from ultrafiltration and reverse osmosis would be blended with the final effluent prior to discharge. The proposed recycled water facility would require the following new facilities:
- 2.1.5.1. Secondary-treated effluent diversion pipeline to convey secondary-treated effluent from the secondary clarifiers to the recycled water treatment system.
 - 2.1.5.2. Secondary-treated effluent equalization basin to store secondary-treated effluent and accommodate diurnal flow variations while providing a constant influent flow to the recycled water treatment processes. The existing primary clarifier No. 4 (currently unused) would be rehabilitated and have a total volume of 160,000 gallons.
 - 2.1.5.3. Membrane filtration to meet recycled water treatment requirements.

- 2.1.5.4 Conveyance to send reverse osmosis concentrate from recycled water treatment to the existing ocean outfall for disposal.
- 2.1.5.5 Ultraviolet treatment to sterilize recycled water to protect public health and meet regulatory requirements.
- 2.1.5.6 Recycled water storage to store the recycled water produced. Existing Aeration Basin No. 2 would be rehabilitated and have a total volume of 260,000 gallons.
- 2.1.5.7 Recycled water pumps and distribution pipeline to connect to existing facilities. Recycled water distribution pipeline will be constructed under Pilarcitos Creek.

2.2. Discharge Points and Receiving Waters. Discharge of treated wastewater to the Pacific Ocean is through a discharge pipe and submerged, multi-port diffuser located west of Pilarcitos Creek, approximately 1,900 feet offshore (Discharge Point 001). The discharge pipe lies on a ballast rock on the sea floor approximately 37 feet below mean lower low water (-37 MLLW) and is covered with sand much of the year due to seasonal sand drift. The final 238 feet of the outfall is a multi-port diffuser fitted with thirty-five 6-inch rubber duck-bill valves, approximately 7 feet apart, that discharge vertically approximately 2 feet above the ocean floor. The Discharger inspected the outfall on August 5, 2022, and discovered the following defects: many duckbill check valves need replacing, and diffuser D-33 needs to be excavated. To ensure that the outfall is operating as designed, to comply with Standard Provisions (Attachment D) section 1.4, the Discharger plans to complete repairs by October 2023.

2.3. Previous Requirements and Monitoring Data. The table below presents the previous order’s effluent limitations and representative monitoring data from January 1, 2018, through October 31, 2022.

Table F-2. Previous Effluent Limitations and Monitoring Data

Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Other Limits	Average	Highest Daily Value
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅)	mg/L	30	45			18	400
Total Suspended Solids (TSS)	mg/L	30	45			17	400
BOD ₅ percent removal	%	85 (minimum)				95	85 ^[1]
TSS percent removal	%	85 (minimum)				96	61 ^[1]
pH	standard units				6.0 – 9.0 ^[2]	7.2	6.5 – 7.7 ^[2]

Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Other Limits	Average	Highest Daily Value
Chlorine, Total Residual	mg/L			0.64	4.8 ^[3] 0.36 ^[4]	ND	0.25
Chlorine, Total Residual	kg/day			9.7	5.4 ^[4]	0.006	5.2
Acute Toxicity	TU _a			2.7		0.32	0.77
Chronic Toxicity	TU _c			80		<19.2	<19.2
Enterococcus	MPN/100 mL	2,800 ^[5]		8,300		19 ^[6]	24,000

Footnotes:

- ^[1] Minimum of data set.
- ^[2] Instantaneous minimum and instantaneous maximum.
- ^[3] Instantaneous maximum.
- ^[4] Six-month median.
- ^[5] 30-day geometric mean.
- ^[6] Geometric mean.

2.4. Compliance Summary

2.4.1. **Treatment Plant.** The Discharger violated its effluent limitations 29 times during the period from January 1, 2018, through October 31, 2022.

Table F-3. Effluent Limitation Violations

Monitoring Location	Number of Violations	Violation	Units	Effluent Limitation	Highest Reported Value
EFF-001	12	BOD ₅	mg/L	45 (weekly average)	197 (weekly average)
EFF-001	13	TSS	mg/L	45 (weekly average)	200 (weekly average)
EFF-001	2	TSS, % Removal	%	85 (minimum)	61
EFF-001	1	Enterococcus	MPN/ 100 mL	8,500	>24,196
EFF-001	1	Chlorine, Total Residual	mg/L	4.8 (instantaneous max)	5.2

Most of these violations stem from events that took place in October 2020 and July 2021, when the plant experienced significant increases in influent BOD. The cause for the high BOD is still unknown. These events disrupted biological treatment at the plant, severely diminishing its treatment capability and leading to multiple TSS and BOD exceedances. The Discharger implemented numerous plant upgrades and operational changes to address the disruption, including reconditioning an aeration basin, cleaning and repairing the digester, installing additional polymer feed, increasing residence time in aeration basins, twice seeding aeration basins with healthy bacteria, and reimplementing a source control program.

In April 2018, the plant had a residual chlorine effluent violation due to a sodium bisulfite pump failure. In May 2021, the Discharger had an enterococcus violation, which it attributes to a laboratory error.

The Regional Water Board assessed mandatory minimum penalties of \$78,000 for all these violations (Order R2-2022-1014). Since August 2021, the Discharger has complied with all effluent limits.

- 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 3.5 of this Order.

Table F-4. Collection System and Category 1 SSO Rates (SSOs/100 miles)

(Values based on CIWQS September 2022 data) ^[1]

	Length (miles)	Average Pipe Age (years)	2017	2018	2019	2020	2021
Discharger	7.5	33	0	0	0	0	0
San Francisco Bay Region	19,600	48 ^[2]	1.5	0.64	1.2	0.61	1.0
State of California	113,000	46 ^[2]	0.67	0.38	0.56	0.33	0.46

Footnotes:

^[1] The State Water Board’s *Enrollees’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] The average pipe age for the State of California is estimated based on the percentage of piping constructed during each decade as reported by enrollees under the statewide WDRs for sanitary sewer systems.

The above SSO rates are normalized relative to a distance of 100 miles. From 2017 through 2021, the Discharger did not have any category 1 SSOs, However, during the severe storm on December 31, 2022, the Discharger experienced flooding within the Facility headworks and had to turn off the Portola and Montara Pump Stations. This resulted in five SSOs to storm drains that discharge to the Pacific Ocean.

- 2.5. **Climate Change.** The Facility is located outside of the FEMA 100-year flood plain, and is less likely to be impacted by sea level rise and groundwater rise. The Discharger indicates they will evaluate the collection system for vulnerability to direct and indirect impacts of climate change in the Discharger’s Sanitary Sewer Management Plan.

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, which incorporates by reference the provisions of the California Ocean Plan. Beneficial uses applicable to the Pacific Ocean and San Mateo Coastal Basin are listed below:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Shellfish Harvesting (SHELL) Marine Habitat; (MAR) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC-1) Noncontact Water Recreation (REC-2) Navigation (NAV)

3.3.2. California Ocean Plan. The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and has amended it several times, most recently in 2019. The most recent changes became effective on February 4, 2019. The Ocean Plan applies, in its entirety, to point source discharges to the Pacific Ocean. The Ocean Plan establishes water quality objectives and a program of implementation to protect beneficial uses. Requirements of this Order implement the Ocean Plan. Beneficial uses for the Pacific Ocean as described in the Ocean Plan are as follows:

Table F-6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply Water contact and non-contact recreation, including aesthetic enjoyment Navigation Commercial and sport fishing Mariculture Preservation and enhancement of designated Areas of Special Biological Significance (ASBS) Rare and endangered species Marine habitat Fish migration Fish spawning Shellfish harvesting

- 3.3.3. **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 No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16
- 3.3.4. **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.
- 3.3.5. **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.
- 3.3.6. **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. The Discharger is responsible for meeting applicable requirements of 40 C.F.R. part 503. This Order does not authorize any act that violates those requirements.

3.4. Impaired Water Bodies on CWA Section 303(d) List. On May 11, 2022, U.S. EPA approved a revised list of impaired waters pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. The Pacific Ocean at Half Moon Bay is not on the 303(d) list as an impaired water body. However, the Pacific Ocean at Venice Beach, approximately 1,000 feet north of the outfall, is 303(d) listed as impaired by enterococcus bacteria. Regional Water Board Resolution R2-2021-0002 established a TMDL for the Pacific Ocean at Venice Beach and Pillar Harbor Point, and the U.S. EPA approved the TMDL in February 2022. Provision 4.3 of this Order implements the requirements of that TMDL.

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).
- 4.1.3. **Discharge Prohibition 3.3 (No discharge without minimum initial dilution of at least 79:1):** This Order allows a dilution credit of 79:1 in the water quality based effluent limitations for total residual chlorine, enterococcus, total coliform, acute toxicity, and chronic toxicity based on the Discharger's *Technical Memorandum, Engineering for Outfall Initial Dilution Analysis* (March 25, 2008).

The study modeled mixing conditions and found a minimum initial dilution of 79:1. Thus, this Order prohibits discharge without a minimum initial dilution of at least 79:1. 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 in excess of 4.0 MGD):** This Order prohibits average dry weather influent flows greater than 4.0 MGD because the plant design average dry weather treatment capacity (i.e., its historical and tested treatment reliability) is 4.0 MGD. Exceeding this flow could result in lower treatment reliability and greater potential to violate effluent limitations.
- 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 discharge of radioactive waste):** This prohibition is based on the Ocean Plan section III.I.1.
- 4.1.7. **Discharge Prohibition 3.7 (No discharge of sludge):** This prohibition is based on the Ocean Plan section III.I.3.

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 and Ocean Plan Table 4 as summarized below.

Table F-7. 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
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 also not to be less than 85 percent.

This order does not include effluent limits for oil and grease, settleable solids, and turbidity because Ocean Plan Table 4 only applies to Publicly-Owned Treatment Works for which effluent limitations guidelines have not been established

4.2.2. Technology-Based Effluent Limitations

- 4.2.2.1. **BOD and TSS.** This Order's BOD and TSS effluent limitations, including the 85 percent removal requirement, are based on the Secondary Treatment Standards at 40 C.F.R. section 133.102(a) and 133.102(b) respectively.
- 4.2.2.2. **pH.** The pH effluent limitation is based on 40 C.F.R. part 133.102(c) and Ocean Plan Table 4.

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 the Pacific Ocean. Fact Sheet sections 3.3.1 and 3.3.2 identify the beneficial uses of the Pacific Ocean. Water quality criteria and objectives to protect these beneficial uses are described below. The Ocean Plan specifies numerous water quality objectives, including numeric objectives for 82 priority pollutants, bacteria, total residual chlorine, narrative objectives for toxicity.
- 4.3.2.1. **Acute Toxicity.** Ocean Plan Table 3 contains an acute toxicity water quality objective of 0.3 TU_a, and section III.C.4.c provides the following guidance:

Dischargers shall conduct chronic toxicity testing for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1. The Regional Water Board may require that acute

toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters.

- 4.3.2.1. **Chronic Toxicity.** Ocean Plan Table 3 contains a chronic toxicity water quality objective of 1 TU_c, and section III.C.4.c provides the following guidance:

Dischargers shall conduct chronic toxicity* testing if the minimum initial* dilution of the effluent falls below 100:1 at the edge of the mixing zone.

- 4.3.2.2. **Bacteria Objectives.** In 2019, the Ocean Plan was amended to add the *Bacteria Provisions and a Water Quality Standards Variance Policy*. The amendment established updated water quality objectives for enterococcus and retained the water quality objectives for fecal coliform in waters adjacent to public beaches and for water contact recreation beneficial uses in ocean waters. Both the updated enterococcus objectives and the fecal coliform objectives apply to the area around Discharge Point 001.

In addition, Ocean Plan section II.B.2 states that total coliform objectives apply “At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board.” Because San Mateo County allows sport-harvesting of shellfish between November 1 and April 30, the shellfish harvesting objectives apply to the area around Discharge Point 001.

4.3.3. Reasonable Potential Analysis

- 4.3.3.1. **Available Information.** The reasonable potential analysis for this Order is based on effluent data the Discharger collected from January 1, 2018, through October 31, 2022.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, the Monitoring and Reporting Program (MRP, Attachment E) 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. **Background Data.** In accordance with Ocean Plan section III.C.4.a, background concentrations for all pollutants are assumed to equal zero, except those listed in Ocean Plan Table 5.

- 4.3.3.3. **Table 3 Pollutants.** Ocean Plan section III.C and Appendix VI set forth the methodology used to assess whether pollutants have reasonable potential to exceed Table 3 water quality objectives. The procedure assumes a lognormal distribution for the effluent data and compares the 95th percentile concentration at 95 percent confidence for each parameter in Ocean Plan

Table 3, accounting for dilution, to the applicable water quality objective in Ocean Plan Table 3. The analysis results in one of three endpoints for each pollutant based on four triggers:

- Endpoint 1 – There is reasonable potential. WQBELs and monitoring are required.
- Endpoint 2 – There is no reasonable potential. WQBELs are not required, but monitoring may be required.
- Endpoint 3 – The analysis is inconclusive. Existing WQBELs are retained, and monitoring is required.

The four triggers are as follows:

Trigger 1. If any detected value after adjustment for dilution (X) is greater than the applicable water quality objective (Co), then Endpoint 1 applies.

For Table 3 pollutants: $X = (C_e + D_m C_s) / (D_m + 1)$

For acute toxicity: $X = C_e / (0.1 D_m + 1)$

Where: C_e is the effluent concentration

D_m is the minimum initial dilution expressed as parts seawater per part wastewater (dilution is discussed in Fact Sheet section 4.3.4.2)

C_s is the background seawater concentration from Ocean Plan Table 5

Trigger 2. If there are three or more detected values and the number of non-detected (ND) or detected but not quantified (DNQ) values (c) is less than or equal to 80 percent of the number of data points (n) (i.e., if $c/n \leq 80\%$), a parametric reasonable potential analysis is performed. If the calculated upper confidence bound is greater than C_o , then Endpoint 1 is concluded; otherwise, Endpoint 2 is concluded.

Trigger 3. If there are less than three detected values or if there are more than three detected values but the percentage of non-detected (ND) or detected but not quantified (DNQ) values is more than 80 percent (i.e., if $c/n > 80\%$), a non-parametric reasonable potential analysis is performed. Depending on the results, either Endpoint 2 or Endpoint 3 is concluded.

Trigger 4. If any other information about the receiving water or the discharge supports a finding of reasonable potential, then the reasonable potential analysis may be based on best professional judgment. If data or other information is unavailable or insufficient to determine if a WQBEL is

required, Endpoint 3 is concluded. Otherwise, either Endpoint 1 or Endpoint 2 is concluded.

The following table presents results of the reasonable potential analysis performed in accordance with Ocean Plan procedures. The endpoint for each Table 3 pollutant is identified. The analysis showed reasonable potential for ammonia, and total chlorine residual.

Table F-8. Reasonable Potential Analysis – Marine Aquatic Life

Table 3 Pollutant	Most Stringent Water Quality Objective (µg/L)	No. of Samples	No. of Non-Detects	Max. Effluent Conc. (µg/L)	Max. Expected Conc. After Mixing (µg/L)	Projected 95 th Percentile (µg/L)	RPA Result, Comment
Arsenic	8	4	0	2.9	3.0	3.0	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Cadmium	1	4	4	<0.06	<0.0003	–	Endpoint 3 – Inconclusive
Chromium (VI)	2	2	0	0.69	0.0038	–	Endpoint 3 – Inconclusive
Copper	3	4	0	14	2.1	2.1	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Lead	2	4	0	<0.24	<0.0014	–	Endpoint 3 – Inconclusive
Mercury	0.04	4	4	<0.02	<0.0006	<0.0006	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Nickel	5	4	0	6.4	0.027	0.064	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Selenium	15	4	1	<2	<0.011	–	Endpoint 3 – Inconclusive
Silver	0.7	4	3	<0.4	<0.16	–	Endpoint 3 – Inconclusive
Zinc	20	4	0	46	8.2	8.4	Endpoint 2 – No Reasonable Potential, 95 th percentile less than

Table 3 Pollutant	Most Stringent Water Quality Objective (µg/L)	No. of Samples	No. of Non-Detects	Max. Effluent Conc. (µg/L)	Max. Expected Conc. After Mixing (µg/L)	Projected 95 th Percentile (µg/L)	RPA Result, Comment
							respective water quality objective
Cyanide	1	4	0	3.6	0.02	0.02	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Total Chlorine Residual	60	1825	1821	5,200	65	0.0003	Endpoint 1 – An effluent limitation must be developed for the pollutant
Ammonia (as N)	600	260	0	73200	404	584	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Acute Toxicity ^[1]	0.3 TUa	5	2	0.77	0.09	0.005	Endpoint 1 – See Fact Sheet section 4.3.4.4.
Chronic Toxicity ^[1]	1 TUC	5	5	<19.2	<0.24	<0.24-	Endpoint 1 – See Fact Sheet section 4.3.4.5.
Phenolic Compounds (non-chlorinated)	30	4	4	<7	<0.039	–	Endpoint 3 – Inconclusive
Chlorinated Phenolics	1	4	4	<5	<0.028	–	Endpoint 3 – Inconclusive
Endosulfan	0.009	4	4	<0.04	<0.0002	–	Endpoint 3 – Inconclusive
Endrin	0.002	4	4	<0.08	<0.0004	–	Endpoint 3 – Inconclusive
HCH	0.004	4	4	<0.45	<0.0025	–	Endpoint 3 – Inconclusive

Footnotes:

^[1] The Regional Water Board finds reasonable potential for this discharge to contribute to an excursion from acute and chronic toxicity water quality objectives based on the sensitivity of the receiving water (Monterey Bay National Marine Sanctuary). The specific beneficial uses of the receiving water that this objective is intended to protect include, but are not limited to, protection of rare and endangered species, preservation of critical marine habitat, and use of fish spawning and fish migration, all of which are uses intrinsic to the Sanctuary

Table F-9. Reasonable Potential Analysis – Human Health Noncarcinogens

Table 3 Pollutant	Most Stringent Water Quality Objective (µg/L)	No. of Samples	No. of Non-Detects	Max. Effluent Conc. (µg/L)	Max. Expected Conc. After Mixing (µg/L)	Projected 95 th Percentile (µg/L)	RPA Result, Comment
Acrolein	220	4	4	<10	<0.07	–	Endpoint 3 – Inconclusive
Antimony	1,200	4	3	0.55	<0.007	0.007	Endpoint 3 – Inconclusive
Bis (2-Chloroethoxy) Methane	4.4	3	3	<0.9	<0.006	–	Endpoint 3 – Inconclusive
Bis (2-Chloroisopropyl) Ether	1,200	4	4	<1	<0.007	–	Endpoint 3 – Inconclusive
Chlorobenzene	570	4	4	<1.5	<0.01	–	Endpoint 3 – Inconclusive
Chromium (III)	190,000	4	0	0.87	0.011	0.02	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
Di-n-Butyl Phthalate	3,500	4	3	11	0.14	6.4	Endpoint 3 – Inconclusive
Dichloro benzenes	5,100	1	1	<0.8	<0.01	–	Endpoint 3 – Inconclusive
Diethyl Phthalate	33,000	4	3	<2	<0.025	–	Endpoint 3 – Inconclusive
Dimethyl Phthalate	820,000	4	4	<0.8	<0.01	–	Endpoint 3 – Inconclusive
2-Methyl-4,6-Dinitrophenol	220	4	4	<3	<0.038	–	Endpoint 3 – Inconclusive
2,4-Dinitrophenol	4.0	4	4	<5	<0.063	–	Endpoint 3 – Inconclusive
Ethylbenzene	4,100	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Fluoranthene	15	4	4	<0.07	<0.0009	–	Endpoint 3 – Inconclusive
Hexachlorocyclo-pentadiene	58	4	4	<4	<0.05	–	Endpoint 3 – Inconclusive
Nitrobenzene	4.9	4	4	<0.9	<0.01	–	Endpoint 3 – Inconclusive
Thallium	2	4	4	<0.05	<0.0006	–	Endpoint 3 – Inconclusive
Toluene	85,000	4	2	<1.5	<0.02	–	Endpoint 3 – Inconclusive
Tributyltin	0.0014	4	4	<0.014	<0.0002	–	Endpoint 3 – Inconclusive
1,1,1-Trichloroethane	540,000	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive

Table F-10. Reasonable Potential Analysis – Human Health Carcinogens

Table 3 Pollutant	Most Stringent Water Quality Objective (µg/L)	No. of Samples	No. of Non-Detects	Max. Effluent Conc. (µg/L)	Max. Expected Conc. After Mixing (µg/L)	Projected 95 th Percentile (µg/L)	RPA Result, Comment
Acrylonitrile	0.10	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Aldrin	2.2 E-5	4	4	<0.6	<0.0075	–	Endpoint 3 – Inconclusive
Benzene	5.9	4	4	<1.5	<0.0021	–	Endpoint 3 – Inconclusive
Benzidine	6.9 E-5	4	4	<6	<0.075	–	Endpoint 3 – Inconclusive
Beryllium	0.033	4	4	<0.05	<0.0006	–	Endpoint 3 – Inconclusive
Bis(2-Chloroethyl) Ether	0.045	4	4	<0.9	<0.011	–	Endpoint 3 – Inconclusive
Bis (2-Ethylhexyl) Phthalate	3.5	4	2	<0.3	<0.063	–	Endpoint 3 – Inconclusive
Carbon Tetrachloride	0.90	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Chlordane	2.3 E-5	4	4	<0.12	<0.0015	–	Endpoint 3 – Inconclusive
Chlorodibromo methane	8.6	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Chloroform	130	4	1	1.7	0.021	0.022	Endpoint 2 – No Reasonable Potential, 95 th percentile less than respective water quality objective
DDT Sum	1.7 E-4	4	4	<0.04	<0.0005	–	Endpoint 3 – Inconclusive
1,4 Dichlorobenzene	18	4	4	<1.5	<0.019	–	Endpoint 3 – Inconclusive
3,3-Dichloro benzidine	8.1 E-3	4	5	<6	<0.075	–	Endpoint 3 – Inconclusive
1,2-Dichloroethane	28	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
1,1-Dichloroethylene	0.9	4	4	<1.5	<0.019	–	Endpoint 3 – Inconclusive
Dichlorobromo methane	6.2	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Dichloromethane	450	4	3	<2.5	<0.03	–	Endpoint 3 – Inconclusive
1,3-Dichloro propylene	8.9	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Dieldrin	4.0 E-5	4	4	<0.05	<0.0006	–	Endpoint 3 –

Table 3 Pollutant	Most Stringent Water Quality Objective (µg/L)	No. of Samples	No. of Non-Detects	Max. Effluent Conc. (µg/L)	Max. Expected Conc. After Mixing (µg/L)	Projected 95 th Percentile (µg/L)	RPA Result, Comment
							Inconclusive
2,4-Dinitrotoluene	2.6	4	4	<0.68	<0.0085	–	Endpoint 3 – Inconclusive
1,2-Diphenyl hydrazine	0.16	4	4	<0.6	<0.0075	–	Endpoint 3 – Inconclusive
Halomethanes	130	4	4	<5.5	<0.069	–	Endpoint 3 – Inconclusive
Heptachlor	5 E-5	4	4	<0.05	<0.0006	–	Endpoint 3 – Inconclusive
Heptachlor Epoxide	2 E-5	4	4	<0.09	<0.0011	–	Endpoint 3 – Inconclusive
Hexachloro benzene	2.1 E-4	4	4	<0.09	<0.011	–	Endpoint 3 – Inconclusive
Hexachloro butadiene	14	4	4	<0.84	<0.011	–	Endpoint 3 – Inconclusive
Hexachloro ethane	2.5	4	4	<0.6	<0.0075	–	Endpoint 3 – Inconclusive
Isophorone	730	4	4	<0.81	<0.01	–	Endpoint 3 – Inconclusive
N-Nitrosodimethyl amine	7.3	4	4	<1.1	<0.014	–	Endpoint 3 – Inconclusive
N-Nitrosodi-n-Propylamine	0.38	4	4	<0.85	<0.011	–	Endpoint 3 – Inconclusive
N-Nitrosodiphenyl amine	2.5	4	4	<1	<0.013	–	Endpoint 3 – Inconclusive
PAHs	8.8 E-3	1	1	<8	<0.1	–	Endpoint 3 – Inconclusive
PCBs	1.9E-5	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
TCDD Equivalents	3.9 E-9	4	0	0	0	–	Endpoint 3 – Inconclusive
1,1,2,2-Tetrachloro ethane	2.3	4	4	<1.5	<0.019	–	Endpoint 3 – Inconclusive
Tetrachloro ethylene	2.0	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Toxaphene	2.1 E-4	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
Trichloro ethylene	27	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
1,1,2-Trichloroethane	9.4	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive
2,4,6-Trichlorophenol	0.29	4	4	<0.74	<0.0093	–	Endpoint 3 – Inconclusive
Vinyl Chloride	36	4	4	<2	<0.025	–	Endpoint 3 – Inconclusive

4.3.3.4. **Bacteria.** To protect the water contact recreation beneficial use, the Venice Beach TMDL assigns the Discharger a bacteria wasteload allocation in terms of enterococcus and requires that it be implemented through the NPDES permit. The Regional Water Board developed the enterococcus effluent limits to implement the TMDL pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis. Provision 4.3 imposes those enterococcus effluent limits.

San Mateo County allows sports harvesting of shellfish along the coast during the months of November to April. To protect shellfish harvesting beneficial use, total coliform limits are also necessary because the Facility treats sewage. Provision 4.4. imposes those total coliform limits.

To comply with Ocean Plan section II.B.1, Provision 5.1.11 imposes receiving water limits for fecal coliform, enterococcus, and total coliform.

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. The WQBEL calculations are based on the procedures in the Ocean Plan section III.C.4.

4.3.4.1. **WQBEL Expression.** The Ocean Plan requires that all effluent limitations be expressed as a mass emission rate. In addition, daily maximum limits shall apply to 24-hour composite samples and instantaneous maximum limits shall apply to grab samples.

4.3.4.2. **Mixing Zones and Dilution Credits.** In accordance with Ocean Plan section III.C, WQBELs reflect the minimum initial dilution of the effluent as it reaches the receiving water. The minimum initial dilution can be estimated by experimental observation or computer simulation. The WQBEL calculations for this Order are based on *Technical Memorandum, Engineering for Outfall Initial Dilution Analysis* (March 2008), which estimated dilution at the Discharger's outfall under different flow conditions.

The dilution credits are based on a flow through the diffuser of 2.75 MGD. Based on data collected between January 2018 and October 2022, the Discharger's actual average daily flow ranges from 0.75 to 8.7 MGD, with an average of 1.5 MGD. These flows are reasonably close to that used for the study. At the flow of 2.75 MGD, the minimum initial dilution over the width of the plume is estimated to be 79:1 (79 parts total water after ocean and effluent mixing to 1 part effluent) under slack low tide and zero current (i.e., stagnant) ambient conditions. The dilution increases to at least 180:1 with a current speed of 10 centimeters per second, which is the lowest average speed measured at the diffuser from June through October 1976. The mixing zone under these two scenarios extends up to 21 feet from the outfall ports.

4.3.4.3. **WQBEL Calculations.** In accordance with Ocean Plan section III.C, effluent limitations are calculated using the following equations:

For Table 3 pollutants: $C_e = C_o + D_m (C_o - C_s)$

For acute toxicity: $C_e = C_a + (0.1) D_m (C_a)$

Where:

C_e = effluent limitation ($\mu\text{g/L}$)

C_o = concentration to be met at the completion of initial dilution ($\mu\text{g/L}$)

C_a = concentration to be met at the edge of the acute mixing zone (T_{u_a})

C_s = background seawater concentration ($\mu\text{g/L}$)

D_m = minimum initial dilution, expressed as parts seawater per part wastewater

Except for the five metals in Ocean Plan Table 5, background concentrations are assumed to be zero ($C_s = 0$).

4.3.4.3.1. **Total Residual Chlorine.** The total chlorine residual WQBELs are based on the Ocean Plan water quality objectives: six-month median of 2 $\mu\text{g/L}$, daily maximum of 8 $\mu\text{g/L}$, and instantaneous maximum of 60 $\mu\text{g/L}$.

6-month median WQBEL: $C_e = 2 + 180 (2 - 0) = 362 \mu\text{g/L}$ (0.36 mg/L)

Daily maximum WQBEL: $C_e = 8 + 79 (8 - 0) = 640 \mu\text{g/L}$ (0.64 mg/L)

Instantaneous maximum WQBEL: $C_e = 60 + 79 (60 - 0) = 4800 \mu\text{g/L}$ (4.8 mg/L)

The previous order contained the same total residual chlorine WQBELs.

The following equation was used to calculate the mass emission rate.

$\text{WQBEL (kg/day)} = 3.78 \times C_e \times Q$, with C_e in mg/L and Q (flow) in MGD

The highest average monthly effluent flow observed from January 2018 through October 2022 was used to calculate the 6-month median mass emission WQBEL. The highest daily average flow observed during the same period was used to calculate the daily maximum mass emission WQBEL. The mass emission WQBELs are calculated as follows:

6-month median mass emission WQBEL = $3.78 \times 0.36 \times 3.1 = 4.2 \text{ kg/day}$

Daily maximum mass emission WQBEL = $3.78 \times 0.64 \times 8.7 = 21 \text{ kg/day}$

The previous order contained a more stringent daily maximum WQBEL of 9.7 kg/day. Therefore, this Order establishes a 6-month median mass emission WQBEL of 4.2 kg/day and retains the daily maximum mass emission WQBEL of 9.7 kg/day from the previous order to avoid backsliding.

- 4.3.4.3.2. **Enterococcus Bacteria.** The enterococcus WQBELs are based on the wasteload allocation in the Bacteria TMDL for Beaches in Pillar Point Harbor and Venice Beach, which tracks the Ocean Plan water quality objectives: six-week rolling geometric mean not to exceed 30 CFU/100 mL, and statistical threshold value of 110 CFU/100 mL not to be exceeded in 10 percent of samples.

Geometric mean WQBEL: $C_e = 30 + 79 (30 - 0.0) = 2,400$ CFU/100 mL
Statistical threshold value WQBEL: $C_e = 110 + 79 (110 - 0.0) = 8,800$ CFU/100 mL

The TMDL indicates that the Discharger is not considered a source of impairment to these beaches and requires the Discharger to continue meeting existing regulatory requirements to ensure adequate disinfection. The TMDL requires that the Discharger meet a wasteload allocation based on the above water quality objectives after accounting for mixing and dilution. To account for mixing and dilution, this Order uses a dilution factor for enterococcus that is identical to that evaluated under the TMDL and the previous order.

- 4.3.4.3.3. **Total Coliform.** The total coliform WQBELs are based on Ocean Plan water quality objectives: a median not to exceed 70 CFU/100 mL, and statistical threshold value of 230 CFU/100 mL not to be exceeded in 10 percent of samples.

Median WQBEL: $C_e = 70 + 79 (70 - 0.0) = 5,600$ CFU/100 mL
Statistical threshold value WQBEL: $C_e = 230 + 79 (230 - 0.0) = 18,400$ CFU/100 mL

- 4.3.4.4. **Acute Toxicity.** The daily maximum effluent limitation for acute toxicity is based on the Ocean Plan water quality objective of 0.3 TUa.

$$C_e = 0.3 + (0.1) 79 (0.3) = 2.7 \text{ TUa}$$

- 4.3.4.5 **Chronic Toxicity.** The daily maximum effluent limitation for chronic toxicity is based on the Ocean Plan water quality objective of 1 TUc.

$$C_e = 1 + 79 (1 - 0) = 80 \text{ TUc}$$

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 comparable effluent limitations in a reissued permit to be as stringent as those in the previous order. This Order contains new enterococcus bacteria effluent limits based on the updated enterococcus objectives in the Ocean Plan. The new effluent limits are expressed using different averaging periods than the previous limits, which makes them difficult to compare. Even if

the new limits are less stringent, CWA section 402(o)(1) allows for WQBELs to be relaxed if it is consistent with the provisions of CWA section 303(d)(4) and does not result in a violation of water quality standards.

CWA section 303(d)(4)(B) applies to this discharge because the Pacific Ocean is an attainment water. Under CWA section 303(d)(4)(B), a limitation based on a water quality standard or any other permitting standard may only be relaxed where the action is consistent with the antidegradation policy. As explained below in Fact Sheet section 4.4.2, the new enterococcus limits will not degrade water quality and will not result in a violation of water quality standards.

- 4.4.2. **Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. It does not authorize lowering water quality as compared to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increased flow, a reduced level of treatment, or increased effluent limitations relative to the previous order. Although this Order modifies enterococcus bacteria limits, the new limits serve a comparable purpose in that they are protective of water quality and reflect the most up-to-date water quality objectives.

Although the planned water recycling project, if implemented, would potentially increase the concentration of pollutants in the discharge, the more concentrated discharge would be subject to the same treatment and control processes and would be required to comply with the same concentration and mass emission effluent limitations and discharge prohibitions as the current discharge regulated by this Order.

- 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. The WQBELs calculations are based on the Ocean Plan. Most Basin Plan beneficial uses and water quality objectives were approved under State law and submitted to and approved by U.S. EPA 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 section 5.1 are based on Ocean Plan narrative and numeric water quality objectives. The receiving water limitation in section 5.2 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.

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 authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section 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 it is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

6.3.3. **Pollutant Minimization Program.** This provision is based on Basin Plan section 4.13.2, Ocean Plan section III.C.9, and Water Code section 13263, which emphasizes that pollution prevention is necessary to achieve a water quality objective. A Pollutant Minimization Program is necessary to ensure that pollutants that are toxic to aquatic organisms do not increase to a concentration that could threaten the narrative toxicity objective. While this Order requires toxicity tests, these may not capture emerging contaminants that could be toxic to this sensitive receiving water (Monterey Bay National Marine Sanctuary) that includes specific beneficial uses to protect rare and endangered species, preserve critical marine habitat, and use for fish spawning and fish migration.

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

6.3.4.1. **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.

6.3.4.2. **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.

6.3.4.3. **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 co-digestion 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.

6.4 Recycled Water Project. Provision 6.3.5. specifies conditions the Discharger must comply with before and after it begins operating a Recycled Water Project. To ensure that the Discharger will be able to collect representative samples, this provision requires documentation that there will be complete mixing of treated wastewater and reverse osmosis concentrate prior to Monitoring Location EFF-001.

By reducing effluent flows, the Recycled Water Project may increase the toxicity of the discharge and concentration of pollutants. To evaluate whether there is reasonable potential for an exceedance of water quality objectives, Provision 6.3.5.1 requires the Discharger to conduct acute and chronic toxicity tests under worst-case conditions (maximum amount of reverse osmosis concentrate relative to treated wastewater) and to monitor reverse osmosis concentrate for pollutants listed in Ocean Plan Table 3.

Finally, because the Recycled Water Project will reduce effluent flows and increase the salinity of the discharge, which will reduce its buoyancy, Provision 6.3.5.2. requires the Discharger to update its dilution study to reflect such conditions.

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 flow monitoring is necessary to understand Facility operations and to evaluate compliance with Discharge Prohibition 3.4, which prohibits average dry weather influent flow greater than 4.0 MGD. Influent

BOD and TSS monitoring is necessary to evaluate compliance with this Order's 85 percent removal requirements.

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

7.1.3. **Toxicity Testing.** Toxicity tests are necessary to evaluate the potential toxic effects of pollutant mixtures in the effluent on receiving water quality and to evaluate compliance with this Order's effluent limitations. Chronic toxicity tests are also necessary to evaluate whether toxicity reduction evaluations are needed and to conduct future reasonable potential analyses.

The Discharger conducted a chronic toxicity species sensitive screening during the period from October 2021 through January 2022. The screening satisfies the Ocean Plan's minimum screening requirements because the test species included one vertebrate, one invertebrate, and one aquatic plant/algae from Table III-1 of Ocean Plan appendix III. This Order updates the requirement to use the mussel (*Mytilus galloprovincialis*) for chronic toxicity tests because the 2022 screening identified it as the most sensitive species.

7.1.4. **Receiving Water Monitoring.** Receiving water monitoring is necessary to characterize the receiving water and the effects of the discharge on it. The MRP requires monitoring for fecal coliform, total coliform, and enterococcus bacteria to ensure protection of water contact recreational beneficial uses.

7.1.5. **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.

Table F-11. Monitoring Requirements Summary

Parameter	Influent INF-001 ^[1]	Effluent EFF-001 ^[1]	Receiving Water RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005 ^[1]
Flow	Continuous/D	Continuous/D	–
BOD ₅	1/Week	1/Week	–
TSS	2/Week	2/Week	–
pH	–	1/Day	1/Year
Chlorine, Total Residual	–	1/Hour	–
Ammonia, Total (as N)	–	1/Month	1/Year
Enterococcus	–	1/Week	1/Year
Fecal Coliform	–	–	1/Year
Total Coliform	–	2/Year	1/Year
Dissolved Oxygen	–	–	1/Year
Temperature	–	–	1/Year
Salinity	–	–	1/Year
Acute Toxicity	–	1/Year	–
Chronic Toxicity	–	1/Year	–
Ocean Plan Table 3 Pollutants ^[5]	–	1/Year	–
Standard Observations	–	–	1/Year

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).

Water Code sections 189.7 and 13149.2 require specific outreach and findings related to potential environmental justice, tribal impact, and racial equity considerations for reissued individual WDRs that include time schedules for achieving compliance with water quality objectives. This Order does not contain such a time schedule; therefore, the specified outreach and findings are not required.

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 William Burrell.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by 5:00 p.m. on **February 13, 2023**.

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

Date: **March 8, 2023**
Time: 9:00 a.m.

Contact: William Burrell, (510) 622-2317, william.burrell@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://www.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://www.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, please 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 William Burrell, (510) 622-2317, william.burrell@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. Expedient 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 4, 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;
- 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;

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.

5.5.2.2.6. 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	-	-	-	-	-	-	-	-	-	-
20	Bromoform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
21	Carbon Tetrachloride	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
22	Chlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
23	Chlorodibromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
24	Chloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
25	2-Chloroethylvinyl Ether	601	1	1	-	-	-	-	-	-	-	-	-	-
26	Chloroform	601	0.5	2	-	-	-	-	-	-	-	-	-	-
75	1,2-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
76	1,3-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
77	1,4-Dichlorobenzene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
27	Dichlorobromomethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
28	1,1-Dichloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
29	1,2-Dichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
31	1,2-Dichloropropane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
34	Methyl Bromide or Bromomethane	601	1.0	2	-	-	-	-	-	-	-	-	-	-
35	Methyl Chloride or Chloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
36	Methylene Chloride or Dichloromethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
37	1,1,2,2-Tetrachloroethane	601	0.5	1	-	-	-	-	-	-	-	-	-	-
38	Tetrachloroethylene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
40	1,2-Trans-Dichloroethylene	601	0.5	1	-	-	-	-	-	-	-	-	-	-
41	1,1,1-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
42	1,1,2-Trichloroethane	601	0.5	2	-	-	-	-	-	-	-	-	-	-
43	Trichloroethene	601	0.5	2	-	-	-	-	-	-	-	-	-	-
44	Vinyl Chloride	601	0.5	2	-	-	-	-	-	-	-	-	-	-
45	2-Chlorophenol	604	2	5	-	-	-	-	-	-	-	-	-	-
46	2,4-Dichlorophenol	604	1	5	-	-	-	-	-	-	-	-	-	-
47	2,4-Dimethylphenol	604	1	2	-	-	-	-	-	-	-	-	-	-

CTR No.	Pollutant / Parameter	Analytical Method ^[2]	GC	GC MS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5	-	-	-	-	-	-	-	-	-	-
49	2,4-Dinitrophenol	604	5	5	-	-	-	-	-	-	-	-	-	-
50	2-Nitrophenol	604	-	10	-	-	-	-	-	-	-	-	-	-
51	4-Nitrophenol	604	5	10	-	-	-	-	-	-	-	-	-	-
52	3-Methyl-4-Chlorophenol	604	5	1	-	-	-	-	-	-	-	-	-	-
53	Pentachlorophenol	604	1	5	-	-	-	-	-	-	-	-	-	-
54	Phenol	604	1	1	-	50	-	-	-	-	-	-	-	-
55	2,4,6-Trichlorophenol	604	10	10	-	-	-	-	-	-	-	-	-	-
56	Acenaphthene	610 HPLC	1	1	0.5	-	-	-	-	-	-	-	-	-
57	Acenaphthylene	610 HPLC	-	10	0.2	-	-	-	-	-	-	-	-	-
58	Anthracene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5	-	-	-	-	-	-	-	-	-	-
61	Benzo(a)Pyrene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
62	Benzo(b) Fluoranthene or 3,4 Benzofluoranthene	610 HPLC	-	10	10	-	-	-	-	-	-	-	-	-
63	Benzo(ghi)Perylene	610 HPLC	-	5	0.1	-	-	-	-	-	-	-	-	-
64	Benzo(k)Fluoranthene	610 HPLC	-	10	2	-	-	-	-	-	-	-	-	-
74	Dibenzo(a,h)Anthracene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
86	Fluoranthene	610 HPLC	10	1	0.05	-	-	-	-	-	-	-	-	-
87	Fluorene	610 HPLC	-	10	0.1	-	-	-	-	-	-	-	-	-
92	Indeno(1,2,3-cd)Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
100	Pyrene	610 HPLC	-	10	0.05	-	-	-	-	-	-	-	-	-
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5	-	-	-	-	-	-	-	-	-	-
70	Butylbenzyl Phthalate	606 or 625	10	10	-	-	-	-	-	-	-	-	-	-
79	Diethyl Phthalate	606 or 625	10	2	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-

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

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