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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**  
**SAN DIEGO REGION**

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**ORDER NO. R9-2022-0078**

**ADDENDUM NO. 1 TO ORDER NO. R9-2017-0007**  
**NPDES NO. CA0107409**

**AMENDING WASTE DISCHARGE REQUIREMENTS AND NATIONAL DISCHARGE  
ELIMINATION SYSTEM PERMIT FOR THE CITY OF SAN DIEGO E.W. BLOM POINT  
LOMA WASTEWATER TREATMENT PLANT DISCHARGE TO THE PACIFIC OCEAN  
THROUGH THE POINT LOMA OCEAN OUTFALL**

The United States Environmental Protection Agency (USEPA), Region IX and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) find:

**1. BACKGROUND**

- 1.1 The City of San Diego (Discharger or City) owns and operates the E.W Blom Point Loma Wastewater Treatment Plant (Facility), Pump Station No. 2, the Metro Biosolids Center (MBC), the Point Loma Ocean Outfall (PLOO), and other associated infrastructure (collectively referred to as Facilities).
- 1.2. The Facilities and associated discharges to the Pacific Ocean are regulated under Order No. R9-2017-0007, a 301(h)-modified National Pollutant Discharge Elimination System (NPDES) permit based on a variance from federal secondary treatment standards. Order No. R9-2017-0007 was adopted by the San Diego Water Board on April 12, 2017, and was issued by the USEPA Region IX, on August 4, 2017. Order No. R9-2017-0007 became effective on October 1, 2017.
- 1.3. The Discharger has committed to implementing “Pure Water San Diego” (also referred to as the Pure Water Program), a comprehensive water reuse program to reduce the region’s reliance on imported water and to provide at least one-third of San Diego’s water supply locally by December 31, 2035. The Pure Water Program intends to produce a source of supply to the potable water system from the advanced treatment of municipal wastewater, thereby providing a safe, reliable, and cost-effective drinking water supply for the San Diego area. Phase 1 of the Pure Water Program will produce 30 million gallons per day (mgd) of highly treated recycled water for potable reuse, and Phase 2 of the program will produce a total of 83 mgd of highly treated recycled water for potable reuse by December 31, 2035. Table 8 of Order No. R9-2017-0007 identifies

implementation tasks and milestone dates for Phase 1 of the Pure Water Program.

- 1.4. The City submitted a letter to the San Diego Water Board, dated February 7, 2022, requesting modifications to the schedule for the Pure Water Program tasks listed in Table 8 of Order No. R9-2017-0007. The City reported that it has experienced a series of issues that have resulted in delays in initiating and completing construction of facilities for Phase 1 of the Pure Water Program. Issues causing construction delays include the following:
  - Resolving unexpected legal challenges;
  - Resolving labor agreement rules and issues;
  - Adhering to COVID-19 guidance and restrictions and experiencing delays both directly and indirectly related to the COVID-19 pandemic; and
  - Addressing supply chain interruptions that have delayed availability of equipment and materials.
- 1.5. Finding II E.2 of Order No. R9-2017-0007 provides that the variance from federal secondary treatment standards for the Facility and PLOO discharge is contingent upon a determination by the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) that the Facility and PLOO discharge is consistent with the federal Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. section 1531 et seq.) Under Section 7 of the ESA, federal agencies must consult with the NMFS on activities that may affect federally listed threatened and endangered species. These inter-agency consultations are designed to help federal agencies in fulfilling their duty to ensure that their actions do not jeopardize the continued existence of a species or destroy or adversely modify designated critical habitat. Federal agencies are also required to consult with NMFS pursuant to the essential fish habitat (EFH) provisions in section 305(b) of the Magnuson–Stevens Fishery Conservation and Management Act [16 U.S.C. 1855 (b)]. As a result, USEPA consulted with NMFS to obtain the required determination regarding effects of the discharge on ESA listed species and essential fish habitat.
- 1.6. NMFS issued a final biological opinion dated March 4, 2022, which provides results of its review of potential effects of the discharge on federally listed threatened and endangered species and essential fish habitat. The biological opinion identifies individual species that could potentially uptake or accumulate contaminants such as organophosphate flame retardants and other persistent organic pollutants that may be present in treated wastewater discharged to the receiving water. This uptake and/or accumulation could increase their body burden of these contaminants and the risk of incurring adverse effects on their growth, reproduction, and overall health and survival over a shorter period of time than would otherwise occur absent the discharge. NMFS' analysis focused on the apparently increasing threat associated with accumulation of organophosphate flame retardants, given the recent literature describing the potential harm organophosphate flame retardants can have on numerous

federally listed threatened and endangered species, and their known association with wastewater discharge in general. The NMFS biological opinion also concluded that certain federally listed threatened and endangered species could be at risk of exposure to phytoplankton blooms, including harmful algal blooms, in the event nutrient loads from the discharge contribute to the formation of phytoplankton blooms in the receiving water.

1.7. The NMFS biological opinion provides Terms and Conditions, which are non-discretionary pursuant to section 7(b)(4) of the ESA. The Terms and Conditions focus on implementation of measures to monitor and better understand the extent of discharge of constituents that could have adverse effects identified in the biological opinion. This Order incorporates requirements determined by USEPA for implementing the Reasonable and Prudent Measures in the biological opinion. As a result, the Discharger is required to do the following:

- Conduct monitoring to determine the levels of organophosphate flame retardants and the loading of organophosphate flame retardants in the receiving water using sampling and analysis protocols that are consistent with or equivalent to those used in studies by other wastewater dischargers.
- Conduct monitoring to determine the various forms of nutrients and total nutrient loading from the Facility's discharge to the receiving water to determine the potential of the discharge to contribute to the formation of phytoplankton blooms, including harmful algal blooms in the receiving water. Harmful algal blooms can produce toxins which could have detrimental effects to fish, marine mammals, and other aquatic organisms. Algae can also consume oxygen in receiving waters as it decays, clog gills of fish and invertebrates, and smother corals and submerged aquatic vegetation.
- Conduct a multi-year study to measure and determine the seasonal depth of the euphotic zone in the area of the discharge from the PLOO to assess the potential for the discharge to contribute to the formation, frequency, and extent of phytoplankton blooms in the receiving water.

2. **PURPOSE OF ORDER NO. R9-2022-0078, ADDENDUM NO. 1 TO ORDER NO. R9-2017-0007 (ORDER)**

This Order amends Order No. R9-2017-0007 to:

- 2.1. Modify the completion dates for implementation of Pure Water Program tasks listed in Table 8 of Order No. R9-2017-0007. The Discharger submitted a letter to the San Diego Water Board, dated February 7, 2022, requesting modifications to the schedule for the Pure Water Program tasks listed in Table 8 of Order No. R9-2017-0007 for the reasons stated in Finding 1.4 above.
- 2.2. Add requirements based on the Terms and Conditions in the NMFS biological opinion for the following:

- Monitoring organophosphate flame retardants to investigate the levels of these contaminants in the effluent.
- Monitoring nutrients in the influent and effluent to quantify nutrient loading to the receiving ocean waters from the discharge and gather data needed to evaluate whether the discharge contributes to the formation of phytoplankton blooms in the receiving water.
- Developing a Work Plan for conducting a special study necessary to determine the euphotic depth of the receiving water and evaluate the potential for formation of phytoplankton blooms in the receiving water.

### **3. LEGAL AUTHORITIES**

- 3.1. Section 13263(e) of the California Water Code (Water Code), provides that the San Diego Water Board may, upon application by any affected person, or on its own motion, review and revise waste discharge requirements. Section 122.62(a) of title 40 of the Code of Federal Regulations (40 CFR) authorizes the reopening and modification of a NPDES permit based upon the receipt of new information that was not available at the time of permit issuance.
- 3.2. Order No. R9-2017-0007 is not being reopened for any other purpose than the revisions contained herein. Except as contradicted or superseded by the findings and directives set forth in this Order, all of the previous findings and directives of Order No. R9-2017-0007 shall remain in full force and effect.

### **4. CALIFORNIA ENVIRONMENTAL QUALITY ACT**

This action is exempt from the requirement of preparation of environmental documents under the California Environmental Quality Act (Public Resources Code, division 13, chapter 3, section 21000 et seq.) in accordance with section 13389 of the Water Code.

### **5. PUBLIC PARTICIPATION**

- 5.1. The San Diego Water Board and USEPA, Region IX, have notified the Discharger and interested agencies and persons of its the intent to jointly consider adoption of this Order and have provided an opportunity for the public to submit written comments and recommendations regarding the proposed action. Details of the notification are provided in the modifications to section VIII.I of the Fact Sheet (Attachment F of Order No. R9-2017-0007) described in directive 6 of this Order.
- 5.2. The San Diego Water Board in a public meeting on August 10, 2022, heard and considered all comments pertaining to the adoption of this Order

THEREFORE IT IS HEREBY ORDERED that, pursuant to Water Code section 13263 and 40 CFR section 122.62, Order No. R9-2017-0007 is amended as follows:

**1. PURE WATER PROGRAM SCHEDULE**

Table 8 of Order No. R9-2017-0007 shall be replaced with the following:

**Table 8. Pure Water San Diego Potable Reuse Tasks<sup>1</sup>, Phase I, 30-MGD Potable Reuse**

<b>Category</b>	<b>Task</b>	<b>Completion Date<sup>1</sup></b>	<b>Task Report Due Date (14 days after the date)</b>
Environmental Impact Report (EIR)	Certify Final Program EIR for <i>Pure Water San Diego</i>	Task Completed	N/A
	Issue Notice of Preparation for North City Project EIR	Task Completed	N/A
	Certify Final North City Project EIR	October 31, 2018	November 14, 2018
32-MGD Morena Blvd. Wastewater Pump Station and Forcemain to North City Water Reclamation Expansion	Issue Notice to Proceed for final design	Task Completed	N/A
	Complete design	December 31, 2018	January 14, 2019
	Complete construction	June 30, 2027	July 15, 2027
North City Water Reclamation Expansion	Issue Notice to Proceed for final design	Task Completed	N/A
	Complete design	December 31, 2018	January 14, 2019
	Complete construction	June 30, 2027	July 15, 2027
Metro Biosolids Center Improvements	Complete design	December 31, 2018	January 14, 2019
	Complete construction	June 30, 2027	July 15, 2027
30-MGD Potable Reuse Purification Facility	Complete design	March 31, 2019	April 15, 2019
	Complete construction	June 30, 2027	July 15, 2027
30-MGD Purified Water Pump Station and Pipeline	Issue Notice to Proceed for final design	Task Completed	N/A
	Complete design	October 31, 2018	November 14, 2018

Category	Task	Completion Date <sup>1</sup>	Task Report Due Date (14 days after the date)
from North City Water Reclamation Expansion to Miramar Reservoir	Complete construction	June 30, 2027	July 15, 2027
Commissioning	Initiate equipment testing and commissioning of potable reuse purification systems associated with start-up and eventual ramp-up to full capacity in accordance with regulatory requirements	July 1, 2027	July 15, 2027

Notes for Table 8

1 Facilities planning, including the potential to accelerate the implementation schedule, has been aggressively pursued by the Discharger since the submittal of the Report of Waste Discharge for issuance of Order No. R9-2017-0007. Implementation of *Pure Water San Diego* faces a unique challenge, well beyond what a normal expansion of the water and wastewater infrastructure would experience. The amended detailed schedule included in Table 8 was provided by the Discharger on February 7, 2022. The Discharger has noted that this schedule is based on current progress and the completion dates may be modified based on issues related to the regulatory approval schedule, environmental review issues, or legal challenges to the proposed program or projects.

**2. FUTURE MODIFICATIONS OF THE MONITORING AND REPORTING PROGRAM BY THE EXECUTIVE OFFICER**

The following shall be added as section I.I of the Monitoring and Reporting Program (MRP, Attachment E to Order No. R9-2017-0007):

- I. The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. The Executive Officer is authorized to modify the provisions of this MRP in accordance with applicable law. Unless otherwise indicated by this MRP, if the Discharger wishes to modify any monitoring requirements specified in this MRP, then the Discharger shall submit a written request to the Executive Officer for review and approval. The Executive Officer may approve the request to modify the MRP in accordance with applicable law.

### **3. FLAME RETARDANT MONITORING**

The following subsections shall be added to section III.B of the MRP (Attachment E to Order No. R9-2017-0007):

- 3.1. The existing section III.B shall be renumbered to be section III.B.1 of the MRP (Attachment E to Order No. R9-2017-0007).
- 3.2. The following subsection shall be added as section III.B.2 of the MRP (Attachment E to Order No. R9-2017-0007):

## **2. Additional Effluent Monitoring Requirements**

### **a. Flame Retardant Monitoring**

The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) issued a final biological opinion dated March 4, 2022, which provides results of its review of potential effects of the discharge on federally listed threatened and endangered species, and essential fish habitat. The biological opinion identifies individual species that could potentially uptake or accumulate contaminants such as organophosphate flame retardants and other persistent organic pollutants that may be present in treated wastewater discharged to the receiving water. This uptake and/or accumulation could increase their body burden of these contaminants and the risk of incurring adverse effects on their growth, reproduction, and overall health and survival over a shorter period of time than would otherwise occur absent the discharge. NMFS' analysis focused on the apparently increasing threat associated with accumulation of organophosphate flame retardants, given the recent literature describing the potential harm organophosphate flame retardants can have on numerous federally listed threatened and endangered species, and their known association with wastewater discharge in general. The Terms and Conditions in the NMFS biological opinion include effluent monitoring for organophosphate flame retardants. The effluent monitoring requirements described below implement the Terms and Conditions of the NMFS biological opinion. Effluent monitoring for flame retardants is designed to answer the following questions:

- 1) What are the concentrations of flame retardants in the effluent?
- 2) What is the mass of flame retardants that are discharged to the receiving water?
- 3) Are the concentrations of flame retardants in the effluent changing over time?
- 4) Do the concentrations of flame retardants in the effluent vary between wet and dry weather?

The Discharger shall monitor for flame retardants at Monitoring Location EFF-001 as described in Table E-4a.

**Table E-4a. Flame Retardant Monitoring**

Parameter	Chemical Abstracts Services Number	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BDE 47; 2,2',4,4'-tetrabromodiphenyl ether	Not available	Nanograms per liter (ng/L)	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3,4
BDE 99; 2,2',4,4',5-Pentabromodiphenyl ether	Not available	ng/L	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3,4
BDE 100; 2,2',4,4',6-Pentabromodiphenyl ether	Not available	ng/L	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3,4
BDE 183; 2,2',3,4,4',5',6-heptabromodiphenyl ether	Not available	ng/L	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3,4
TDCPP; tris(1,3-dichloro-2-propyl)phosphate	13674-87-8	ng/L	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3
TCEP; tris(2-chloroethyl)phosphate	115-96-8	ng/L	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3
TCPP; tris(1-chloro-2-propyl)phosphate	13674-84-5	ng/L	24-hr composite	1/year in wet weather and 1/year in dry weather <sup>1,2</sup>	3

Notes for Table E-4a

- The Discharger shall calculate and report the mass loading rate in both pounds per day (lbs/day) and metric tons per year. The mass loading in lbs/day shall be calculated using the following formula:  

$$8.34 \times Q \times C$$
 where Q is the flow rate at the monitoring location and C is the concentration in mg/L.



2. The Discharger shall monitor once during dry weather and once during wet weather annually from the effective date of this Order. Wet weather is defined as a storm event producing greater than 0.1 inches of precipitation within a 24-hour period based on the rain gauge at the San Diego International Airport. In the event that a wet weather sample is not able to be collected, analyzed, and reported by June 30, 2023, the Discharger shall submit a written request to the San Diego Water Board and USEPA to collect a sample in dry weather in lieu of collecting the sample in wet weather.
3. USEPA Methods 1694 Modified or 1698 Modified; ASTM Methods D7065 or D7485; or other methodologies utilized by the United States Geological Survey, State Water Board Division of Drinking Water, or other federal or State agencies.
4. USEPA Methods 1614A Modified using GC/MS SIM or other methodologies utilized by the United States Geological Survey, State Water Board Division of Drinking Water, or other federal or State agencies.

**b. Summary of Results**

The Discharger shall submit the flame retardant monitoring results annually no later than June 30 of the year following sampling to the California Integrated Water Quality System online database (CIWQS) as a standalone report.

**4. PHYTOPLANKTON STIMULATION STUDY**

- 4.1. The existing Climate Change Action Plan in section VI shall be renumbered to be section VI.A of the MRP (Attachment E to Order No. R9-2017-0007).
- 4.2. The following subsection shall be added as section VI.B of the MRP (Attachment E to Order No. R9-2017-0007):

**B. Phytoplankton Stimulation Study**

The NMFS biological opinion concluded that certain federally listed threatened and endangered species could be at risk of exposure to phytoplankton blooms, including harmful algal blooms, in the event nutrient loads from the discharge contribute to the formation of such blooms in the receiving water. The Terms and Conditions in the NMFS biological opinion include monitoring to determine the nutrient loading from the discharge, a study to determine the depth of the euphotic zone in the receiving water and to evaluate whether nutrients from the discharge plume reach the euphotic zone and thereby potentially stimulate phytoplankton productivity in the receiving water. The NMFS biological opinion focused on harmful algal blooms as detrimental to federally listed threatened and endangered species. The requirements of the Phytoplankton Stimulation Study described below implement the Terms and Conditions of the NMFS biological opinion.

The Phytoplankton Stimulation Study is designed to evaluate the potential for the Facility's discharge to stimulate phytoplankton blooms, including harmful algal blooms, in the receiving water. The Phytoplankton Stimulation Study includes two components: (a) effluent nutrient monitoring to determine the loading of nutrients to the receiving water, and (b) a Euphotic Zone Study to determine the depth of the euphotic zone and whether the wastewater plume from the PLOO enters the euphotic zone where it could stimulate phytoplankton productivity. Generally, the Phytoplankton Stimulation Study is designed to answer the following questions:

- 1) Does the discharge from the Facility reach areas of the water column that could indicate the potential to stimulate phytoplankton productivity in the receiving water? If so, how and to what extent does it vary temporally?
- 2) How does the nutrient loading from the Facility compare to the nutrient loading from other sources (such as upwelling) in the PLOO region, (to the extent data from other sources is available to the City for comparison)?

In accordance with the Terms and Conditions of the NMFS biological opinion, the Discharger shall implement the monitoring requirements described in sections VI.B.1 through VI.B.3 of the MRP (Attachment E to Order No. R9-2017-0007) below.

#### **1. Monitoring for Nutrients and Other Modelling Parameters**

Monitoring for nutrients in the influent and effluent is necessary to quantify the nutrient loading to the receiving water from the Facility's discharge, evaluate the Facility's treatment of nutrients, and evaluate potential contribution of the discharge to formation of algal blooms in the receiving ocean waters. The nutrient and water chemistry monitoring will also be used to inform the coupled biogeochemical-physical model in development by the Southern California Coastal Water Research Project (SCCWRP) to evaluate impacts of local pollution on Ocean Acidification within the Southern California Bight. These monitoring requirements are designed to answer the following questions:

- 1) What are the concentrations and mass of nutrients discharged through the PLOO and how do they vary temporally?
- 2) What is the nutrient ratio in the effluent?
- 3) What is the current percent removal of nutrients achieved by the Facility?

The Discharger shall monitor for nutrients in the influent and effluent, as well as other parameters in the effluent as described in sections VI.B.1.a and VI.B.1.b of the MRP.

- a. The Discharger shall monitor for nutrients in the influent at Monitoring Location INF-001 as described in Table E-9.

**Table E-9. Influent Nutrient Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonium	milligrams per liter (mg/L)	24-Hour Composite	1/Quarter <sup>1</sup>	2
Nitrogen, Total	mg/L	24-Hour Composite	1/Quarter <sup>1</sup>	2
Nitrogen, Total Organic	mg/L	24-Hour Composite	1/Quarter <sup>1</sup>	2
Nitrate (as N)	mg/L	24-Hour Composite	1/Quarter <sup>1</sup>	2
Nitrite (as N)	mg/L	24-Hour Composite	1/Quarter <sup>1</sup>	2
Phosphorus, Total (as P)	mg/L	24-Hour Composite	1/Quarter <sup>1</sup>	2
Orthophosphate (as P) <sup>3</sup>	mg/L	24-Hour Composite	1/Quarter <sup>1</sup>	2

Notes for Table E-9

- The Discharger shall calculate and report the mass loading rate in both pounds per day (lbs/day) and metric tons per year. The mass loading rate in lbs/day shall be calculated using the following formula:  
 $8.34 \times Q \times C$ , where Q is the flow rate at the monitoring location and C is the concentration in mg/L.
- Analytical test methods shall be consistent with the requirements of 40 CFR part 136.
- The laboratory may use the anions analysis under EPA Method 300.0 using an ion chromatograph to obtain this result.

- b. The Discharger shall monitor for nutrients and other parameters in the effluent at Monitoring Location EFF-001 as described in Table E-10.

**Table E-10. Requirements for Monitoring Nutrients and Other Modelling Parameters in the Effluent**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonium	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Nitrogen, Total	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Nitrogen, Total Organic	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Nitrate (as N)	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Nitrite (as N)	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Phosphorus, Total (as P)	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Orthophosphate (as P) <sup>4</sup>	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Carbon, Total Organic	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Carbon, Dissolved Inorganic	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Iron, Total	mg/L	24-Hour Composite	1/Week <sup>1,2</sup>	3
Iron, Dissolved	mg/L	24-Hour Composite	1/Permit Term <sup>5</sup>	3
Alkalinity	mg/L CaCO <sub>3</sub>	24-Hour Composite	1/Week <sup>1,2</sup>	3
Salinity	Parts per thousand (PPT)	24-Hour Composite	1/Week <sup>1,2</sup>	3

Notes for Table E-10

1. The minimum sampling frequency shall be once per week for a period of six months. After the first six months, the frequency shall be once per month if the percent variance from the median concentration is 30% or less.
2. The Discharger shall calculate and report the mass loading rate in both pounds per day (lbs/day) and metric tons per year. The mass loading rate in lbs/day shall be calculated using the following formula:  
  
8.34 x Q x C, where Q is the flow rate at the monitoring location and C is the concentration in mg/L.
3. Analytical test methods shall be consistent with the requirements of 40 CFR part 136.
4. The laboratory may use the anions analysis under EPA Method 300.0 using an ion chromatograph to obtain this result.

5. Dissolved iron shall be collected once during the permit term concurrently with a sample collected for total iron to determine the proportion of dissolved iron in total iron.

- c. The Discharger shall submit results for influent and effluent monitoring conducted pursuant to Tables E-9 and E-10 annually no later than June 30 of the year following sampling. Monitoring results shall be submitted to CIWQS as a standalone report.

## **2. Euphotic Zone Study**

The Discharger shall conduct a Euphotic Zone Study to evaluate the depth of the euphotic zone in the receiving water and the potential for the PLOO wastewater plume to enter the euphotic zone where it may stimulate phytoplankton productivity, including harmful algal blooms. The Euphotic Zone Study shall consist of two phases and may take multiple years to complete. Phase One of the Euphotic Zone Study shall consist of a review of existing data and scientific literature related to the euphotic zone within the vicinity of the PLOO. Based on the results of Phase One of the Euphotic Zone Study, the Discharger shall submit a work plan for Phase Two of the Euphotic Zone Study that outlines specific monitoring needed to address any data gaps needed to evaluate the depth of the euphotic zone and further characterize the likelihood of the wastewater plume from the PLOO to enter the euphotic zone. At minimum, the Euphotic Zone Study shall be designed to answer the following questions:

- 1) What is the depth of the euphotic zone and how does it vary temporally and spatially within the PLOO region?
- 2) Does the PLOO wastewater plume reach the euphotic zone? If so, to what extent does it vary temporally and spatially in the PLOO region?

### **a. Euphotic Zone Study Phase One**

Phase one of the Euphotic Zone Study shall consist of a review of existing data and scientific literature to estimate the depth of the euphotic zone in the PLOO region. Existing data that may be useful for evaluating the depth of the euphotic zone may include secchi depth, chlorophyll *a*, photosynthetically active radiation (PAR) measurements, plume tracking surveys, and remote sensing data. The Discharger may also work with other local agencies to review datasets within the Southern California region. The Discharger shall submit a Euphotic Zone Study Phase One Report no later than **June 30, 2023**. The Euphotic Zone Study Phase One Report shall include the following:

- A summary of the data and their sources analyzed during Phase One of the Euphotic Zone Study;

- A discussion of the results of Phase One of the Euphotic Zone Study; and
- A discussion of additional data needed to assess the likelihood of the PLOO wastewater plume mixing with the euphotic zone.

**b. Euphotic Zone Study Phase Two**

Phase Two of the Euphotic Zone Study shall describe any data gaps identified from Phase One and may, if needed, include receiving water monitoring to address those data gaps to confirm the results of Phase One of the Euphotic Zone Study. If needed, the Discharger shall submit a Euphotic Zone Study Phase Two Work Plan that outlines the specific monitoring needed to evaluate the depth of the euphotic zone and whether the wastewater plume from the PLOO is entering the euphotic zone.

**i. Euphotic Zone Study Phase Two Work Plan**

The Discharger shall prepare and submit a Euphotic Zone Study Phase Two Work Plan to the San Diego Water Board for approval no later than **June 30, 2024**. The San Diego Water Board Executive Officer may extend the due date for the Euphotic Zone Study Phase Two Work Plan as reasonably necessary upon a showing of good cause. The Euphotic Zone Study Phase Two Work Plan shall include the following elements:

- Specific monitoring questions that Phase Two of the Euphotic Zone Study will be designed to answer;
- Proposed sample locations, monitoring frequencies, study duration, and parameters or constituents that will be monitored in the receiving water to assess the depth of the euphotic zone and the interaction of nitrogen and phosphorus species within the euphotic zone that can lead to formation of harmful algal blooms. At minimum, phase two of the Euphotic Zone Study shall include sampling for PAR at several locations within the PLOO region;
- Protocols for sampling collection and processing;
- Methods for analyzing monitoring data; and
- A schedule for implementation of monitoring activities, completion of all activities and submittal of the Phytoplankton Stimulation Study Final Report.

**ii. Euphotic Zone Study Phase Two Work Plan Implementation**

The Discharger shall implement the Euphotic Zone Study Phase Two Work Plan as directed in writing by the San Diego Water Board Executive Officer. The Discharger shall notify the San Diego Water Board of the intent to initiate the proposed actions included in the Work Plan, and comply with any conditions set by the San Diego Water Board Executive Officer.

**iii. Euphotic Zone Study Phase Two Status Reports**

The Discharger shall submit annual status reports on phase two of the Euphotic Zone Study no later than March 1 of each year. The annual status reports shall include the following:

- A description of the monitoring activities conducted during the year;
- A summary of the monitoring data collected during the year; and
- A discussion of the depth of the euphotic zone and whether the PLOO wastewater plume was within the euphotic zone.

**3. Phytoplankton Stimulation Study Final Report**

The Discharger shall submit a Phytoplankton Stimulation Study Final Report that evaluates the results of the nutrient monitoring in section VI.B.1 of the MRP and the Euphotic Zone Study in section VI.B.2 of the MRP to make conclusions as to whether the discharge of nutrients may stimulate phytoplankton productivity, including harmful algal blooms. The Phytoplankton Stimulation Study Final Report shall be submitted in accordance with the Euphotic Zone Phase Two Work Plan implementation schedule and shall include, at minimum, the following:

- A description of climatic and receiving water characteristics at the time of sampling that may affect the depth of the euphotic zone (e.g., weather observations, water discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.);
- A description of sampling stations;
- A description of the sample collection and preservation procedures used in the survey;
- A description of the specific methods used for laboratory analyses;
- An in-depth discussion, evaluation (e.g., detailed statistical analyses), interpretation and tabulation of the data including

interpretations and conclusions as to the loading of nutrients from the Facility to the receiving water, the depth of the euphotic zone, whether the PLOO wastewater plume was within the euphotic zone, and whether the nutrients discharged through the PLOO may stimulate phytoplankton production and, if so, to what extent; and

- An in-depth discussion addressing each of the questions proposed in the Euphotic Zone Phase Two Work Plan and each section of the Phytoplankton Production Study.

**5. REPORT SUBMITTAL PROCEDURES**

In addition to submitting monitoring results to CIWQS, the Discharger shall submit results of all monitoring conducted pursuant to items 3 and 4 of this Order (flame retardant and phytoplankton stimulation results) to USEPA and NMFS either electronically or by mail at the following addresses:

NMFS WCR Protected Resources Division’s Long Beach Office Branch Chief:

- Electronically: [Penny.Ruvelas@noaa.gov](mailto:Penny.Ruvelas@noaa.gov)
- By mail: NMFS West Coast Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802

USEPA Region 9, Water Division, NPDES Permits Office Chief:

- Electronically: [R9NPDES@epa.gov](mailto:R9NPDES@epa.gov) and [sablad.elizabeth@epa.gov](mailto:sablad.elizabeth@epa.gov).

**6. RENUMBERING TABLES IN THE MRP**

Table E-9 of the MRP shall be renumbered as Table E-11, and Table E-10 of the MRP shall be renumbered as Table E-12.

**7. REPORTING REQUIREMENTS FOR SPECIAL REPORTS REQUIRED BY THIS ORDER**

The following shall be added to Table E-13 (formerly Table E-10) of the MRP:

**Table E-13. Reporting Requirements for Special Reports**

<b>Report</b>	<b>Location of Requirement</b>	<b>Due Date</b>
Euphotic Zone Phase One Study Report	Section VI.B.2.a of this MRP	March 29, 2023
Euphotic Zone Phase Two Work Plan	Section VI.B.2.b.i of this MRP	March 29, 2024
Phytoplankton Stimulation Study Final Report	Section VI.B.3 of this MRP	As specified in the implementation schedule for the Euphotic Zone Phase Two Work Plan



## 8. PUBLIC PARTICIPATION

8.1. The following shall be added as section VIII.I of the Fact Sheet (Attachment F of Order No. R9-2017-0007):

### I. Notification of Order No. R9-2022-0078, Addendum No. 1 to Order No. R9-2017-0007

The San Diego Water Board and USEPA, Region IX, notified the Discharger and interested agencies and persons of the intent to jointly consider adoption of Order No. R9-2022-0078 amending Order No. R9-2017-0007, and provided an opportunity for the public to submit written comments and recommendations regarding the proposed action. Details of the notification of the opportunity to comment and the public hearing are provided in the public notice dated May 20, 2022.

The San Diego Water Board and USEPA, Region IX, held a joint public meeting on Order No. R9-2022-0078 on the following date and time and at the following location:

Date: August 10, 2022

Time: 9:00 AM

Location: San Diego Water Board Meeting Room, 2375 Northside Drive, Suite 100, San Diego, California

At the joint public meeting, the San Diego Water Board and USEPA, Region IX, heard and considered all comments and testimony pertinent to the Order.

8.2. The following shall be added as section VIII.J of the Fact Sheet (Attachment F of Order No. R9-2017-0007):

### J. Petition/Appeal of Order No. R9-2022-0078, Addendum No. 1 to Order No. R9-2017-0007

Any person aggrieved by this action of the San Diego Water Board 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 et seq. The State Water Board must receive the petition by 5:00 p.m., 30 days after the adoption date of this Addendum. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [https://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](https://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request. For instructions on how to file a petition for review, see the State Water Board website at: [https://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](https://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

8.3. The following shall be added as section VIII.K of the Fact Sheet (Attachment F of Order No. R9-2017-0007):

### K. Request for Review of Order No. R9-2022-0078, Addendum No. 1 to Order No. R9-2017-0007

Issuance of this permit addendum, by USEPA, Region IX, is a permit modification pursuant to 40 CFR section 122.62 and will become effective no sooner than 33 days following the issuance date, unless a request for review is filed. Those persons filing a request for review must have filed comments on this proposed permit modification, or participated in a public hearing on this matter, except as provided in 40 CFR section 124.19. Otherwise, any such request for review may be filed only to the extent of changes from the draft permit modification to the final permit modification. If a request for review is filed, only those permit conditions which are uncontested will go into effect pending deposition of the request for review. Requests for review must be filed within 33 days following the date the final permit is issued and must meet the requirements of 40 CFR section 124.19. All requests for review should be addressed to the USEPA Environmental Appeals Board (EAB) at the applicable address listed below.

Requests sent through the U.S. Postal Service (except by Express Mail) must be addressed to the following EAB mailing address:

USEPA  
Clerk of the Board  
Environmental Appeals Board (MC 11 03B)  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460-0001

All filings delivered by hand or courier, including Federal Express, UPS, and U.S. Postal Express Mail, should be directed to the following address:

Environmental Appeals Board  
USEPA  
Colorado Building  
1341 G Street, N.W., Suite 600  
Washington, D.C. 20460

If no comments are submitted during the public notice, then the permit addendum shall become effective immediately upon issuance by USEPA and the San Diego Water Board.

8.4. The following shall be added as section VIII.L of the Fact Sheet (Attachment F of Order No. R9-2017-0007):

**L. Public Access to Records of Order No. R9-2022-0078, Addendum No. 1 to Order No. R9-2017-0007**

Records pertinent to the San Diego Water Board's and USEPA, Region IX's, proceedings to adopt this Addendum including but not limited to the ROWD, public notices, draft and finalized versions of the Order No. R9-2022-0078,

public comments received, Board responses to comments received, and other supporting documents are maintained by the San Diego Water Board and USEPA, Region IX. These records are available for public access Monday through Friday between the hours of 8:00 a.m. to 5:00 p.m. at the San Diego Water Board office and USEPA, Region IX, office.

The San Diego Water Board website contains information and instructions on how to request access and obtain copies of these records at:

[https://www.waterboards.ca.gov/sandiego/about\\_us/contact\\_us/records.html](https://www.waterboards.ca.gov/sandiego/about_us/contact_us/records.html)

Before making a request to view public records in the San Diego Water Board office you may wish to determine if the information is already available on the San Diego Water Board's website at

<https://www.waterboards.ca.gov/sandiego>. Copying of documents may also be arranged by calling the USEPA, Region IX office at 415-972-3524.

8.5. The following shall be added as section VIII.M of the Fact Sheet (Attachment F of Order No. R9-2017-0007):

**M. Request for Additional Information Regarding Order No. R9-2022-0078, Addendum No. 1 to Order No. R9-2017-0007**

Requests for additional information or questions regarding Order No. R9-2022-0078 should be directed to Fisayo Osibodu by phone at 619-521-8036 or by email at [Fisayo.Osibodu@waterboards.ca.gov](mailto:Fisayo.Osibodu@waterboards.ca.gov); and Peter Kozelka of USEPA, Region IX at 415-972- 3448 or by email at [kozelka.peter@epa.gov](mailto:kozelka.peter@epa.gov).

I, Tomas Torres, Water Division Director, do hereby certify that the foregoing is a full, true and correct copy of an addendum to the NPDES Permit adopted by the U.S. Environmental Protection Agency, Region IX, on

\_\_\_\_\_  
DATE

\_\_\_\_\_  
Tomas Torres, Water Division Director

I, David W. Gibson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an order adopted by the California Regional Water Quality Control Board, San Diego Region, on August 10, 2022.

\_\_\_\_\_  
David W. Gibson, Executive Officer