

North Coast Regional Water Quality Control Board

ORDER NO. R1-2013-0006
NPDES NO. CA0025151
WDID NO. 1B12187NHUM

WASTE DISCHARGE REQUIREMENTS
FOR THE
HUMBOLDT STATE UNIVERSITY
TELONICHER MARINE LABORATORY
HUMBOLDT COUNTY

The following Permittee is subject to waste discharge requirements as set forth in this Order:

Table 1. Permittee Information

Permittee	Humboldt State University
Name of Facility	Telonicher Marine Laboratory
Facility Address	570 Ewing Street
	Trinidad, CA 95570
	Humboldt County
Maximum Anticipated Flow	123,232 gallons per day (gpd)
Type of Facility	Marine Laboratory

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Waste seawater, filter backwash, and storm water	41° 03' 23" N	124° 08' 48" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	May 2, 2013
This Order shall become effective on:	July 1, 2013
This Order shall expire on:	June 30, 2018
The Permittee shall file a Report of Waste Discharge as an application for renewal of waste discharge requirements in accordance with title 23, California Code of Regulations, no later than:	January 1, 2018
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements in this Order.

I, Matthias St. John, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, North Coast Region, on May 2, 2013.

Original Signed By

Matthias St. John, Executive Officer

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I. FACILITY INFORMATION

Information describing the Humboldt State University – Telonicher Marine Laboratory (hereinafter Facility) is summarized in Table 1 of this Order and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding Humboldt State University’s permit application.

II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds:

- A. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).
- B. Basis and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee’s application, monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) contains information and rationale for the requirements in this Order, and is hereby incorporated into this Order and constitutes the Findings for this Order. Attachments A through E are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsection V.B. of this Order and sections VI, VII, and VIII.C of the Monitoring and Reporting Program are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet of this Order.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order

III. DISCHARGE PROHIBITIONS

- A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the California Water Code (Water Code) is prohibited.
- C.** The discharge of waste at any point not described in section II.B of the Fact Sheet or regulated by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.
- D.** The discharge of exotic organisms (non-endemic, non-naturalized plants, animals and microorganisms, including gametes, spores, larvae, and parts of such organisms) is prohibited.
- E.** The discharge of chemical additives, including antibiotics and chlorine, is prohibited.
- F.** The discharge of constituents to the ocean at levels exceeding the water quality objectives established by Table B of the Ocean Plan (2009) is prohibited.
- G.** The maximum daily discharge from the combined seawater system and storm water system shall not exceed 123,232 gallons.
- H.** Discharges of non-storm water facility runoff to the ocean (i.e., any discharge of runoff from the facility that reaches the ocean and that is not composed entirely of storm water), except those associated with the waste seawater system and emergency firefighting, are prohibited.
- I.** The discharge of trash, petroleum products, and pesticides is prohibited.
- J.** The discharge of any radiological or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Discharge Point 001

- a.** The discharge of seawater and storm water runoff, as defined by the numerical limitations below, shall maintain compliance with the following effluent limitations at Discharge Point 001, during periods of discharge, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 4. Final Effluent Limitations – Discharge Point 001 (Discharge to the Pacific Ocean)

Parameter	Units	Effluent Limitations				
		30-Day Average	Average Weekly (7-Day Average)	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--	75
Settleable Solids	mL/L	1.0 ¹	1.5 ¹	1	--	3.0
Total Suspended Solids (TSS)	mg/L	--	--	1	--	60
pH	standard units	--	--	--	6.0	9.0

Table Notes:
1. The discharge shall not contain concentrations of solids above those found in the receiving water at Monitoring Location RSW-001. In no case shall effluent concentrations exceed the Table A Ocean Plan objectives.

2. Interim Effluent Limitations – Discharge Point 001 (Discharge to the Pacific Ocean) – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

D. Other Requirements

The Permittee is required to implement and maintain a Storm Water Management Plan (SWMP), which must include Best Management Practices (BMPs) that eliminate or reduce the presence of pollutants in storm water runoff to the technology-based standard of Maximum Extent Practicable (MEP) to protect water quality. Requirements for the development of a SWMP are described in section VI.C.7.a of the Order.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Ocean Plan and State Water Board Resolution No. 2011-0049, and are a required part of this Order. Compliance with water quality objectives contained in the Ocean Plan and Resolution No. 2011-0049 shall be determined from samples collected at stations representative of the area within the waste field; and for natural / background water

quality, for constituents other than indicator bacteria, samples shall be collected at the reference station in the Ocean near Agate Creek, or at a site determined through participation in a regional monitoring program. In situations where water quality objectives from the Ocean Plan and from Resolution No. 2011-0049 may both be applicable, the more stringent water quality objective shall apply. Receiving water conditions not in conformance with the limitation are not necessarily a violation of this Order. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

If monitoring indicates that natural ocean water quality is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff and seawater system effluent data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

Discharges from the Facility shall not cause the following in the receiving water:

1. State Water Resources Control Board Resolution No. 2011-0049

Natural water quality conditions in the receiving water must not be altered as a result of the discharge(s), and marine communities must be protected from pollution. Natural ocean water quality will be determined by a comparison to the range of constituent concentrations in reference areas agreed upon by participants in the regional monitoring program(s) or, in the absence of a North Coast regional monitoring program, by the State Water Board in consultation with the Regional Water Board.

2. Ocean Plan

a. Bacterial Characteristic

- i. Water-Contact Standards.** Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone designated for water contact recreation use by the Regional Water Board, but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column.

- (a) 30-Day Geometric Mean** – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location.

- (1)** Total coliform density shall not exceed 1,000 per 100 mL;

(2) Fecal coliform density shall not exceed 200 per 100 mL; and

(3) Enterococcus density shall not exceed 35 per 100 mL.

(b) Single Sample Maximum;

(1) Total coliform density shall not exceed 10,000 per 100 mL;

(2) Fecal coliform density shall not exceed 400 per 100 mL;

(3) Enterococcus density shall not exceed 104 per 100 mL; and

(4) Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1.

b. Shellfish Harvesting Standards. At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacterial objectives shall be maintained throughout the water column:

i. The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

c. Physical Characteristics

i. Floating particulates and oil and grease shall not be visible.

ii. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

iii. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

iv. 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.

d. Chemical Characteristics

i. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

ii. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

- iii. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
- iv. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan shall not be increased in marine sediments to levels which would degrade indigenous biota.
- v. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
- vi. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
- vii. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Table B of the Ocean Plan.
- viii. Discharge of radioactive waste shall not degrade marine life.

e. Biological Characteristics

- i. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.
- ii. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
- iii. 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.

f. General Standards

- i. The discharge shall not cause a violation of any applicable water quality standard for the receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder.
- ii. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
- iii. Waste discharged to the ocean must be essentially free of:
 - (a) Material that is floatable or will become floatable upon discharge.

- (b) Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
 - (c) Substances which will accumulate to toxic levels in marine waters, sediments or biota.
 - (d) Substances that significantly decrease the natural light to benthic communities and other marine life.
 - (e) Materials that result in aesthetically undesirable discoloration of the ocean surface.
- iv. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
 - v. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
 - (a) Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.
 - (b) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
 - (c) Maximum protection is provided to the marine environment.
 - (d) The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

- 1. Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.
- 2. Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard provisions. In the event there is any

conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply.

- a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, sanitary sewer overflow, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours and report orally and in writing to the Regional Water Board staff of having knowledge of such noncompliance. The written notification shall state the nature, time, duration, and cause of the noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation.

B. Monitoring and Reporting Program (MRP) Requirements

The Permittee shall comply with the MRP, included as Attachment E of this Order, and future revisions thereto.

C. Special Provisions

1. Reopener Provisions

- a. **Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.
- b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.

- c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.
- d. **303(d)-Listed Pollutants.** If an applicable total maximum daily load (TMDL) (see Fact Sheet section III.C) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL modified or imposed to conform this Order to the TMDL requirements.
- e. **Regional Monitoring Program.** If the Permittee participates in an approved regional monitoring program to assess natural ocean water quality within the Trinidad Head Area of Special Biological Significance (ASBS), this Order may be reopened and effluent limitations and/or monitoring requirements modified to conform to the approved regional monitoring program.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

- i. **Whole Effluent Toxicity.** The MRP of this Order requires routine monitoring for whole effluent toxicity of Discharge Point 001 at Monitoring Location EFF-001 as described in section V of the MRP, to determine compliance with the Ocean Plan's water quality objectives for acute and chronic toxicity. As established by the MRP, if the chronic toxicity monitoring trigger of either a single sample maximum of 1.0TUc (where $TUc = 100/NOEC$)¹ is exceeded, the Permittee shall conduct accelerated monitoring as specified in section V. of the MRP.

Results of accelerated toxicity monitoring will indicate a need to conduct a TRE if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE Workplan prepared by the Permittee pursuant to section VI.C.2.a.ii. of this Order and section V.A.8 of the MRP.

- ii. **Toxicity Reduction Evaluation Workplan.** The Permittee shall prepare and submit to the Regional Water Board Executive Officer a TRE Workplan within 90 days of the effective date of this Order, by September 30, 2013. This plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

¹ This Order does not allow any credit for dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

The Permittee shall notify the Regional Water Board of this review and submit any revisions of the TRE workplan with each Report of Waste Discharge. The TRE workplan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

- (a) A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- (b) A description of the facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this Facility.
- (c) If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

iii. Toxicity Reduction Evaluations Implementation. The TRE shall be conducted in accordance with the following:

- (a) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring testing, required by Sections V.A.7 and V.B.9 of the MRP, observed to exceed either the acute or chronic toxicity parameter.
- (b) The TRE shall be conducted in accordance with the Permittee's TRE workplan.
- (c) The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/600/2-88/070.
- (d) The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity. The Permittee shall notify the Regional Water Board of this determination.
- (e) The Permittee may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. TIEs shall be conducted in accordance with current technical guidance and reference material, including, at a minimum, the Permittee shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

- (f) As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.
- (g) Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.
- (h) The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Permittee's actions and efforts to identify and control or reduce sources of consistent toxicity.

b. Rocky Intertidal Marine Life Survey

At least once during the term of this permit, the Permittee must perform a quantitative survey of rocky intertidal marine life near the discharge and at a reference site. The survey design must be submitted to the Regional Water Board for approval at least 3 months prior to conducting the survey. The Regional Water Board, in consultation with the State Water Board Division of Water Quality, must approve the survey design. The results of the survey must be completed and submitted to the Regional Water Board within 6 months prior to the expiration date of this Order. Alternatively, this requirement may be met by participation in a regional monitoring program approved by State Water Board staff.

c. Bioaccumulation Study

Once during the term of this permit, the Permittee must perform a bioaccumulation study using California mussels (*Mytilus californianus*) to determine the concentrations of metals near the discharge and at a reference site. The Regional Water Board, in consultation with the State Water Board, must approve the study design. The results of the survey must be completed and submitted to the Regional Water Board at least 6 months prior to the expiration of this Order. Based on the study results, the Regional Water Board, in consultation with the State Water Board Division of Water Quality, may adjust the study design in subsequent permits, or add additional test organisms. Alternatively this

requirement may be met by participation in a regional monitoring program approved by State Water Board.

d. Sediment Monitoring/Study

Once annually, the Permittee must sample and analyze the subtidal sediment and storm water effluent for Ocean Plan Table B constituents, in accordance with section IX.C and VIII.B for the MRP, respectively. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed. Based on the first year sample results the Regional Water Board may determine specific constituents to be tested during the remainder of each permit cycle, except that acute toxicity for sediment must be tested annually. Alternatively this requirement may be met by participation in a regional monitoring program approved by State Water Board staff.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program (PMP)

- i.** The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
 - a)** A sample result is reported as DNQ and the effluent limitation is less than the RL; or
 - b)** A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.
- ii.** The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:
 - a)** An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
 - b)** Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

- c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
- d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
- e) An annual status report that shall be submitted as part of the Annual Facility Report due March 1st to the Regional Water Board and shall include:
 - 1) All PMP monitoring results for the previous year;
 - 2) A list of potential sources of the reportable priority pollutant(s);
 - 3) A summary of all actions undertaken pursuant to the control strategy; and
 - 4) A description of actions to be taken in the following year.

4. Compliance Schedules – Not Applicable

This section is not applicable to the Permittee.

5. Construction, Operation and Maintenance Specifications

- a. The Permittee shall notify the Regional Water Board 180 days prior to any construction activity that could result in any new or altered discharge or habitat modification in the Trinidad Head ASBS. In accordance with Section III.E.2 of the Ocean Plan, the Permittee must receive approval from and comply with any conditions regarding such a discharge that are imposed by the Regional Water Board, prior to performing any significant modification, re-building or renovation of the facilities within the ASBS.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions

- a. **Storm Water Management Plan/Program.** The Permittee shall comply with the monitoring and reporting requirements regarding the discharge of storm water at Discharge Point 001, as required by section IV.A.3 of the MRP (Attachment E). The Permittee developed and submitted *Telonicher Marine Laboratory Storm Water Management Plan* in 2012. The Permittee shall implement the SWMP to comply with the conditions of State Water Board Resolution No. 2011-0049.
 - i. The SWMP must specifically address the prohibition of non-storm water runoff and the reduction of pollutants in storm water discharges draining to the ASBS;

- ii.** The SWMP must describe the measures by which non-storm water discharges have been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented;
- iii.** The SWMP must address storm water discharges, and how pollutants have been and will be reduced in storm water runoff into the ASBS, through the implementation of Best Management Practices (BMPs). The SWMP must describe the BMPs currently employed and BMPs planned (including those for construction activities) and must include an implementation schedule for planned BMPs. The BMPs and implementation schedule must be designed to ensure natural water quality conditions in the receiving water, and must meet effluent limitations for the co-mingled waste seawater and storm water effluent.
- iv.** The BMP implementation schedule must be developed to ensure that the BMPs are implemented within 1 year of the approval date of the SWMP by the Regional Water Board.
- v.** The SWMP must include a map of surface drainage of storm water runoff, including areas of sheet runoff, and any structural BMPs employed. The map must also show the storm water conveyances in relation to other facility features such as the laboratory seawater system and discharges, service areas, sewage treatment, and waste and hazardous materials storage areas. The SWMP must also include a procedure for updating the map and plan when other changes are made to the facilities.
- vi.** If the results of receiving water monitoring indicate that the storm water runoff is causing or contributing to an alteration of natural water quality in the ASBS, as measured at the reference station(s), the Permittee is required to submit a report to the Regional Water Board within 30 days of receiving the results. Those constituents in storm water that alter natural water quality or Ocean Plan receiving water objectives must be identified in that report. The report must describe BMPs that are currently being implemented, BMPs that are planned for in the SWMP, and additional BMPs that may be added to the SWMP. The report shall include a new or modified implementation schedule. The Regional Water Board may require modifications to the report. Within 30 days following approval of the report by the Regional Water Board, the Permittee must revise its SWMP to incorporate any new or modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required. As long as the Permittee has complied with the procedures described above and is implementing the revised SWMP, then the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same constituent.

b. Program for Prevention of Biological Pollutants

The Permittee shall implement a Program for Prevention of Biological Pollutants (non-native invasive species) in consultation with the California Department of Fish and Wildlife, Marine Fisheries Branch. This program must be submitted to the State and the Regional Water Board within 30 days of approval of this Order. Any non-native species found in the Trinidad Head ASBS must be reported to the State and Regional Water Boards, and the California Department of Fish and Wildlife.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below.

A. General

Compliance with effluent limitations for priority pollutants, when effluent limitations have been established, shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL). For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported minimum level (ML).

Permittees are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

B. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure.

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only

within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. Bacteriological Limitations (Total Coliform)

1. Median. The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, followed by quantified values. The median value is determined based on the number of data points in the set. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.

I. Compliance with TSS and Settleable Solids

For TSS and settleable solids in seawater discharges, the determination of changes to “natural water quality” as defined in Resolution No. 2011-0049 is determined by statistical comparison of receiving water concentrations prior to and after a filter backwash discharge event. The Permittee shall collect a minimum of three pre-discharge samples at Monitoring Location RSW-001 within 1 hour prior to the discharge event. Within 24 hours following the initiation of the discharge, the Permittee shall collect a minimum of three “post-discharge” samples at Monitoring Location RSW-001 and analyze each sample for TSS and settleable solids. For the TSS and settleable solids, if the average concentration in the pre-discharge sample is lower than in the post-discharge sample and the difference is statistically significant, then the discharge is out of

compliance. If the average pollutant concentration in the pre-discharge sample is higher than in the post-discharge sample or if the difference between the two data sets is not determined to be statistically significant, then the discharge is in compliance.

ATTACHMENT A - DEFINITIONS

Acute Toxicity

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr LC } 50\%}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall 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 Permittee 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:

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

where:

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

Area of Special Biological Significance (ASBS): Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

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

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

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

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

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

Carcinogenic Pollutants: substances that are known to cause cancer in living organisms.

Chlordane: the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity

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

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. 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 Appendix III, Table III-1 of the Ocean Plan.

Coefficient of Variation (CV): a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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

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

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

DDT: the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degradation: Determined by comparison of the waste field and reference site(s) 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 RL, but greater than or equal to the laboratory's MDL.

Dichlorobenzenes: the sum of 1,2- and 1,3-dichlorobenzene.

Dilution Credit: the 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.

Effective Concentration (EC): 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.

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

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

Endosulfan: the sum of endosulfan-alpha and -beta and endosulfan sulfate.

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

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

Halomethanes: the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH: the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Inhibition Concentration (IC): the IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

Initial Dilution: the process which 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 nonbuoyant 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 Board, whichever results in the lower estimate for initial dilution.

Inland Surface Waters: all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the 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: the 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: For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera *Macrocystis* and *Nereocystis*. Kelp beds include the total foliage canopy of *Macrocystis* and *Nereocystis* plants throughout the water column.

Mariculture: the culture of plants and animals in marine waters independent of any pollution source.

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

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

Method Detection Limit (MDL): the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML): the 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 the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

Not Detected (ND): those sample results less than the laboratory's MDL.

Ocean Waters: the 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 assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons): the 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): the 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.

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

Pollutant Minimization Program (PMP): waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) 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. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

Publicly Owned Treatment Works (POTW): a treatment works as defined in section 212 of the Clean Water Act (CWA), which is owned by a State or municipality as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

Reporting Level (RL): the ML (and its associated analytical method) used for reporting and compliance determination. 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 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Shellfish: organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams, and oysters).

Significant: difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation: The 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 Resolution No's 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.

Standard Deviation (σ): a measure of variability that is calculated as follows:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

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.

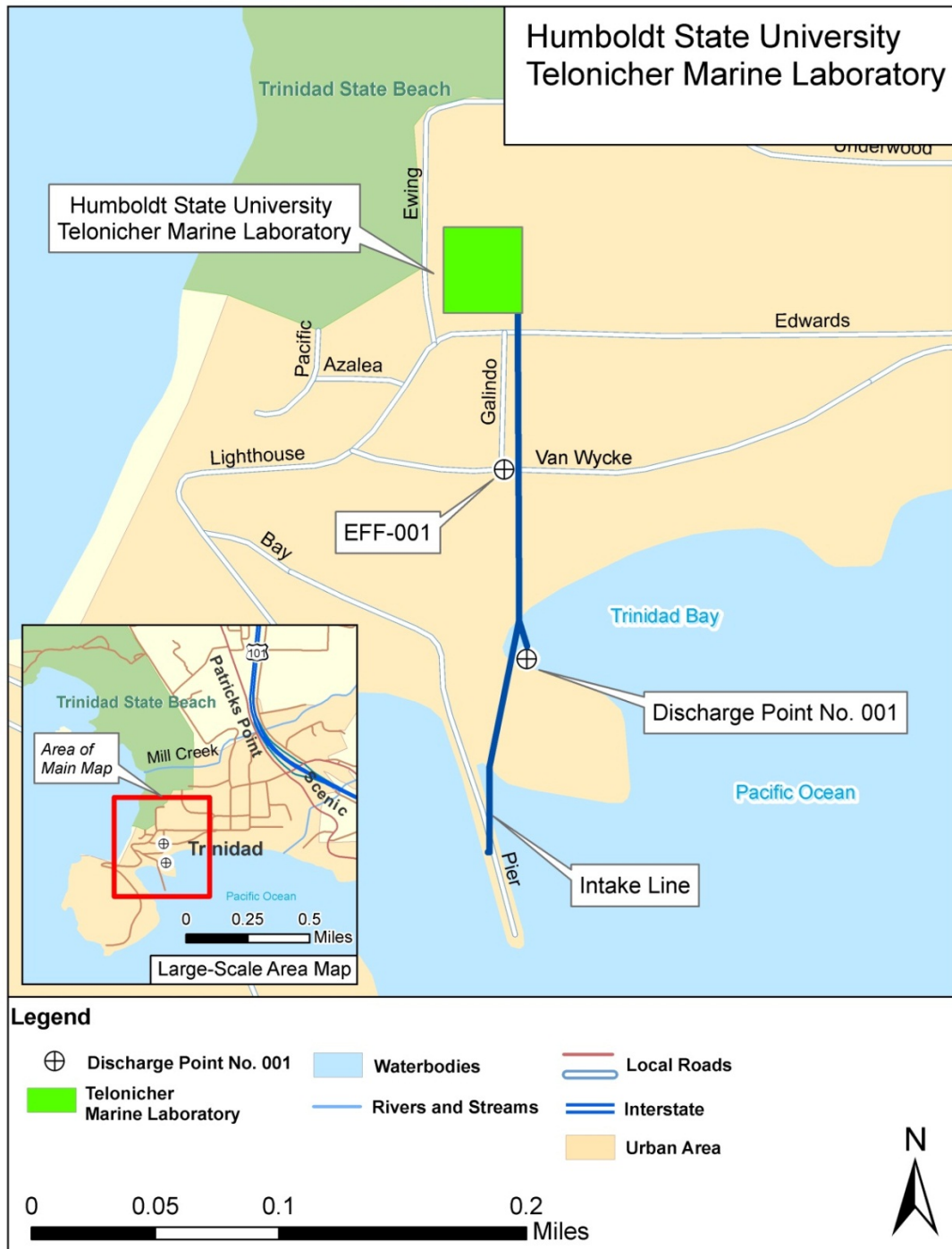
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Toxicity Reduction Evaluation (TRE): a 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

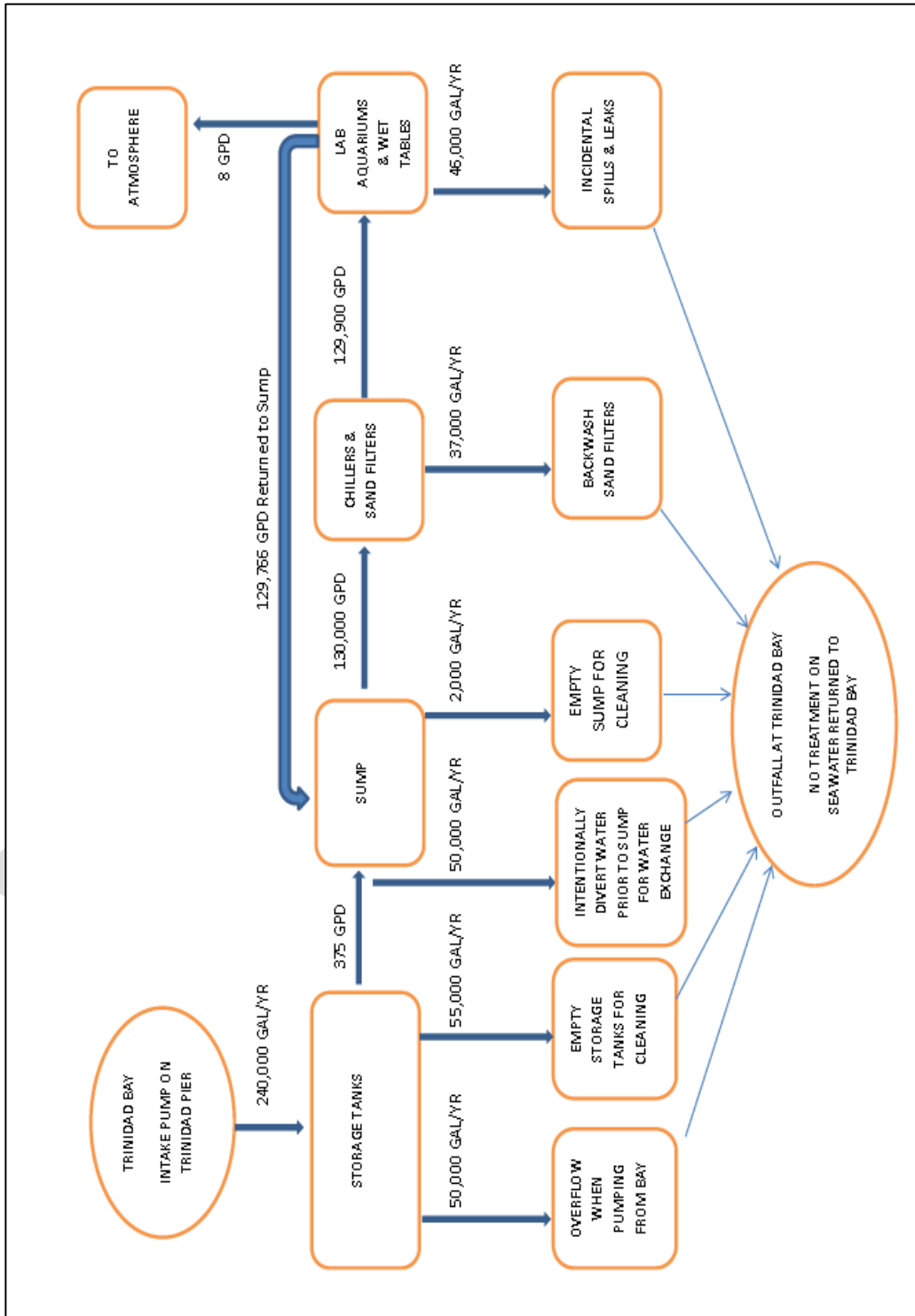
steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) 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, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

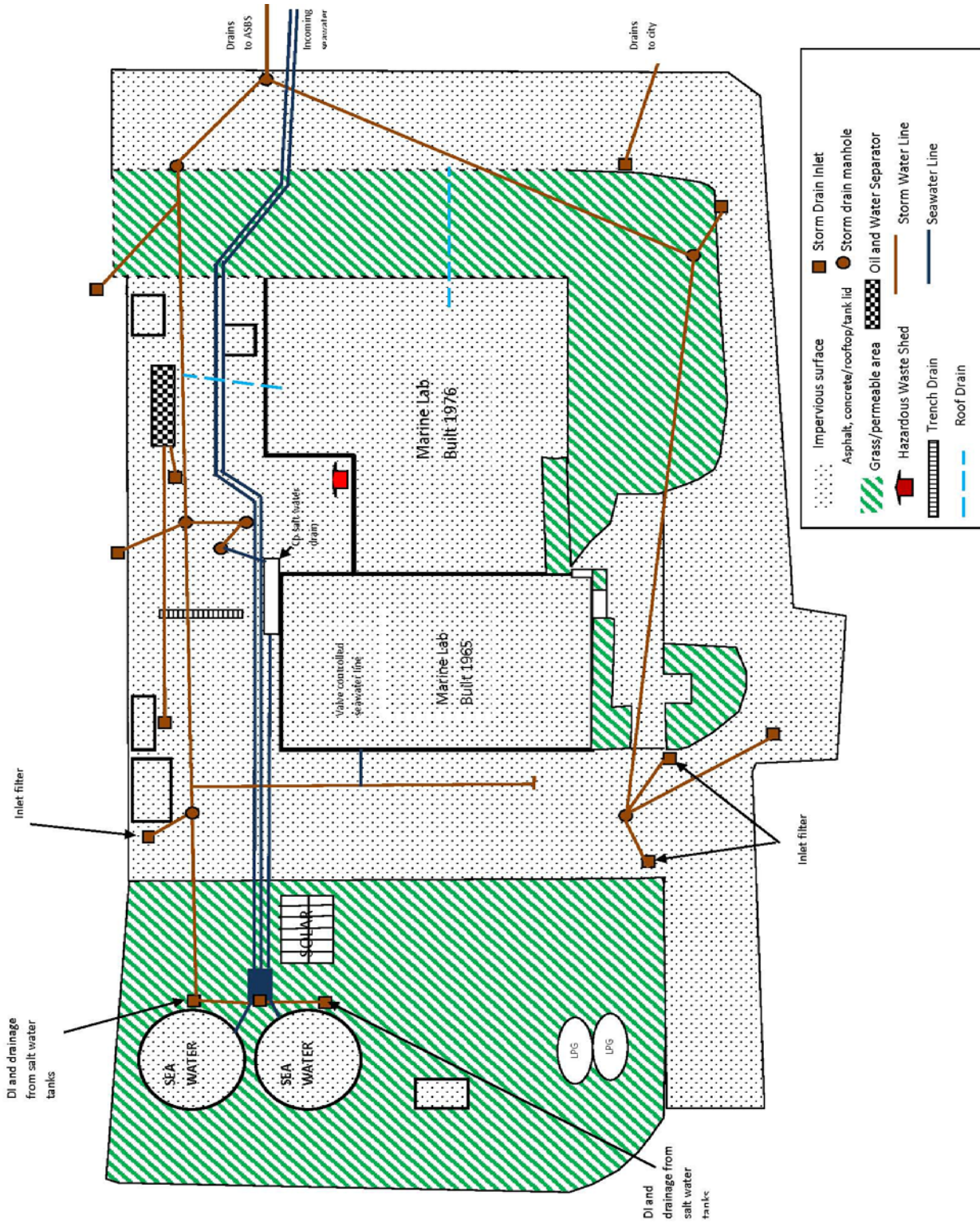
ATTACHMENT B - MAP OF HUMBOLDT STATE UNIVERSITY, TELONICHER MARINE LABORATORY



ATTACHMENT C -SEAWATER DISCHARGE SYSTEM FLOW SCHEMATIC



ATTACHMENT C – STORM WATER SYSTEM FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 122.41(a).)
2. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA 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 CFR § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee 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 CFR § 122.41(c).)

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee 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 Permittee only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR § 122.5(c).)

F. Inspection and Entry

The Permittee shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 (40 CFR § 122.41(i); Water Code, § 13383):

1. Enter upon the Permittee 's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not

mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)

- 2.** Bypass not exceeding limitations. The Permittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)
- 3.** Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 CFR § 122.41(m)(4)(i)):
 - a.** Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));
 - b.** There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and
 - c.** The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.6 below. (40 CFR § 122.41(m)(4)(i)(C).)
- 4.** Burden of Proof. In any enforcement proceeding, the Permittee seeking to establish the bypass defense has the burden of proof.
- 5.** The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR § 122.41(m)(4)(ii).)
- 6.** Notice
 - a.** Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR § 122.41(m)(3)(i).)

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

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. 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 CFR § 122.41(n)(1).)

- 1.** Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR § 122.41(n)(2).)
- 2.** Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):
 - a.** An upset occurred and that the Permittee can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));
 - b.** The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));
 - c.** The Permittee submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR § 122.41(n)(3)(iii)); and
 - d.** The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR § 122.41(n)(3)(iv).)
- 3.** Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Permittee 's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Permittee 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 CFR § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Permittee (40 CFR § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Permittee shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA 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 Permittee shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Water Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of

a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).).

- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a.** The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));
 - b.** The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and
 - c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)
- 4.** If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)
- 5.** Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)
3. If the Permittee monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A).)

- b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(B).)
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR § 122.41(l)(6)(ii)(C)]
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(iii).)

F. Planned Changes

The Permittee 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 CFR § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in section 122.29(b) (40 CFR § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR § 122.41(l)(2).)

H. Other Noncompliance

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

I. Other Information

When the Permittee 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 USEPA, the Permittee shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** 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, sections 13385, 13386, and 13387

ATTACHMENT E – MONITORING AND REPORTING PROGRAM NO. R1-2013-0006

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR 122.48 requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. Wastewater Monitoring Provision.** Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.
- B.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.
- C.** Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (CDPH) in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.
- D.** Compliance and reasonable potential monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no Minimum Level (ML) value is below the effluent limitations, the lowest ML shall be selected as the Reporting Level (RL). Table E-1 lists the test methods the Permittee may use for compliance and reasonable potential monitoring to analyze priority pollutants with effluent limitations.

Table E-1. Test Methods and MLs for Priority Pollutants

CTR#	Constituent	Types of Analytical Methods MLs (µg/L)					
		Graphite Furnace Atomic Absorption	Flame Atomic Absorption (FAA)	Gas Chromatography /Mass Spectroscopy (GCMS)	High Pressure Liquid Chromatography (HPLC)	Inductively Coupled Plasma/ Mass Spectroscopy (ICPMS)	Stabilized Platform Graphite Furnace Atomic Absorption
4	Cadmium	0.5	--	--	--	0.2	0.5
5b	Chromium (VI)	--	5	--	--	--	--
6	Copper, Total Recoverable	--	--	--	--	0.5	2

CTR#	Constituent	Types of Analytical Methods MLs (µg/L)					
		Graphite Furnace Atomic Absorption	Flame Atomic Absorption (FAA)	Gas Chromatography /Mass Spectroscopy (GCMS)	High Pressure Liquid Chromatography (HPLC)	Inductively Coupled Plasma/ Mass Spectroscopy (ICPMS)	Stabilized Platform Graphite Furnace Atomic Absorption
13	Zinc, Total Recoverable	--	--	--	--	1	10
57	Acenaphthylene ¹	--	--	10	0.2	--	--
58	Anthracene ¹	--	--	10	2	--	--
60	1,2-Benzanthracene ¹	--	--	10	2	--	--
61	Benzo(a)pyrene ¹	--	--	10	2	--	--
62	3,4-Benzofluoranthene ¹	--	--	10	10	--	--
63	1,12-Benzoperylene ¹	--	--	5	0.1	--	--
64	Benzo(k)fluoranthene ¹	--	--	10	2	--	--
73	Chrysene ¹	--	--	10	5	--	--
74	Dibenzo(a,h)anthracene ¹	--	--	10	0.1	--	--
87	Fluorene ¹	--	--	10	0.1	--	--
92	Indeno(1,2,3-cd)pyrene ¹	--	--	10	0.05	--	--
99	Phenanthrene ¹	--	--	5	0.05	--	--
100	Pyrene ¹	--	--	10	0.05	--	--

Table Notes:

1. These priority pollutants are categorized as polynuclear aromatic hydrocarbons (PAHs). PAHs shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo(k)fluoranthene, 1,12-benzoperylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.

II. MONITORING LOCATIONS

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

Table E-2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Manhole located at the corner of Van Wycke and Galindo Streets.
--	RSW-001	Receiving water in Trinidad Bay, within the surf zone, immediately adjacent to Discharge Point 001.
--	REF-001	The reference station in the ocean near the mouth of Agate Creek, at the point where runoff from a reference watershed enters the ocean in the surf zone, representing background / natural water conditions.
--	SED-001, SED-002, etc.	Subtidal sediment monitoring locations in Trinidad Bay.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. Effluent Monitoring for Commingled Seawater System, Filter Backwash, and Storm Water at Monitoring Location EFF-001

The Permittee shall monitor the commingled seawater system, filter backwash, and storm water discharge prior to contact with the receiving water at Monitoring Location EFF-001 during periods of discharge to Trinidad Bay as follows:

Table E-3. Effluent Monitoring – Monitoring Location EFF-001¹

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Seawater Discharge System Flow	gpd	Meter or Calculated	Each Discharge Event ²	--
Total Monthly Seawater Volume	gallons	Meter or Estimate	Monthly ³	--
Storm Water Runoff Flow	gpd	Meter or Estimate	Each Storm Event	--
Total Storm Water Runoff Volume	gallons	Meter or Estimate	Monthly ⁴	--
Biochemical Oxygen Demand (5-day 20°C)	mg/L	Grab	Quarterly ⁵	Standard Methods ⁶
Total Suspended Solids	mg/L	Grab	Quarterly ^{5, 7}	Standard Methods
Settleable Solids	mL/L-hr	Grab	Quarterly ^{5, 7}	Standard Methods
Salinity	s.u.	Grab	Quarterly ⁵	Standard Methods
Temperature	°C	Grab	Quarterly ⁵	Standard Methods
Turbidity	NTU	Grab	Quarterly ⁵	Standard Methods
pH	s.u.	Grab	Quarterly ^{5, 7}	Standard Methods
Ocean Plan Table B Pollutants for Marine Aquatic Life (Except acute toxicity, cyanide, phenolic compounds, endosulfan, endrin, and HCH)	µg/L	Grab	Two per Term ^{5, 8}	Standard Methods
Cadmium, Total Recoverable	µg/L	Grab	2X/Year ^{5, 8}	Standard Methods
Chromium (VI), Total Recoverable	µg/L	Grab	2X/Year ^{5, 8}	Standard Methods
Copper, Total Recoverable	µg/L	Grab	2X/Year ^{5, 8}	Standard Methods
Zinc, Total Recoverable	µg/L	Grab	2X/Year ^{5, 8}	Standard Methods
Chronic Toxicity	TUc	Grab	Two per Term ⁵	See Section V below

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chronic Toxicity (narrative)	Passed/ Triggered ⁹			--

Table Notes:

- Listed below are the minimum monitoring requirements for any discharge through the seawater discharge system. If monitoring is conducted on effluent containing filter backwash and is conducted during the dry season, then results may be used to satisfy the filter backwash requirements in Table E-4. If monitoring is conducted on effluent containing seawater commingled with storm water, then results may be used to satisfy storm water monitoring requirements for Ocean Plan Table A pollutants in Table E-5.
- Flow measurement required on all days that a discharge occurs.
- The total monthly flow volume discharged from the seawater discharge system must be measured and reported quarterly to the Regional Water Board.
- The volume of storm water runoff (by storm event) must be measured (or estimated) monthly and reported annually to the Regional Water Board.
- During the term of the permit, the Permittee shall conduct analyses on at least one discharge sample containing Seawater Sump Water and at least one discharge sample containing Seawater Tank Water.
- In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
- Monitoring for TSS, settleable solids, and pH shall coincide with pre-seawater discharge and post-seawater discharge monitoring in Trinidad Bay (Monitoring Location RSW-001).
- The Regional Water Board may, at its discretion, and after receiving and analyzing the required water quality monitoring data, at the request of the Permittee choose to reduce and/or eliminate certain monitoring requirements for constituents that routinely are found in concentrations below Ocean Plan objectives.
- The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test “passed” or “triggered” in relation to the chronic toxicity trigger of 1.0 TUc (where TUc = 100/NOEC) as a daily maximum. For narrative chronic toxicity reporting, “Passed” shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.0 TUc. “Triggered” shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.0 TUc for a single sample.

2. Effluent Filter Backwash Monitoring at Monitoring Location EFF-001

The Permittee shall monitor effluent filter backwash at Monitoring Location EFF-001 during periods of discharge, during the dry season, to Trinidad Bay as follows:

Table E-4. Effluent Filter Backwash Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab	Annually ¹	Standard Methods ²
Total Suspended Solids	mg/L	Grab	Annually ¹	Standard Methods
Settleable Solids	mL/L-hr	Grab	Annually ¹	Standard Methods
Turbidity	NTU	Grab	Annually ¹	Standard Methods
pH	s.u.	Grab	Annually ¹	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Salinity	mg/L	Grab	Annually ¹	Standard Methods
Temperature	°F or °C	Grab	Annually ¹	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Annually ¹	Standard Methods ³
Ocean Plan Table B Pollutants for Marine Aquatic Life (Except acute toxicity, cyanide, phenolic compounds, endosulfan, endrin, and HCH)	µg/L	Grab	Annually ^{1,4}	Standard Methods
Chronic Toxicity	TUc	Grab	Annually ^{1,4}	See Section V below
Chronic Toxicity (narrative)	Passed/ Triggered ⁵			--

Table Notes

- Monitoring shall coincide with reference monitoring at Monitoring Location REF-001.
- In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
- Ammonia shall be measured at a detection limit of 10 µg/L.
- Based on the results from the first year Regional Water Board staff will determine the Table B constituents to be tested annually during the remainder of the permit cycle, except that ammonia nitrogen and chronic toxicity (for at least one consistent invertebrate or algal species) must be tested at least annually for the waste seawater effluent.
- The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test “passed” or “triggered” in relation to the chronic toxicity trigger of 1.0 TUc (where TUc =100/NOEC) as a daily maximum. For narrative chronic toxicity reporting, “Passed” shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.0 TUc. “Triggered” shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.0 TUc for a single sample.

3. Storm Water Runoff Monitoring at Monitoring Location EFF-001

The Permittee shall monitor storm water runoff at Monitoring Location EFF-001, resulting from a storm event of 0.5 inches or greater, discharged to Trinidad Bay as follows:

Table E-5. Storm Water Runoff Monitoring – Monitoring Location EFF-001¹

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Storm Water Runoff Flow	mgd	Meter or Estimate	Each Storm Event	--
Total Storm Water Runoff Volume	gallons	Meter or Estimate	Each Storm Event/Monthly ²	--
Oil and Grease	mg/L	Grab	Annually ^{3,4}	Standard Methods ⁵
Total Suspended Solids	mg/L	Grab	2X/Year ^{3,4}	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Settleable Solids	mL/L-hr	Grab	2X/Year ^{3,4}	Standard Methods
Salinity	s.u.	Grab	Annually ^{3,4}	Standard Methods
Temperature	°F or °C	Grab	Annually ^{3,4}	Standard Methods
pH	s.u.	Grab	2X/Year ^{3,4}	Standard Methods
Cadmium, Total Recoverable	µg/L	Grab	2X/Year ^{3,4}	Standard Methods
Chromium (VI), Total Recoverable	µg/L	Grab	2X/Year ^{3,4}	Standard Methods
Copper, Total Recoverable	µg/L	Grab	2X/Year ^{3,4}	Standard Methods
Zinc, Total Recoverable	µg/L	Grab	2X/Year ^{3,4}	Standard Methods
Chronic Toxicity	TUc	Grab	Once Per Permit Term ^{3,4}	See Section V below
Chronic Toxicity (narrative)	Passed/ Triggered ⁶			--
Ocean Plan Table B Pollutants for Marine Aquatic Life (Except for acute toxicity)	µg/L	Grab	Once Per Permit Term ^{3,4}	Standard Methods
Polynuclear Aromatic Hydrocarbons (PAHs) ⁷	µg/L	Grab	Once Per Permit Term ^{3,4}	Standard Methods
Turbidity	NTU	Grab	2X/Year ^{3,4}	Standard Methods
Total Coliform	MPN/100 mL	Grab	Annually ^{3,4}	Standard Methods
<i>Enterococcus</i>	MPN/100 mL	Grab	Annually ^{3,4}	Standard Methods ⁸
Fecal Coliform	MPN/100 ml	Grab	Annually ^{3,4}	Standard Methods ⁸

Table Notes

1. The Regional Water Board may, at its discretion, and after receiving and analyzing the required water quality monitoring data, at the request of the Permittee choose to reduce and/or eliminate certain monitoring requirements for constituents that routinely are found in concentrations below Ocean Plan objectives.
2. The volume of storm water runoff (by storm event) must be measured (or estimated) monthly and reported annually to the Regional Water Board.
3. Monitoring for Ocean Plan Table A pollutants (oil and grease, TSS, settleable solids, turbidity, and pH), chronic toxicity, and Table B pollutants for Marine Aquatic Life shall coincide with reference site monitoring at Monitoring Location REF-001 and pre- and post-storm monitoring at Monitoring Location RSW-001.
4. Storm water samples shall be collected during the first hour of discharge from 1) the first storm event of the wet season. If the Permittee is unable to collect samples from the first storm event of the wet season, the Discharge shall collect a sample from a subsequent rain event and shall explain in the Annual Report why the first storm event was not sampled. For 2X/Year monitoring, no less than two storm events are to be sampled during any wet season. For the purpose of monitoring storm water discharges at EFF-001, the monitoring year shall be defined as the wet season, which typically begins on October 1 and ends on May 30.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<p>5. In accordance with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.</p> <p>6. The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test “passed” or “triggered” in relation to the chronic toxicity trigger of 1.0 TUC (where TUC =100/NOEC) for each single sample. For narrative chronic toxicity reporting, “Passed” shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.0 TUC. “Triggered” shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.0 TUC for a single sample.</p> <p>7. PAHs shall mean the 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-dc]pyrene, phenanthrene and pyrene.</p> <p>8. Detection methods for <i>Enterococcus</i> and fecal coliform bacteria shall be those presented in Table 1A of 40 CFR 136, unless alternative methods have been approved in advance by the USEPA pursuant to 40 CFR 136.</p>				

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

Although effluent limitations for whole effluent toxicity (WET) are not established by the Order, WET testing of discharges and receiving water is required by this MRP to determine compliance with water quality objectives established by the Ocean Plan for acute and chronic WET. In certain circumstances, accelerated WET testing and/or a Toxicity Reduction Evaluation (TRE) are required by the MRP when WET “triggers” are exceeded. Table E-6, below, summarizes the WET testing requirements of the MRP. Note that sediment toxicity testing requirements are addressed in section IX.C. of this MRP and not as part of the WET testing requirements.

Table E-6. Summary of WET Testing Requirements

Monitoring Location	WET Testing Requirement
EFF-001	Chronic WET shall be tested 1 time per year for discharges of seawater filter backwash. Chronic WET shall be tested 1 time during the permit term for discharges of seawater sump discharges. Chronic WET shall be tested 1 time during the permit term for discharges of seawater tank discharge. Chronic WET shall be tested 1 time during the permit term for discharges of storm water discharge.
REF-001	Chronic WET shall be tested 2 times per year at the same time as the annual effluent seawater (backwash) sample and annual effluent storm water samples.
RSW-001	Chronic WET shall be tested before and after a storm event once during the permit term.

A. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing to demonstrate compliance with the Ocean Plan’s water quality objective for chronic toxicity. The Permittee shall meet the following chronic toxicity testing requirements:

- 1. Test Frequency.** The Permittee shall conduct chronic WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in MRP section IV.A and Table E-6, above.
- 2. Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. Effluent samples shall be collected at Monitoring Location EFF-001. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with USEPA test methods.
- 3. Test Species.** Critical life stage bioassay testing shall be conducted using an approved test, and test species, as described by Table III-1 of the Ocean Plan and presented below. Initial testing for the first suite of tests, shall be conducted with a vertebrate, an invertebrate, and a plant species, and thereafter, monitoring can be reduced to the most sensitive species. At least once every 5 years, the Permittee shall rescreen once with the three species listed above, and continue to monitor with the most sensitive species.

Table E-7. Summary of WET Testing Requirements

Species	Test	Tier ¹	Reference ²
Giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	a, c
Red abalone, <i>Haliotis rufescens</i>	abnormal shell development	1	a, c
Oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	abnormal shell development; percent survival	1	a, c
Urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent normal development	1	a, c
Urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent fertilization	1	a, c
Shrimp, <i>Homesimysis costata</i>	percent survival; growth	1	a, c
Shrimp, <i>Mysidopsis bahia</i>	percent survival; fecundity	2	b, d
Topsmelt, <i>Atherinops affinis</i>	larval growth rate; percent survival	1	a, c
Silverside, <i>Menidia beryllina</i>	larval growth rate; percent survival	2	b, d

Table Notes:

1. First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Permittee can use a second tier test method following approval by the Regional Water Board.
2. Protocol References:
 - a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136.

Species	Test	Tier ¹	Reference ²
b.	Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. <i>Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms</i> . U.S. EPA Report No. EPA-600-4-91-003.		
c.	SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.		
d.	Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. <i>Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms</i> . EPA/600/4-87/028. National Information Service, Springfield, VA.		

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms* (USEPA Report No. EPA/600/R-95/136, or subsequent editions), *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms* (USEPA Report No. EPA-821-R-02-014 or subsequent editions), or other methods approved by the Executive Officer.
5. **Test Dilutions.** All chronic WET tests on effluent samples collected at Monitoring Location EFF-001 and on receiving water samples, collected at Monitoring Locations REF-001 and RSW-001, shall be conducted using 100 percent effluent and 100 percent receiving water, respectively, with control samples being laboratory synthesized water (when testing at Monitoring Locations REF-001 or RSW-001) or receiving water samples collected beyond the influence of the discharges (when testing at Monitoring Location RSW-001).
6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
7. **Test Failure.** If a chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.
8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding the chronic toxicity trigger during regular or accelerated monitoring.
9. **Accelerated Monitoring Requirements.** For this Permittee, accelerated monitoring requirements in this section apply only to chronic toxicity results of effluent containing seawater and not results from storm water only discharges or receiving water monitoring. If the result of any routine chronic toxicity test, for discharges

containing seawater, exceeds the chronic toxicity monitoring trigger of 1.0 TUc, as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring. Accelerated monitoring shall consist of up to four additional seawater effluent samples and dilution series (specified in number 5 above) – with one test for each test species showing toxicity results exceeding the toxicity trigger, as defined by conditions a. through c. below. Accelerated monitoring test shall be conducted approximately every week over a four week period.

Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:

- a.** If the result of any accelerated toxicity test exceeds 1.0 TUc, the Permittee shall cease accelerated monitoring and, within thirty (30) days of the date of completion of the accelerated monitoring test, initiate the TRE Workplan developed in accordance with section VI.C.2.a.(2) of the Order to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity. Within thirty (30) days of completing the TRE Workplan implementation, the Permittee shall submit a report to the Regional Water Board including, at a minimum:
 - i.** Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
 - ii.** Specific actions the Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;
 - iii.** Recommendations for further actions to mitigate continued toxicity, if needed; and
 - iv.** A schedule for implementation of recommended actions.
- b.** If the results of four consecutive accelerated monitoring tests do not exceed 1.0 TUc, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Permittee initiate a TRE.
- c.** If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Permittee shall make necessary corrections to the facility and shall continue

accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring “trigger.” Upon confirmation that the chronic toxicity has been removed, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring.

B. Chronic Toxicity Reporting

- 1. Routine Reporting.** Chronic toxicity monitoring results shall be submitted with the monthly self-monitoring report for the month that chronic toxicity monitoring was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:
 - a.** All toxicity test reports shall include the contracting laboratory’s complete report provided to the Permittee and shall be in accordance with the appropriate “Report Preparation and Test Review” sections of the method manuals and this MRP. Chronic toxicity test results shall be submitted with the self-monitoring report. The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:
 - i.** receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics;
 - ii.** the source and make-up of the lab control/diluent water used for the test;
 - iii.** any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
 - iv.** identification of any reference toxicant testing performed;
 - v.** tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of NOEC, TUc and IC25;
 - vi.** identification of any anomalies or nuances in the test procedures or results; and
 - vii.** summary and conclusions section.
 - viii.** Test results shall include, at a minimum, for each test:
 - (a)** Sample date(s);
 - (b)** Test initiation date;
 - (c)** Test species;
 - (d)** End point values for each dilution (e.g., number of young, growth rate, percent survival);
 - (e)** NOEC value(s) in percent effluent;

- (f) IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent;
- (g) TUc values (100/NOEC);
- (h) Mean percent mortality (\pm s.d.) after 96 hours in 100 percent effluent (if applicable);
- (i) NOEC and LOEC values for reference toxicant test(s);
- (j) IC50 or EC50 value(s) for reference toxicant test(s);
- (k) Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);
- (l) Statistical methods used to calculate endpoints;
- (m) The statistical output page, which includes the calculation of percent minimum significant difference (PMSD); and
- (n) Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

b. Compliance Summary. In addition to the WET report, the Permittee shall submit a compliance summary of chronic toxicity tests results, expressed in NOEC and TUc, for tests conducted during the permit term, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). Each compliance summary report shall clearly identify whether or not the effluent discharge is below the chronic toxic monitoring trigger and, in the event that the effluent discharge exceeds a single sample or median chronic toxicity trigger, the status of efforts (e.g., accelerated monitoring, TRE, TIE) and to identify the source of chronic toxicity as required by section V.B.9 of this MRP.

2. Quality Assurance Reporting. Because the permit requires sublethal hypothesis testing endpoints from methods 1006 and 1007.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA-821-R-02-014, 2002), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with

the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.4.1 through 10.2.8.2.4.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

This section of the NPDES permit is not applicable to the Permittee.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Surface Water Monitoring Location REF-001

1. The Permittee shall monitor the Reference Site at Monitoring Location REF-001 during periods of discharge to Trinidad Bay as follows:

Table E-8. Receiving Water Monitoring Requirements - Monitoring Location REF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Biochemical Oxygen Demand (5-day @ 20°C) ¹	mg/L	Grab	2X/Year	Standard Methods ²
Salinity ¹	s.u. ³	Grab	2X/Year	Standard Methods
Temperature ¹	°C	Grab	2X/Year	Standard Methods
Ocean Plan Table A Pollutants ¹	mg/L	Grab	2X/Year	Standard Methods
Ocean Plan Table B Pollutants for Marine Aquatic Life (Except for acute toxicity) ¹	µg/L	Grab	2X/Year	Standard Methods
Chronic Toxicity ¹	TUc	Grab	2X/Year	See Section V
Total Coliform ¹	MPN/100 ml	Grab	2X/Year	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<i>Enterococcus</i> ¹	MPN/100 ml	Grab	2X/Year	Standard Methods ⁴
Fecal Coliform ¹	MPN/100 ml	Grab	2X/Year	Standard Methods ⁴

Table Notes:

- Reference samples must be monitored at the same time as the effluent samples (twice annually) and analyzed for the same constituents as annual waste seawater samples and storm water samples. Reference samples will be collected at Monitoring Location REF-001 or at a station determined by a regional monitoring program. Samples at the reference station during wet weather may be collected immediately following a storm event, but in no case more than 24 hours after, if sampling conditions are unsafe during the storm.
- In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
- Salinity may be measured and reported as electrical conductivity in $\mu\text{mhos/cm}$, as salinity in salinity units, or as salinity in parts per thousand.
- Detection methods for *Enterococcus* and fecal coliform bacteria shall be those presented in Table 1A of 40 CFR 136, unless alternative methods have been approved in advance by the USEPA pursuant to 40 CFR 136.

- Alternatively, monitoring requirements at Monitoring Location REF-001 may be met by participation in a regional monitoring program approved by the State Water Board.

B. Surface Water Monitoring Location RSW-001

- The Permittee shall conduct *Pre-Storm* and *Post-Storm* Monitoring within Trinidad Bay at Monitoring Location RSW-001 as follows:

Table E-9. Pre-Storm and Post-Storm Receiving Water Monitoring Requirements – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Biochemical Oxygen Demand (5-day @ 20°C) ¹	mg/L	Grab	Annually	Standard Methods ²
Salinity ¹	s.u.	Grab	Annually	Standard Methods
Temperature ¹	°C	Grab	Annually	Standard Methods
Ocean Plan Table A Pollutants ¹	mg/L	Grab	Annually	Standard Methods
Ocean Plan Table B Pollutants for Marine Aquatic Life (Except for acute toxicity) ¹	$\mu\text{g/L}$	Grab	Annually	Standard Methods
Chronic Toxicity ¹	TUc	Grab	Annually	See Section V

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Coliform ¹	MPN/100 mL	Grab	Annually	Standard Methods
Fecal Coliform ¹	MPN/100 mL	Grab	Annually	Standard Methods
<i>Enterococcus</i> ¹	MPN/100 mL	Grab	Annually	Standard Methods

Table Notes:

- Pre-Storm Monitoring:* At least once per permit cycle, monitoring at Monitoring Location RSW-001 must occur 24 hours prior to a storm event.
Post-Storm Monitoring: Post-storm receiving water adjacent to the seawater discharge system and storm water discharges must be monitored at Monitoring Location RSW-001 every time the effluent is sampled and analyzed for the same constituents as annual waste seawater samples and storm water samples.
- In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.

- Alternatively, monitoring requirements at Monitoring Location RSW-001 may be met by participation in a regional monitoring program approved by the State Water Board.
- The Permittee shall conduct *Pre-Seawater Discharge* and *Post-Seawater Discharge* Monitoring within Trinidad Bay at Monitoring Location RSW-001 as follows:

Table E-10. Pre-Seawater Discharge and Post-Seawater Discharge Receiving Water Monitoring Requirements – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TSS	mg/L	Grab	Quarterly ¹	Standard Methods ²
Settleable Solids	mL/L-hr	Grab	Quarterly ¹	Standard Methods
pH	s.u.	Grab	Quarterly ¹	Standard Methods

Table Notes:

- The Permittee shall collect a minimum of three pre-seawater discharge samples at Monitoring Location RSW-001 within 1 hour prior to the seawater discharge event. Within 24 hours following the initiation of the discharge, the Permittee shall collect a minimum of three post-seawater discharge samples at Monitoring Location RSW-001.
- In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.

C. Groundwater – Not Applicable

This section of the NPDES permit is not applicable to the Permittee.

IX. OTHER MONITORING REQUIREMENTS

A. Rocky Intertidal Marine Life Survey

Once during the 5 year term of this Order, the Permittee shall conduct a quantitative Survey of Rocky Intertidal Marine Life in accordance with section VI.C.2.b. of the Order.

B. Bioaccumulation Study

Once during the 5 year term of this Order, the Permittee shall conduct a Bioaccumulation Study in accordance with section VI.C.2.c. of the Order.

C. Sediment Monitoring/Study

In accordance with section VI.C. 2.d. of the Order, the Permittee shall monitor sediment at Monitoring Location SED-001 in Trinidad Bay in accordance with the following schedule.

Table E-11. Sediment Monitoring Requirements – Monitoring Location SED-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ocean Plan Table B Pollutants (except chronic toxicity) ¹	µg/L	Grab	Annually	2
Acute Toxicity ¹	TUa	Grab	Annually	3

Table Notes:

- In accordance with State Water Board Resolution No. 2011-0049, subtidal sediment in Trinidad Bay shall be monitored annually. Based on results of the first year of sediment monitoring, the Regional Water Board will determine which specific Table B parameters shall be monitored on an annual basis thereafter.
- All samples will be tested in accordance with U.S. Environmental Protection Agency (USEPA) or American Society for Testing and Materials (ASTM) methodologies where such methods exist. Where no EPA or ASTM methods exist, the State Water Board or Regional Water Quality Control Boards (Regional Water Boards) (collectively Water Boards) shall approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the California Department of Health Services in accordance with Water Code Section 13176.
- The presence of sediment toxicity shall be estimated as specified in USEPA's *Methods for Assessing the Toxicity of Sediment-Associated Contaminants with Estuarine and Marine Amphipods* (USEPA Report 600/R-94/025, June 1994), using the amphipod *Eohaustorius estuarius*.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

- The Permittee shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self-Monitoring Reports (SMRs)

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.
2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Permittee monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.
4. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-12. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January through March April through June July through September October through December	First day of second calendar month following end of quarter
Semi-annually	Closest of January 1 or July 1 following (or on) permit effective date	January through June July through December	September 1, each year March 1, each year
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year
Once per Permit Term	Permit Effective date	All	January 1, 2018

5. Reporting Protocols. The Permittee shall report with each sample result the applicable ML, the RL and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

The Permittee shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
- d. Permittees are to instruct laboratories to establish calibration standards so that the 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

Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. The Permittee shall submit SMRs in accordance with the following requirements:
 - a. The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is 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 within the system, the Permittee shall electronically submit the data in a tabular format as an attachment.
 - b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
 - i. Facility name and address;
 - ii. WDID number;
 - iii. Applicable period of monitoring and reporting;
 - iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);
 - v. Corrective actions taken or planned; and
 - vi. The proposed time schedule for corrective actions.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). In the event that paper submittal of SMRs is required, the Permittee shall submit the SMR to the address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

C. Discharge Monitoring Reports (DMRs)

DMRs are required for facilities designated as major dischargers. This Facility is a minor discharger; therefore, DMR requirements do not apply at this time.

D. Other Reports

- 1.** The Permittee shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and VI.C.3 of this Order.
- 2. Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site. In the event that a paper copy of the annual report is required, the Permittee shall submit the report to the address in section X.B.6.c., above. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:
 - a.** Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR, section 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
 - b.** A comprehensive discussion of the Facility’s compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
 - c.** The names and general responsibilities of all persons employed at the Facility;
 - d.** The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations;
 - e.** A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration;
 - f. Storm Water Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee’s best management practices (BMPs) to control storm water, as well as activities to maintain and upgrade these BMPs.

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.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Permittee. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Permittee.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Humboldt State University – Telonicher Marine Laboratory.

Table F-1. Facility Information

WDID	1B12187NHUM
Permittee	Humboldt State University
Name of Facility	Telonicher Marine Laboratory
Facility Address	570 Ewing Street
	Trinidad, CA 95570
	Humboldt County
Facility Contact, Title and Phone	Traci Ferdolage, Director - Planning & Design, (707) 826-4111
Authorized Person to Sign and Submit Reports	Traci Ferdolage, Director - Planning & Design
Mailing Address	1 Harpst Street, House #13, Arcata, CA 95521
Billing Address	Same as Mailing Address
Type of Facility	Marine Laboratory
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	NA
Reclamation Requirements	NA
Facility Design and Permitted Flow	123,232 gallons per day (gpd), estimated maximum flow assuming filter backwash and storm water resulting from 10-year, 24-hour storm event.

Watershed	Humboldt Watershed Management Area
Receiving Water	Pacific Ocean
Receiving Water Type	Marine

A. The Humboldt State University (hereinafter Permittee) is the owner and operator of the Telonicher Marine Laboratory (hereinafter Facility or TML), a marine laboratory, as shown in Attachment B.

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

- B.** The Facility discharges waste seawater, filter backwash, and storm water to the Pacific Ocean, a water of the United States.
- C.** The Permittee filed a Report of Waste Discharge (ROWD) and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 123,232 gpd of untreated waste seawater, filter backwash, and storm water from the Facility on August 13, 2012. The Permittee provided supplemental information on September 18, 2012, September 26, 2012, and September 27, 2012. The permit application was deemed complete on September 27, 2012.

II. FACILITY DESCRIPTION

The Permittee owns and operates the Facility, a teaching and marine research institution. The Facility is a unit of Humboldt State University supporting education and research for the departments of Oceanography, Fisheries Biology, and Biology (Marine Biology option). The Facility also serves a public outreach function, including guided tours and summer programs led by a marine naturalist, and self-guided tours of the laboratory's exhibits (public display aquaria and touch tanks). The Facility has two large instructional classrooms/laboratories, offices for 14 faculty and graduate students, specialized research labs, an algal and zooplankton rearing area, and other rooms that support education and research. A recirculating seawater system supplies classrooms and a wet lab with high-quality, filtered seawater.

The Permittee operates an intake pump at Trinidad Pier that pumps seawater from Trinidad Bay uphill into two storage tanks at the Facility. The intake suction hose within the Bay is equipped with a ¼-inch mesh screen. Screen maintenance consists of algae removal by hand. The intake pump has a capacity of 1,400 gallons per hour, depending on the tide and operates six to eight times per year for 2 to 6 hours at a time. The water in the storage tanks is gravity fed to a sump where it is kept at a consistent height, using a float valve. The Facility is equipped with two pumps, each with a capacity of 13 horsepower, that recirculate seawater from the sump through two sand filters, then 2 chillers, then through aquariums

and wet tables in the laboratory, then back to the sump. The Permittee operates one pump at a time, 24 hours per day, throughout the year. A portion of the seawater from the sump is pumped back to the storage tanks so that water is continually being replaced in the sump. The aquariums and wet tables drain by gravity back to the sump.

The most frequent non-storm water discharge from the Facility's waste seawater system consists of filter backwash. Sand filters are backwashed approximately every other month, with a discharge duration of approximately 20 minutes. The maximum volume from a filter backwash event for the time period of 2006 through 2011 was 11,200 gallons. Other intermittent discharges arise from the following:

- 1) Draining and refilling of each of the two 47,000 gallon storage tanks (total of 94,000 gallons). Draining of tanks occurs approximately once every other year during the dry season and does not occur during storm events. The drainage duration is approximately 1 hour for each tank and the Permittee drains one tank per day over a 2-day period. In the event that tank maintenance is required, the Permittee would temporarily decommission one tank, while the other remains functional.
- 2) Overflow resulting from allowing the pump on the pier to continue to run after the storage tanks are full. The Permittee estimates this discharge volume as 50,000 gallons per year.
- 3) Draining of seawater that is circulating in through the lab instead of returning it to the sump, referred to as "sump diversion". Sump diversion coincides with pumping water from Trinidad Bay to the storage tanks. The purpose of this procedure is to periodically exchange a portion of the older recirculating seawater with new seawater. The Permittee estimates this discharge volume as 50,000 gallons per year.
- 4) Draining of approximately 2,000 gallons from the sump during routine preventive maintenance. Once per year, the Permittee empties and cleans the sump during the summer to prevent check valve malfunction. The sump capacity is 1,830 gallons; however, it is not completely full when emptied. The maximum recorded discharge volume reported in the ROWD is 1,675 gallons.
- 5) Drainage resulting from incidental spills and leaks, and drainage of display aquariums, estimated at 46,000 gallons per year.

With the exception of filter backwash, the discharges are controllable and are scheduled to occur during dry weather. The discharge also includes storm water runoff from the grounds of the Facility, including drains from the roof and from the front and back parking lots of the Facility.

The storm water system consists of the following sources:

- 1) Two rear parking lot drains on the east side of the laboratory that route storm water to an oil/water separator (which then enters the main line downstream of the separator). A

third small drain on the north side of the Schatz Building contains a Triton Filter™ and connects directly to the main outfall.

- 2) Two roof drains, one which empties onto the street at the southwest corner of the Facility and one which enters the main line at the rear of the Facility, but does not enter the oil/water separator.
- 3) Three drains in the northwest portion of the Facility (two at the gate entrance which contain Triton Filters™ and one in the street).
- 4) Two drain inlets at the top of the retaining wall in the rear (east) of the laboratory building.
- 5) One drain inlet at the southwest corner of the Facility, which routes water northeast and then south to the main outfall.
- 6) Two drain inlets, one at the base of each seawater holding tank. Under normal conditions they convey storm water to the main outfall. When the tanks are flushed a valve opens releasing the seawater and sending it out the main outfall.
- 7) A drain inlet, located in between the two seawater storage tanks that conveys storm water from the vault which houses the seawater plumbing to the main outfall.

The Permittee is able to schedule most seawater discharges such that seawater would not be discharged during a storm event. On occasion, however, the Permittee may discharge filter backwash coincidental to a storm water discharge event. The Permittee estimated the maximum daily discharge volume would be 123,232 gallons, assuming filter backwash combined with storm water runoff from a 10-year, 24-hour storm event.

A. Description of Wastewater Treatment or Controls

Storm water runoff from the east side of the laboratory building drains to an oil/water separator prior to the storm drain pipe. Triton™ catch basin filters installed in the drain north of the Schatz building and at two drains at the gate entrance (northwestern portion of the site) are designed to remove hydrocarbons, metals, sand, silt, trash, and debris. The filters are cleaned periodically. Storm water runoff from the roof, northwestern street and retaining wall drain inlets, the southwestern drain inlet, and the seawater tank vault route directly to the storm drain without treatment from the oil/water separator or Triton™ filters. The Permittee does not employ any other physical, chemical, or biological wastewater treatment processes prior to discharging. The Permittee does not use chlorine in the areas contributing to seawater drainage system. The Permittee has developed a Storm Water Management Plan (SWMP) that describes Best Management Practices (BMPs) for controlling pollutants in the discharge. The SWMP addresses BMPs to prevent chlorinated potable water and other non-storm freshwaters from entering the discharge.

B. Discharge Points and Receiving Waters

The seawater effluent and storm water contributions are routed to a common discharge pipe that extends underground south of the laboratory to the beach of Trinidad Bay. The discharge outfall is located within a few yards of a storm drain outfall operated by the City of Trinidad. Discharge Point 001 is located near Trinidad Pier, in near shore waters of the Pacific Ocean, a water of the United States. The Facility and Discharge Point 001 are located in the Humboldt Watershed Management Area (WMA) within the Trinidad Head Area of Special Biological Significance (ASBS).

1. Waste seawater and storm water are discharged at Discharge Point 001 to the Pacific Ocean, a water of the United States, at latitude 41°03' 23" N and longitude 124°08' 49" W.
2. The Ocean Plan prohibits discharges to ASBS waters, unless an exception to the prohibition is granted by the State Water Resources Control Board (State Water Board). The Ocean Plan states that the State Water Board may, in compliance with California Environmental Quality Act (CEQA), subsequent to a public hearing, and with the concurrence of USEPA, grant exceptions where the Board determines: (a) the exception will not compromise protection of ocean waters for beneficial uses, and (b) the public interest will be served.

The State Water Board granted an exception to this prohibition for the Facility on October 18, 2011 with Resolution No. 2011-0049, which establishes terms and conditions of approval that must be incorporated into this Order. The following table provides a summary of these terms and conditions, and reference to the section of the Order in which they are located.

Table F-2. Terms and Conditions of Resolution No. 2011-0049 (Attachment A) Incorporated into the Order

Attachment A Section	Summary of Terms and Conditions	Order Section Number
Seawater System Waste Seawater	The discharge must comply with the Ocean Plan.	Order Section V.A. (Receiving Water Limitations) MRP Sections VIII. A & B
	Natural water quality conditions in the receiving water must not be altered.	
	Natural ocean water quality will be determined by a comparison to the range of constituent concentrations in reference areas.	
	The Permittee must not discharge chemical additives, including antibiotics and chlorine.	Order Section III.E (Discharge

Attachment A Section	Summary of Terms and Conditions	Order Section Number
		Prohibitions)
	The seawater effluent must comply with effluent limits implementing Table B water quality objectives as required in Section III.C. of the Ocean Plan.	Order Section III.F (Discharge Prohibitions)
	The Permittee must develop and implement a program for prevention of Biological Pollutants.	Order Section VI C.7.b (Special Provisions)
Dry Weather Flows	The Permittee must prevent all discharges of non-storm water facility runoff, with some exceptions.	Order Section III.H (Discharge Prohibitions)
	The Permittee must develop and implement a program to prohibit non-storm water runoff draining to the ASBS in a SWMP.	Order Section VI.C.7.a (Special Provisions)
	The SWMP must describe the strategy for preventing non-storm water runoff from entering the discharge.	Order Section VI.C.7.a.ii (Special Provisions)
Storm Water Runoff	The SWMP must address pollutant reduction through the implementation of BMPs.	Order Section VI.C.7.a.iii (Special Provisions)
	The SWMP must describe the BMPs and BMP implementation schedules.	
	Discharges must be free of trash, petroleum products and pesticides.	Order Section III.I (Discharge Prohibitions)
	The BMPs must ensure natural water quality and compliance with effluent limitations	Order Section VI.C.7.a.iii (Special Provisions)
	BMPs must be implemented within one year of the approval date of the SWMP.	Order Section VI.C.7.a.iv (Special Provisions)
	The SWMP must include a map detailing specific elements.	Order Section VI.C.7.a.v (Special Provisions)
	The SWMP due date is one year from the effective date of Resolution No. 2011-0049.	Order Section VI.C.7.a (Special Provisions)

Attachment A Section	Summary of Terms and Conditions	Order Section Number
Rocky Intertidal Marine Life Survey	The Permittee must conduct a rocky intertidal marine life survey to be approved by the State Water Board's Division of Water Quality	Order Section VI.C.2.b (Special Provisions) and MRP IX.A
Bioaccumulation Study	The Permittee must perform a bioaccumulation study using California mussels (<i>Mytilus californianus</i>) to be approved by the State Water Board's Division of Water Quality.	Order Section VI.C.2.c (Special Provisions) and MRP IX.B
	The Regional Water Board staff, in consultation with the State Water Board's Division of Water Quality staff, must approve the study design.	
Sediment Study	The Permittee must sample and analyze the subtidal sediment and storm water effluent for Ocean Plan Table B pollutants for Marine Aquatic Life, including acute toxicity.	Order Section VI.C.2.d (Special Provisions) and MRP IX.C
Waste Seawater Effluent Monitoring	The Permittee must monitor and report waste seawater flow.	MRP Section IV.A.1, Table E-3
	The Permittee must monitor waste seawater discharge during a filter backwash event during the dry season. Ammonia must be measured at a detection limit of 10 µg/L.	MRP Section IV.A.2, Table E-4 and MRP Section V, Table E-6
Storm Water Runoff Monitoring	The Permittee must monitor and report storm water discharge flow.	MRP Section IV.A.1, Table E-3
	The Permittee must monitor the storm water runoff for all Ocean Plan Table A constituents, indicator bacteria, Table B pollutants for Marine Aquatic Life and PAHs.	MRP Section IV.A.3, Table E-5 and MRP Section V, Table E-6
Receiving Water Monitoring	The Permittee must conduct pre and post storm water discharge receiving water monitoring or participate in a regional monitoring program approved by the State Water Board.	MRP Section IV.A.3, Table E-5 and MRP Section VIII.B.1 – Table E-9 MRP Section VIII.B.2

Attachment A Section	Summary of Terms and Conditions	Order Section Number
Reference Site Monitoring	The Permittee must monitor receiving water at a reference station or participate in a regional monitoring program approved by the State Water Board.	MRP Section II, Table E-2 MRP Section IV.A.2 and 3, Tables E-4 and E-5 MRP Section VIII.A.1 – Table E-8 MRP Section VIII.A.2
Metals Analysis	Samples must be analyzed by the approved analytical method with the lowest minimum detection limits described in the Ocean Plan.	MRP Section I, Table E-1
Alteration of Natural Water Quality	The Regional Water Board will make determinations as to whether the Permittee’s discharge results in “alteration of natural water quality”	Order Section V.A
	The Permittee must report to the Regional Water Board if the results of receiving water monitoring indicate that the storm water runoff is causing or contributing to an alteration of natural water quality in the ASBS, as measured at the reference station(s). Upon Regional Water Board review and approval, the Permittee must revise the SWMP accordingly. If the Permittee complies with these procedures and is implementing the revised SWMP, then the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same constituent.	Order Section VI.C.6.a.vi (Special Provisions)
Construction Activity Potentially Affecting the ASBS	The Regional Water Board must be notified within 180 days prior to any construction activity that could result in any discharge or habitat modification in the ASBS.	Order Section VI.C.4 (Special Provisions)

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

This section is not applicable because this is a new NPDES permit.

D. Compliance Summary

This section is not applicable because this is a new NPDES permit.

E. Planned Changes

Currently, off-site storm water from Ewing Street enters the storm drain at the southwestern edge of the Facility. As described within the *Initial Study*, the Permittee is working with the City of Trinidad on a storm water project to connect these storm drains to the City's Municipal Separate Storm Sewer System (MS4).

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177. Before the Regional Water Board could consider adoption of this NPDES permit, however, the Permittee was required to seek an exception to the California Ocean Plan to allow discharges to the Trinidad Head ASBS. On October 18, 2011, with Resolution No. 2011-0049, the State Water Board approved an exception to the California Ocean Plan for the Telonicher Marine Laboratory, a decision that was subject to the requirements of CEQA. The State Water Board, as the lead agency for the CEQA analysis, prepared and circulated an Initial Study / Mitigated Negative Declaration for the proposed exception; held a public hearing on October 18, 2011 to hear comments regarding the exception and the Initial Study / Mitigated Negative Declaration; and formally responded to comments. Based on the entire record, including the Initial Study / Mitigated Negative Declaration, comments received, and the response to comments, the State Water Board concluded that there was no substantial evidence that approval of such an exception would have a significant effect on the environment, so long as the Permittee applied for coverage under the NPDES permit program and that specific terms and conditions were incorporated into

the Facility's NPDES permit. Resolution No. 2011-0049, therefore, approved an exception to the California Ocean Plan, approved a Mitigated Negative Declaration, and required that certain specific terms and conditions be included into the NPDES permit to assure on-going protection of the Trinidad Head ASBS. These actions satisfy CEQA requirements for Discharge Point 001.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. With high concentrations of total dissolved solids, ocean waters meet an exception to State Water Board Resolution No. 88-63; and therefore, the MUN designation is not applicable to the ocean receiving water for this Discharger. Beneficial uses applicable to the Pacific Ocean are summarized in Table F-3, below:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<p><u>Existing:</u> Navigation (NAV); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Commercial and sport fishing (COMM); Wildlife habitat (WILD); Rare, threatened, or endangered species (RARE); Marine habitat (MAR); Migration of aquatic organisms (MIGR); Spawning, reproduction, and/or early development (SPAWN); Shellfish harvesting (SHELL); Aquaculture (AQUA); and Preservation of Areas of Special Biological Significance (ASBS).</p> <p><u>Potential:</u> Industrial water supply (IND); and Industrial process supply (PRO).</p>

Requirements of this Order implement the Basin Plan.

- 2. Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Permittee does not discharge thermal waste; therefore, the Order does not include effluent limitations for temperature in response to the requirements of the Thermal Plan.
- 3. 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 amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, and 2009. The State Water Board adopted the latest amendment on September 15, 2009 and it became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean. In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program for implementation. The Ocean Plan identifies the beneficial uses of ocean waters of the State to be protected as summarized below:

Table F-4. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<u>Existing:</u> 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; and Shellfish harvesting.

Requirements of this Order implement the Ocean Plan.

- 4. Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). This Policy became effective on August 27, 2008.

This Order does not include a compliance schedules or interim effluent limitations.

- 5. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- 6. Antidegradation Policy.** 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water

Board Resolution No. 68-16. Resolution No. 68-16 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 Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

- 7. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
- 8. Endangered Species Act.** This Order does not authorize an 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 sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A sections 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. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

D. Impaired Water Bodies on CWA 303(d) List

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies, to USEPA by April of each even numbered year. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The CWA requires development of a total maximum daily load (TMDL) for each 303(d) listed pollutant and water body contaminant. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On October 11, 2011, the USEPA provided final approval of the 2008-2010 303(d) list of impaired water bodies prepared by the State. The list identifies Trinidad State Beach as impaired for indicator bacteria. Discharge Point 001 and Trinidad Bay are separated from Trinidad State Beach by approximately 1 mile of coastline around Trinidad Head. It is unknown whether the discharge will affect the 303(d) listed waters of Trinidad State Beach; therefore, the Order contains monitoring requirements for bacteria.

E. Other Plans, Policies and Regulations

1. On October 18, 2011, with Resolution No. 2011-0049, the State Water Board approved an exception to the California Ocean Plan's prohibition regarding discharges to ASBS, thereby allowing continued discharges from the Facility to the Trinidad Head ASBS. In its CEQA analysis, the State Water Board concluded that there was no substantial evidence that approval of such an exception would have a significant effect on the environment, so long as specific terms and conditions were incorporated into the facility's NPDES permit. Attachment A to State Resolution No. 2011-0049, therefore, included several specific terms and conditions that have been incorporated into this Order (refer to Table F-2, in Section II.B.3 of this Fact Sheet).
2. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Permittee must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code section 1211).

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the 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 in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exist.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

Because limitations and other requirements of the Order have been established based on the current understanding of Facility operations by Regional Water Board staff, as

provided by the Permittee, discharges not addressed by the Order have not been properly considered by the Regional Water Board and are viewed as unauthorized discharges.

- 2. Discharge Prohibition III.B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the California Water Code (Water Code) is prohibited.

This prohibition is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code. It is a standard condition/prohibition included in NPDES permits and waste discharge requirements adopted by the Regional Water Board.

- 3. Discharge Prohibition III.C.** The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.

This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

- 4. Discharge Prohibition III.D.** The discharge of exotic organisms (non-endemic, non-naturalized plants, animals and microorganisms, including gametes, spores, larvae, and parts of such organisms) is prohibited.

This prohibition reflects the North Coast Water Board's concern regarding the introduction of non-native and/or exotic species and/or fish pathogens to the Trinidad Head ASBS.

- 5. Discharge Prohibition III.E.** The discharge of chemical additives, including antibiotics and chlorine, is prohibited.

This prohibition is contained in State Water Board Resolution No. 2011-0049, which required inclusion of this specific prohibition in the discharge permit for discharges to the Trinidad Head ASBS.

- 6. Discharge Prohibition III.F.** The discharge of constituents to the Ocean at levels exceeding the water quality objectives established by Table B of the Ocean Plan (2009) is prohibited.

This prohibition is contained in State Water Board Resolution No. 2011-0049, which required inclusion of this specific prohibition in the discharge permit for discharges to the Trinidad Head ASBS.

- 7. Discharge Prohibition III.G.** The maximum daily discharge from the combined seawater system and storm water system shall not exceed 123,232 gallons.

State Water Board Resolution No. 2011-0049 approved an exception to the Ocean Plan's prohibition against discharges to the Trinidad Head ASBS from the Facility. This flow prohibition is established based on the maximum flow estimate provided by the Permittee.

- 8. Discharge Prohibition III.H.** Discharges of non-storm water facility runoff to the ocean (i.e., any discharge of runoff from the facility that reaches the ocean and that is not composed entirely of storm water), except those associated with the waste seawater system and emergency firefighting, are prohibited.

This prohibition is contained in State Water Board Resolution No. 2011-0049, which required inclusion of this specific prohibition in the discharge permit for discharges to the Trinidad Head ASBS.

- 9. Discharge Prohibition III.I.** The discharge of any trash, petroleum products, or pesticides is prohibited. This prohibition is contained in State Water Board Resolution No. 2011-0049, which required inclusion of this specific prohibition in the discharge permit for discharges to the Trinidad Head ASBS.

- 10. Discharge Prohibition III.J.** The discharge of any radiological or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

This prohibition is established by this Order and is based on the discharge prohibitions contained in section III.I. of the Ocean Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 40 CFR 122.44, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a.** Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category

or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.
- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines (ELGs) and standards representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 CFR section 125.3.

2. Applicable Technology-Based Effluent Limitations

Table A of the Ocean Plan specifies effluent limitations that apply only to publicly owned treatment works and industrial discharges for which ELGs have not been established pursuant to Sections 301, 302, 304, or 306 of the Federal CWA. Compliance with Table A effluent limitations, or EPA ELGs for industrial discharges, based on BCT, shall be the minimum level of treatment acceptable under the Ocean Plan, and shall define reasonable treatment and waste control technology. The Facility is not subject to ELGs at this time. Therefore, technology-based limitations contained in Table A of the Ocean Plan are applicable to the Permittee.

The terms contained in Attachment A to Resolution No. 2011-0049 require that the *“natural water quality conditions in the receiving water must not be altered as a result*

of the discharge(s) and marine communities must be protected from pollution...". Therefore, the Permittee must not add pollutants beyond what is present in the receiving water at the discharge site. Since elevated TSS and settleable solids are common in filter backwash and storm water, this Order limits effluent TSS and settleable solids concentrations to the concentrations within the receiving water at the time of discharge. Procedures for determining compliance with this limitation are described in the Order section VII.I. In any event, effluent TSS and settleable solids concentrations must not exceed Ocean Plan Table A limitations. Requirements for oil and grease, TSS, settleable solids, and pH reflect a reasonable level of pollutant control for facilities that hold and grow aquatic organisms.

Table F-5. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly (30-day Average)	Average Weekly (7-day Average)	Maximum Daily	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	75
Settleable Solids	ml/L	1.0 ¹	1.5 ¹	1	3.0
Total Suspended Solids (TSS)	mg/L	--	--	1	60
pH	standard units	--	--	--	6.0 – 9.0 ²

Table Notes:

1. The discharge shall not contain concentrations of solids higher than those found in the receiving water at RSW-001. In no case shall effluent concentrations exceed the Table A Ocean Plan objectives.
2. The discharge pH shall be within a limit of 6.0 to 9.0 at all times.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the 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 for the pollutant, WQBELs must be established using: (1) USEPA 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 the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Ocean Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.C.1 of this Fact Sheet.
- b. **Ocean Plan Water Quality Objectives.** Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes general provisions and water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. These water quality objectives from the Ocean Plan are incorporated as receiving water limitations into the Order. Table B of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 CFR 122.44(d)(1), and in accordance with procedures established by the Ocean Plan, the Regional Water Board has performed an Ocean Plan RPA to determine the need for effluent limitations for the Table B toxic pollutants.

Attachments F-1 and F-2 include a summary of Reasonable Potential Analysis (RPA) results for all priority toxic pollutants with water quality criteria/objectives that are applicable to the Pacific Ocean.

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44 (d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the

reasonable potential to cause, or contribute to an excursion above any State water quality standard.

- a. Ocean Plan Reasonable Potential Analysis (RPA).** Procedures for performing a RPA for ocean dischargers are described in Section III. C. and Appendix VI of the Ocean Plan. In general, the procedure is a statistical method that projects an effluent data set while taking into account the averaging period of water quality objectives, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set, and compares the 95th percentile concentration at 95 percent confidence of each Table B pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints.

Endpoint 1 – There is “reasonable potential,” and a WQBEL and monitoring are required.

Endpoint 2 – There is “no reasonable potential.” WQBELs are not required, and monitoring is required at the discretion of the North Coast Regional Water Board.

Endpoint 3 – The Ocean Plan RPA is inconclusive. Existing WQBELs are retained, and monitoring is required.

The State Water Resources Control Board has developed a reasonable potential calculator, which is available at <http://www.waterboards.ca.gov/plnspols/docs/oplans/rpcalc.zip>. The calculator (RPcalc 2.0) was used in conducting the RPA and considers several pathways in the determination of reasonable potential.

i. First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of such information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303 (d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

ii. Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

iii. Third Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95th percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed log normally. If the 95th percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

iv. Fourth Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps.

- (a)** If the number of censored values (those expressed as a “less than” value) account for less than 80 percent of the total number of effluent values, calculate the ML (the mean of the natural log of transformed data) and SL (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.
- (b)** If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data is limited, and no assumptions can be made regarding its possible distribution.)

v. Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than 3 detected and quantified values, or when the effluent data set contains 3 or more detected and quantified values but the number of censored values

accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective, and accounting for ties. The sample number is reduced by one for each tie, when the dilution adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limitations in the expiring permit are retained.

b. Reasonable Potential Determination

The RPA for the waste seawater effluent was conducted using effluent monitoring data generated from one monitoring event on May 23, 2006, which was conducted as part of the Permittee's application for an exception to the California Ocean Plan. Results from the RPA have been used to determine the need for effluent limitations for Table B parameters given in the Ocean Plan. No credit for dilution was allowed in conducting the RPA.

The tables below identify the RPA endpoint for each Table B parameter, and shows the analysis reaches an Endpoint 3 for most of the parameters analyzed. An Endpoint 3 RPA is inconclusive and results when a majority of the effluent data is reported as ND (not detected). In these circumstances, the Regional Water Board views the "inconclusive" result as an indication of no concern for a particular pollutant; however, additional monitoring will be required for those parameters during the term of the permit.

The Permittee collected separate grab samples of storm water, waste seawater effluent, and ocean receiving water for the sampling event conducted on May 23, 2006; therefore, separate monitoring data for the storm water and waste seawater were used to conduct two separate RPAs as shown in Tables F-6 and F-7 below.

The monitoring results for waste seawater effluent (Table F-6) show low concentrations for most metals, with the exception of hexavalent chromium, where the result of one of two samples exceeded the applicable water quality objective. However, there is a significant discrepancy in the analytical data, with hexavalent chromium concentrations greater than the total chromium concentrations in the waste seawater effluent. In storm water sampling, monitoring results indicate that four trace metals had concentrations greater than the Ocean Plan water quality objectives (Table F-7). High concentrations of polynuclear aromatic hydrocarbons (PAHs) were also detected in the storm water

runoff and receiving water samples; however, both natural and anthropogenic sources may contribute to the PAH levels.

Although the results for acute and chronic toxicity were available, they were limited to a single sample date and a single concentration of 100 percent. For this proposed Order, the results are more appropriately evaluated by comparisons to the controls, and are not included in the RPA. Further discussion of acute and chronic toxicity is provided in the Fact Sheet section IV.C.5.

The RPAs conducted for the Facility demonstrated reasonable potential (Endpoint 1) for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria for cadmium, chromium (VI), total residual chlorine, copper, PAHs, and zinc.

The following tables summarize the RPAs for each priority pollutant that was reported in detectable concentrations in the effluent and storm water or the receiving water (detected values are indicated in bold type). The MECs, most stringent water quality objectives (WQO), and background concentrations (B) used in the RPA are presented, along with the RPA results for each toxic pollutant analyzed. No other pollutants with applicable numeric water quality criteria from the Ocean Plan were measured above detectable concentrations or analyzed for during the monitoring events conducted by the Permittee.

The results of the RPAs indicate reasonable potential for cadmium, chromium (VI), copper, PAHs, and zinc, and total residual chlorine for the waste seawater and storm water runoff discharged through Discharge Point 001. Since the time of sample collection, the Permittee has implemented changes to both the seawater and storm water discharge systems. Several laboratory drains have been re-routed and no longer contribute to the discharge. In addition, the Permittee installed an oil/water separator to treat a portion of the storm water flow. Because of the upgrades, the samples, upon which the RPAs are based, may not be representative of current discharges from the Facility. This Order requires monitoring for the Endpoint 1 pollutants to provide sufficient data for future analyses. Attachment F-1 to this Order summarizes the RPAs for all constituents analyzed during the May 23, 2006 sampling event.

Table F-6. Summary of Reasonable Potential Analysis Results – Seawater Effluent

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L) ¹	RPA Results, Comment
Objectives for Protection of Marine Aquatic Life					
Arsenic	8.0	2	0	3.48	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Cadmium	1.0	2	0	0.26	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorine, Total Residual	2.0	1	1	<5.0	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium, Total	2.0	2	0	0.24	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (VI)	2.0	2	1	7.0 ²	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required. ³
Copper	3.0	2	0	1.25	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Lead	2.0	2	2	<0.01	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Mercury	0.04	2	2	<0.01	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nickel	5.0	2	0	3.02	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15.0	2	0	0.03	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L) ¹	RPA Results, Comment
Silver	0.7	2	2	<0.02	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Zinc	20.0	2	0	7.42	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Ammonia	600	2	2	<10	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Table Notes:					
<p>1. Minimum Probable Dilution for this discharge is 0. The Maximum Effluent Concentration is the expected concentration after complete mixing, in accordance with reasonable potential procedure in Appendix VI of the Ocean Plan.</p> <p>2. Estimated Value below the RL and above the MDL.</p> <p>3. The Regional Water Board has determined that the effluent data is limited and may not reflect more recent changes made to the Permittee's system; therefore, additional monitoring is required and effluent limitations are not established at this time.</p>					

Table F-7. Summary of Reasonable Potential Analysis Results – Storm Water Effluent

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	MEC or Minimum DL (µg/L) ¹	RPA Results, Comment
Objectives for Protection of Marine Aquatic Life					
Arsenic	8	2	0	2.0	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Cadmium	1	2	0	3.5	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required. ²
Chromium, Total	2	2	0	1.9	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	MEC or Minimum DL (µg/L)¹	RPA Results, Comment
Chromium (VI)	2	1	0	5.0 ³	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required. ²
Copper	3	2	0	30.9	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required. ²
Lead	2	2	0	1.0	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Mercury	0.04	1	1	<0.01	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nickel	5	2	0	2.8	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15	2	0	0.8	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Silver	0.7	2	2	<0.02	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Zinc	20	2	0	42.2	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required ²
Ammonia	600	1	0	30	Endpoint 3- RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorine, Total Residual	2	1	0	11	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required. ²

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	MEC or Minimum DL (µg/L) ¹	RPA Results, Comment
Polynuclear Aromatic Hydrocarbons (PAHs)	0.0088	1	0	0.019	Endpoint 1- An effluent limitation must be developed for this pollutant. Monitoring is required. ²
Table Notes: 1. Minimum Probable Initial Dilution for this discharge is 0. The Maximum Effluent Concentration is the expected concentration after complete mixing, in accordance with reasonable potential procedure in Appendix VI of the Ocean Plan. 2. The Regional Water Board has determined that the effluent data is limited and may not reflect more recent changes made to the Permittee’s system; therefore, additional monitoring is required and effluent limitations are not established at this time. 3. Estimated Value below the RL and above the MDL.					

4. WQBEL Calculations

Because of the lack of data representative of the Permittee’s current system, no WQBELs are established at this time. Alternatively, this Order requires additional monitoring for pollutants that resulted in Endpoint 1 in the RPA to indicate if the pollutants are still present in the discharge at levels which would demonstrate reasonable potential to exceed Ocean Plan objectives.

5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent acute and monitoring triggers for chronic toxicity protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

On May 23, 006, the Permittee analyzed storm water and receiving water for acute and chronic toxicity. Based on the toxicity test laboratory report dated June 30, 2006, the storm water sample did not exhibit acute toxicity. Chronic toxicity tests conducted using three species [*Mysids (Americamysis bahia or Mysidopsis bahia)*, Giant Kelp, (*Macrocystis pyrifera*) and Inland Silverside (*Menidia beryllina*)] measured survival, growth, and germination. Of the chronic test results, only the Mysids growth test demonstrated toxicity associated with 100 percent storm water.

Also on May 23, 2006, the Permittee analyzed waste seawater and receiving water for chronic toxicity using the same three species as for storm water tests. The toxicity

test laboratory report dated June 30, 2006, indicates that only the Mysids growth test demonstrated toxicity associated with 100 percent seawater effluent.

This Order does not contain WET limitations; however, in accordance with the terms provided in Attachment A to State Water Board Resolution No. 2011-0049 and the Ocean Plan (section III.C, Implementation Provisions for Table B), this Order establishes chronic monitoring requirements for the commingled discharge of seawater effluent and storm water run-off at Discharge Point 001 and the receiving water at RSW-001 and REF-001. If chronic toxicity results for effluent samples exceed the water quality objective or "trigger," the Permittee must initiate accelerated monitoring as specified in the Monitoring and Reporting Program (Attachment E, section V). After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Permittee will be required to conduct a Toxicity Reduction Evaluation, as described by the MRP.

Notification requirements for chronic WET testing include a 72 hour verbal notification requirement and a 14 day written report requirement, if test results indicate toxicity. The 14 day written notification is established in the USEPA WET Guidance documents cited in the MRP. The 72 hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72 hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Anti-backsliding requirements do not pertain to this Order since it is a newly regulated discharge.

2. Satisfaction of Antidegradation Policy

Provisions of the Order are consistent with applicable antidegradation policy expressed by State Water Board Resolution No. 68-16 and NPDES regulations at 40 CFR 131.12, which require that water quality be maintained and protected where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational

or ecological significance. Trinidad Bay, into which the Facility discharges waste seawater, filter backwash, and storm water, is identified in the Ocean Plan as an Area of Special Biological Significance. In issuing Resolution No. 2011-0049 approving an exception to the Ocean Plan's prohibition against discharges to ASBSs, the State Water Board stated:

"The State Water Board finds that granting the requested exception will not compromise protection of ocean waters for beneficial uses, provided that the applicant complies with the prohibitions and special conditions that comprise the Special Protections contained in this resolution...."

"The State Water Board finds that granting the requested exception is in the public interest because the seawater system provides support for the research activities of undergraduate and graduate students with interests in the marine sciences. Research projects are conducted at TML because the laboratory has a seawater system and aquarium facilities that supports the maintenance of living marine plants and animals for observation and experimentation. Often these projects are in direct support of other state or federal agency missions related to the marine environment and its resources; faculty-sponsored research has been conducted for Redwood National Park, the National Marine Fisheries Service, Resources Legacy Fund, and the National Oceanic and Atmospheric Administration. The exception will allow TML to continue to discharge, provided that TML meets specific mitigating conditions. The exception also provides additional protections for beneficial uses that are not currently provided. The State Water Board has concluded that the exception will not compromise protection of ocean waters for beneficial uses, and the public interest will be served...."

"Granting the exception is consistent with federal and state antidegradation policies, in 40 C.F.R. §131.12 and State Water Board Resolution No. 68-16, respectively. The terms, special conditions, and prohibitions that comprise these Special Protections will not authorize a lowering of water quality, but rather will improve water quality conditions in the affected ASBS".

3. Stringency of Requirements for Individual Pollutants

This Order contains technology-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on flow, oil and grease, TSS, settleable solids, and pH. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet. This Order's technology-based pollutant restrictions implement section III.B, Table A, of the Ocean Plan.

This Order does not contain WQBELs.

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

Table F-8 summarizes all final effluent limitations included in the Order and the basis for their inclusion.

Table F-8. Summary of Final Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001)

Parameter	Units	Effluent Limitations					Basis ¹
		30-Day Average	Average Weekly (7-Day Average)	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Oil and Grease	mg/L	25	40	--	--	75	OP
Settleable Solids	mL/L	1.0 ²	1.5 ²	2	--	3.0	BPJ, OP
Total Suspended Solids (TSS)	mg/L	--	--	2	--	60	BPJ, OP
pH	standard units	--	--	--	6.0	9.0	OP
<p>1. Definitions of acronyms in Table F-8: BPJ Best Professional Judgment OP Ocean Plan</p> <p>2. The discharge shall not contain concentrations of solids higher than those found in the receiving water at Monitoring Location RSW-001. In no case shall effluent concentrations exceed the Table A Ocean Plan objectives.</p>							

E. Interim Effluent Limitations

This section is not applicable as interim effluent limitations have not been established for the Permittee.

F. Land Discharge Specifications

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

G. Reclamation Specifications

This section of the NPDES permit is not applicable to the Permittee.

H. Other Requirements

The Permittee is required to implement and maintain a Storm Water Management Plan (SWMP), which must include BMPs that eliminate or reduce the presence of pollutants in storm water runoff to the technology-based standard of Maximum Extent Practicable (MEP) to protect water quality. Requirements for the development of a SWMP are described in section VI.C.6.a of the Order.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Ocean Plan. Receiving water limitations within this Order reflect all applicable, general water quality objectives of the Ocean Plan and the terms and conditions required by State Water Board Resolution No. 2011-0049.

The Ocean Plan includes numeric and narrative water quality objectives for various beneficial uses. This Order contains receiving water limitations for discharges to the Pacific Ocean based on the Ocean Plan numerical and narrative water quality objectives for bacteria, dissolved oxygen, floating particulates, oil and grease, pH, discoloration, natural lighting, deposition of solids, dissolved sulfides, organic materials in sediments, Table B parameters, nutrient materials, radioactive wastes, and biological characteristics.

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The MRP establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E of this permit. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Locations EFF-001 is necessary to demonstrate compliance with technology-based effluent limitations and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality

objectives. Effluent monitoring requirements pursuant to State Water Board Resolution No. 2011-0049 have also been included in the MRP.

1. Pursuant to the terms of State Water Board Resolution No. 2011-0049, this Order establishes monitoring requirements for discharges of backwash during the dry season (i.e., not commingled with storm water). The monitoring requirements in Table E-4 include Ocean Plan Table A pollutants, BOD, salinity, temperature, and Table B pollutants for Marine Aquatic Life, with exceptions that are indicated in Resolution No. 2011-0049.
2. The seawater discharges from the facility consist mainly of three sources: the sump, storage tanks, and filter backwash. While Resolution No. 2011-0049 requires monitoring “*during a filter backwash event*”; it does not contain minimum frequencies specific to sump or storage tank discharges. In an effort to characterize these waste streams as well as the backwash, this Order requires monitoring during at least one sump discharge event and one seawater tank discharge event. The requirements, which are presented in Table E-3 of the MRP, apply to all seawater discharges from the Facility and are necessary to determine compliance with effluent limitations contained in Table A of the Ocean Plan and to demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives. Parameters were selected based on the reasonable potential determination and to be consistent with requirements for filter backwash and storm water discharges contained in Resolution No. 2011-0049. Dry-season monitoring of backwash as required in Table E-4 of the MRP may be used to partially satisfy the requirements in Table E-3, however, during the permit term, the Permittee must monitor at least one seawater discharge and one sump water discharge.
3. The requirements in Table E-4 are intended to address the requirements of Resolution No. 2011-0049 pertaining to minimum monitoring requirements of dry-weather filter backwash events. Note that the dry-weather monitoring requirements may be used to partially satisfy the requirements in Table E-3 (i.e., the Permittee does not have to monitor a filter backwash two times within a dry-weather month).
4. As provided under *Storm Water Runoff Monitoring* (page 3) of Attachment A to Resolution No. 2011-0049, this Order requires the Permittee to monitor the discharge of storm water runoff for flow, all Ocean Plan Table A pollutants, indicator bacteria, Table B pollutants for Marine Aquatic Life, and PAHs. Attachment A provides minimum frequencies for monitoring and reporting of these constituents and further stipulates “*The Regional Water Board may, at its discretion, and after receiving and analyzing the required water quality monitoring data for storm water, or at the request of TML, choose to reduce and/or eliminate certain monitoring requirements for constituents that routinely are found in concentrations below Ocean Plan water quality*”

objectives". Table E-5 of the MRP contains the storm water monitoring requirements in accordance with Resolution 2011-0049.

5. Attachment A to Resolution No. 2011-0049 allows storm water monitoring samples for Ocean Plan Table A constituents (oil and grease, suspended solids, settleable solids, turbidity, and pH) to include commingled waste seawater, if necessary. The discharges of sump and storage tank seawater are scheduled during the dry season so as not to occur during a storm water discharge; however, during the rainy season there may be instances where the Facility must discharge filter backwash during a storm water discharge event. Separate characterization of the two waste streams is preferable, since they most often do not commingle. However, if the Facility determines it is necessary to sample a commingled waste stream, the results may be used to satisfy Ocean Plan Table A monitoring requirements for both seawater and storm water in Tables E-3, and E-5. The Permittee must take into account that this does not apply to Ocean Plan Table B pollutants and that this scenario may not be used to satisfy the monitoring requirements of dry-weather filter backwash contained in Table E-4.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) monitoring requirements are established for discharges to the Trinidad Head ASBS from Discharge Point 001 at Monitoring Location EFF-001 and for the receiving water at Monitoring Locations RSW-001 and REF-001 and are included in the Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. The Ocean Plan section III.C.4.c specifies chronic toxicity testing where the minimum initial dilution of the effluent falls below 100:1 at the edge of the mixing zone. Because there is no dilution allowance for the Facility, WET monitoring shall consist of chronic toxicity testing. This Order includes monitoring requirements for chronic toxicity to assess compliance with the Ocean Plan's narrative water quality objectives for toxicity. The Regional Water Board may adjust the frequency of certain toxicity testing requirements after the first year of monitoring.

D. Land Discharge Monitoring Requirements – Not Applicable

This section is not applicable to the Permittee as commingled effluent is not discharged to or applied to land for the purpose of disposal.

E. Reclamation Monitoring Requirements – Not Applicable

This section is not applicable to the Permittee as commingled effluent is not reclaimed at this time.

F. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring requirements at Monitoring Locations REF-001 and RSW-001 have been established pursuant to State Water Board Resolution No. 2011-0049 and are necessary to assure protection of the Trinidad Head ASBS.

Resolution No. 2011-0049 prohibits alteration of “*natural water quality*”. In order to determine if the waste seawater discharge is contributing pollutants that would alter “*natural water quality*” this Order requires pre-seawater discharge monitoring and post-seawater discharge monitoring for TSS, settleable solids, and pH at RSW-001.

Requirements for pre-storm and post-storm monitoring of the receiving water are included based on requirements contained in Resolution 2011-0049.

2. Groundwater

This section is not applicable to the Permittee as commingled effluent is not discharged to groundwaters for the purpose of disposal.

G. Other Monitoring Requirements

1. Rocky Intertidal Marine Life Survey

A requirement to conduct a survey of rocky intertidal marine life one time during the term of the Order is included in section VI.C.2.b of this Order pursuant to State Water Board Resolution No. 2011-0049. Alternatively, the Permittee may participate in a State Water Board approved regional monitoring program to meet the rocky intertidal marine life survey requirements of State Water Board Resolution No. 2011-0049.

2. Bioaccumulation Study

A requirement to conduct a bioaccumulation study one time during the term of the Order is included in the MRP pursuant to State Water Board Resolution No. 2011-0049. Alternatively, the Permittee may participate in a State Water Board approved regional monitoring program to meet the bioaccumulation study requirements of State Water Board Resolution No. 2011-0049.

3. Sediment Monitoring/Study

A requirement to conduct a sediment monitoring study once annually, during the term of the Order, is included in the MRP pursuant to State Water Board Resolution No. 2011 0049. Alternatively, the Permittee may participate in a State Water Board

approved regional monitoring program to meet the sediment monitoring study requirements of State Water Board Resolution No. 2011-0049.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The rationale for the special provisions contained in the Order is provided in section VII.B, below.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2 of the Order.

- a.** Order Provision VI.A.2.a identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 CFR sections 122.41(j)(5) and (k)(2)).
- b.** Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

B. Special Provisions

1. Reopener Provisions

- a. Standard Revisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, which include the following:
 - i.** When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.
 - ii.** When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.
- b. Reasonable Potential (Special Provision VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.
- c. Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.
- d. 303(d)-Listed Pollutants (Special Provision VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.
- e. Regional Monitoring Program (Special Provision VI.C.1.e).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations and/or monitoring requirements that have been established to assess whether the discharge is causing an alteration in the natural ocean water quality. Modification of this Order in this manner is consistent with State Water Board Resolution No. 2011-0049, which states that whether natural ocean water quality is being altered will be determined by a comparing a range of constituent concentrations in reference areas agreed upon via an approved regional

monitoring program. This provision is contingent on the development and approval of a regional monitoring program and on the participation of the Permittee in the program.

2. Special Studies and Additional Monitoring Requirements

- a. **Toxicity Reduction Evaluations (Special Provision VI.C.2.a).** In addition to routine toxicity monitoring, this Order requires the Permittee to submit to the Regional Water Board an Initial Investigative TRE Workplan, in accordance with appropriate USEPA guidance, within 90 days of the effective date of this Order for approval by the Executive Officer, to ensure the Permittee has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.
- b. **Rocky Intertidal Marine Life Survey (Special Provision VI.C.2.b).** The Permittee is required to perform a quantitative survey of rocky intertidal marine life near the discharge and at a reference site at least once during the term of this permit to comply with the conditions of State Water Board Resolution No. 2011-0049.
- c. **Bioaccumulation Study (Special Provision VI.C.2.c).** The Permittee is required to perform a bioaccumulation study using California mussels (*Mytilus californianus*) to determine the concentrations of metals near the discharge and at a reference site at least once during the term of this permit to comply with the conditions of State Water Board Resolution No. 2011-0049.
- d. **Sediment Monitoring/Study (Special Provision VI.C.2.d).** The Permittee is required to sample and analyze the subtidal sediment and storm water effluent for Ocean Plan Table B constituents annually during the term of this permit to comply with the conditions of State Water Board Resolution No. 2011-0049.

3. Best Management Practices and Pollution Prevention

- a. Provision VI.C.3.a is included in this Order pursuant to section III.C.9 of the Ocean Plan. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation, and Maintenance Specifications

- a. Provision VI.C.4 is included in this Order. The provision to notify the Regional Water Board 180 days prior to construction/facility modification is based on conditions required by State Water Board Resolution No. 2011-0049 and section III.E.2 of the Ocean Plan. This provision is necessary to prevent permanent or long-term water quality degradation within the ASBS.

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

This section is not applicable to the Permittee.

6. Other Special Provisions

a. Storm Water Management Plan/Program (Special Provision VI.C.6.a)

The Permittee is required to implement and maintain a Storm Water Management Plan (SWMP) to comply with the conditions of State Water Board Resolution No. 2011-0049.

7. Compliance Schedules – Not Applicable

This section is not applicable to the Permittee.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Humboldt State University, Telonicher Marine Laboratory. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at: http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml and through publication in the Times Standard on **December 20, 2012**.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

The deadline to submit comments concerning these tentative WDRs closed on **January 21, 2013**.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **May 2, 2013**
Time: **9:00 a.m.** or as announced in the Regional Water Board's agenda
Location: **Wharfinger Building**
#1 Marine Way
Eureka, CA 95501

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/northcoast> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and title 23, section 2050 of the CCR. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Water Board, any person affected by this Order may request the Regional Water Board to reconsider the Order. To be timely, such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal rights. If the Permittee chooses to request reconsideration of this Order or file a petition with the State Water Board, the Permittee must comply with the Order while the request

for reconsideration and/or petition is being considered. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Charles Reed at Charles.Reed@waterboards.ca.gov or (707) 576-2752.

Attachment F-1 – Humboldt State University, Telonicher Marine Laboratory RPA Summary: Waste Seawater

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Arsenic		3.48	µg/L	3.48	3.48	0	3.48	8	3	3
Arsenic		3.42	µg/L	3.42	3.42					
Cadmium		0.25	µg/L	0.25	0.25	0	0.26	1	0	3
Cadmium		0.26	µg/L	0.26	0.26					
Chromium (Total)		0.24	µg/L	0.24	0.24	0	0.24	2	0	3
Chromium (Total)		0.24	µg/L	0.24	0.24					
Chromium (Hexavalent)		7	µg/L	7	7	1	7	2	0	1
Chromium (Hexavalent)	<	0.005	µg/L	<0.005	<0.005					
Copper		1.23	µg/L	1.23	1.23	0	1.25	3	2	3
Copper		1.25	µg/L	1.25	1.25					
Lead	<	0.01	µg/L	<0.01	<0.01	2	<0.01	2	0	3
Lead	<	0.01	µg/L	<0.01	<0.01					
Mercury	<	0.01	µg/L	<0.01	<0.01	2	<0.01	0.04	0.0005	3
Mercury	<	0.01	µg/L	<0.01	<0.01					
Nickel		2.94	µg/L	2.94	2.94	0	3.02	5	0	3
Nickel		3.02	µg/L	3.02	3.02					
Selenium		0.03	µg/L	0.03	0.03	0	0.03	15	0	3
Selenium		0.02	µg/L	0.02	0.02					

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Silver	<	0.2	µg/L	<0.2	<0.2	2	<0.2	0.7	0.16	3
Silver	<	0.2	µg/L	<0.2	<0.2					
Zinc		6.21	µg/L	6.21	6.21	0	7.42	20	8	3
Zinc		7.42	µg/L	7.42	7.42					
Cyanide		No Data	µg/L	No Data	No Data	0	<0	1	0	
Total Chlorine Residual	<	5	µg/L	<5	<5	1	<5	2	0	3
Ammonia (expressed as Nitrogen)	<	10	µg/L	<10	<10	2	<10	600	0	3
	<	10		<10	<10					
Acute Toxicity		No Data	% survival	No Data	No Data	0	<0	0.3	0	--
Chronic Toxicity		No Data	TUc	No Data	No Data	0	<0	1	0	--
Phenolic Compounds (non-chlorinated)						0	<0	30	0	--
2,4-Dimethylphenol		No Data	µg/L	No Data	No Data					
2-Methyl- 4,6-Dinitrophenol		No Data	µg/L	No Data	No Data					
2,4-Dinitrophenol		No Data	µg/L	No Data	No Data					
Phenol		No Data	µg/L	No Data	No Data					
Chlorinated phenolics						0	<0	1	0	--
Pentachlorophenol		No Data	µg/L	No Data	No Data					
Pentachlorophenol		No Data	µg/L	No Data	No Data					
2-Chlorophenol		No Data	µg/L	No Data	No Data					
Pentachlorophenol		No Data	µg/L	No Data	No Data					

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
2,4,6-Trichlorophenol		No Data	µg/L	No Data	No Data					
Endosulfan						0	<0	0.009	0	--
alpha-Endosulfan		No Data	µg/L	No Data	No Data					
beta-Endosulfan		No Data	µg/L	No Data	No Data					
Endosulfan sulfate		No Data	µg/L	No Data	No Data					
Endrin		No Data	µg/L	No Data	No Data	0	<0	0.002	0	--
HCH						0	<0	0.004	0	--
HCH-alpha		No Data	µg/L	No Data	No Data					
HCH-beta		No Data	µg/L	No Data	No Data					
HCH-gamma (Lindane)		No Data	µg/L	No Data	No Data					
Acrolein		No Data	µg/L	No Data	No Data	0	<0	220	0	--
Antimony		No Data	µg/L	No Data	No Data	0	<0	1200	0	--
Bis(2-chloroethoxy)methane		No Data	µg/L	No Data	No Data	0	<0	4.4	0	--
Bis(2-chloroisopropyl)ether		No Data	µg/L	No Data	No Data	0	<0	1200	0	--
Chlorobenzene		No Data	µg/L	No Data	No Data	0	<0	570	0	--
Chromium (III)		No Data	µg/L	No Data	No Data	0	<0	190000	0	--
Di-n-butyl phthalate		No Data	µg/L	No Data	No Data	0	<0	3500	0	--
Dichlorobenzenes						0	<0	5100	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
1,2-Dichlorobenzene		No Data	µg/L	No Data	No Data					
1,3-Dichlorobenzene		No Data	µg/L	No Data	No Data					
Diethyl Phthalate		No Data	µg/L	No Data	No Data	0	<0	33000	0	--
Dimethyl Phthalate		No Data	µg/L	No Data	No Data	0	<0	820000	0	--
4,6-Dinitro-2-methylphenol		No Data	µg/L	No Data	No Data	0	<0	220	0	--
2,4-dinitrophenol		No Data	µg/L	No Data	No Data	0	<0	4	0	--
Ethylbenzene		No Data	µg/L	No Data	No Data	0	<0	4100	0	--
Fluoranthene		No Data	µg/L	No Data	No Data	0	<0	15	0	--
Hexachlorocyclopentadiene		No Data	µg/L	No Data	No Data	0	<0	58	0	--
Nitrobenzene		No Data	µg/L	No Data	No Data	0	<0	4.9	0	--
Thallium		No Data	µg/L	No Data	No Data	0	<0	2	0	--
Toluene		No Data	µg/L	No Data	No Data	0	<0	85000	0	--
Tributyltin		No Data	µg/L	No Data	No Data	0	<0	0.0014	0	--
1,1,1-Trichloroethane		No Data	µg/L	No Data	No Data	0	<0	540000	0	--
Acrylonitrile		No Data	µg/L	No Data	No Data	0	<0	0.1	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Aldrin		No Data	µg/L	No Data	No Data	0	<0	0.000022	0	--
Benzene		No Data	µg/L	No Data	No Data	0	<0	5.9	0	--
Benzidine		No Data	µg/L	No Data	No Data	0	<0	0.000069	0	--
Beryllium		No Data	µg/L	No Data	No Data	0	<0	0.033	0	--
Bis(2-chloroethyl)ether		No Data	µg/L	No Data	No Data	0	<0	0.045	0	--
Bis(2-ethylhexyl)Phthalate		No Data	µg/L	No Data	No Data	0	<0	3.5	0	--
Carbon Tetrachloride		No Data	µg/L	No Data	No Data	0	<0	0.9	0	--
Chlordane		No Data	µg/L	No Data	No Data	0	<0	0.000023	0	--
Chlorodibromomethane		No Data	µg/L	No Data	No Data	0	<0	8.6	0	--
Chloroform		No Data	µg/L	No Data	No Data	0	<0	130	0	--
DDT						0	<0	0.00017	0	--
4,4'-DDT		No Data	µg/L	No Data	No Data					
4,4'-DDE		No Data	µg/L	No Data	No Data					
4,4'-DDD		No Data	µg/L	No Data	No Data					
1,4-Dichlorobenzene		No Data	µg/L	No Data	No Data	0	<0	18	0	--
3,3'-Dichlorobenzidine		No Data	µg/L	No Data	No Data	0	<0	0.0081	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
1,2-Dichloroethane		No Data	µg/L	No Data	No Data	0	<0	28	0	--
1,1-Dichloroethylene		No Data	µg/L	No Data	No Data	0	<0	0.9	0	--
Dichlorobromomethane		No Data	µg/L	No Data	No Data	0	<0	6.2	0	--
Dichloromethane						0	<0	450	0	--
Methylene chloride		No Data	µg/L	No Data	No Data					
1,3-Dichloropropene		No Data	µg/L	No Data	No Data	0	<0	8.9	0	--
Dieldrin		No Data	µg/L	No Data	No Data	0	<0	0.00004	0	--
2,4-Dinitrotoluene		No Data	µg/L	No Data	No Data	0	<0	2.6	0	--
1,2-Diphenylhydrazine		No Data	µg/L	No Data	No Data	0	<0	0.16	0	--
Halomethanes						0	<0	130	0	--
Bromoform		No Data	µg/L	No Data	No Data					
Methyl Bromide		No Data	µg/L	No Data	No Data					
Heptachlor		No Data	µg/L	No Data	No Data	0	<0	0.00005	0	--
Heptachlor epoxide		No Data	µg/L	No Data	No Data	0	<0	0.00002	0	--
Hexachlorobenzene		No Data	µg/L	No Data	No Data	0	<0	0.00021	0	--
Hexachlorobutadiene		No Data	µg/L	No Data	No Data	0	<0	14	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Hexachloroethane		No Data	µg/L	No Data	No Data	0	<0	2.5	0	--
Isophorone		No Data	µg/L	No Data	No Data	0	<0	730	0	--
N-Nitrosodimethylamine		No Data	µg/L	No Data	No Data	0	<0	7.3	0	--
N-Nitrosodi-N-Propylamine		No Data	µg/L	No Data	No Data	0	<0	0.38	0	--
N-Nitrosodiphenylamine		No Data	µg/L	No Data	No Data	0	<0	2.5	0	--
PAHs						0	<0	0.0088	0	--
Anthracene		No Data	µg/L	No Data	No Data					
Benzo(a)anthracene		No Data	µg/L	No Data	No Data					
Benzo(a)pyrene		No Data	µg/L	No Data	No Data					
Benzo (b) fluoranthene		No Data	µg/L	No Data	No Data					
Benzo(k)fluoranthene		No Data	µg/L	No Data	No Data					
Chrysene		No Data	µg/L	No Data	No Data					
Dibenzo (a,h) anthracene		No Data	µg/L	No Data	No Data					
Fluorene		No Data	µg/L	No Data	No Data					
Indeno (1,2,3-cd) pyrene		No Data	µg/L	No Data	No Data					
Pyrene		No Data	µg/L	No Data	No Data					
Benzo(a)pyrene		No Data	µg/L	No Data	No Data					
PCBs						0	<0	0.000019	0	--
PCB-sum		No Data	µg/L	No Data	No Data					
TCDD Equivalents						0	<0	3.9E-09	0	--
TCDD-TEQ		No Data	µg/L	No Data	No Data					

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
1,1,2,2-Tetrachloroethane		No Data	µg/L	No Data	No Data	0	<0	2.3	0	--
Tetrachloroethylene		No Data	µg/L	No Data	No Data	0	<0	2	0	--
Toxaphene		No Data	µg/L	No Data	No Data	0	<0	0.00021	0	--
Trichloroethylene		No Data	µg/L	No Data	No Data	0	<0	2.70E+01	0	--
1,1,2-Trichloroethane		No Data	µg/L	No Data	No Data	0	<0	9.40E+00	0	--
2,4,6-Trichlorophenol		No Data	µg/L	No Data	No Data	0	<0	0.29	0	--
Vinyl Chloride		No Data	µg/L	No Data	No Data	0	<0	36	0	--

Attachment F-2 – Humboldt State University, Telonicher Marine Laboratory RPA Summary: Storm Water Discharge

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Arsenic		2	µg/L	2	2	0	2	8	3	3
Arsenic		1.9	µg/L	1.9	1.9					
Cadmium		3.3	µg/L	3.3	3.3	0	3.5	1	0	1
Cadmium		3.5	µg/L	3.5	3.5					
Chromium (Total)		1.6	µg/L	1.6	1.6	0	1.9	2	0	3
Chromium (Total)		1.9	µg/L	1.9	1.9					
Chromium (Hexavalent)		5	µg/L	5	5	0	5	2	0	1
Copper		29.8	µg/L	29.8	29.8	0	30.9	3	2	1
Copper		30.9	µg/L	30.9	30.9					
Lead		1	µg/L	1	1	0	1	2	0	3
Lead		0.97	µg/L	0.97	0.97					
Mercury	<	0.01	µg/L	<0.01	<0.01	1	<0.01	0.04	0.0005	3
Nickel		2.7	µg/L	2.7	2.7	0	2.8	5	0	3
Nickel		2.8	µg/L	2.8	2.8					
Selenium		0.7	µg/L	0.7	0.7	0	0.8	15	0	3
Selenium		0.8	µg/L	0.8	0.8					
Silver	<	0.2	µg/L	<0.2	<0.2	2	<0.2	0.7	0.16	3

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Silver	<	0.2	µg/L	<0.2	<0.2					
Zinc		41.8	µg/L	41.8	41.8	0	42.2	20	8	1
Zinc		42.2	µg/L	42.2	42.2					
Cyanide		No Data	µg/L	No Data	No Data	0	<0	1	0	--
Total Chlorine Residual		11	µg/L	11	11	0	11	2	0	1
Ammonia (expressed as Nitrogen)		30	µg/L	30	30	0	30	600	0	3
Acute Toxicity		No Data	% survival	No Data	No Data	0	<0	0.3	0	--
Chronic Toxicity		No Data	TUc	No Data	No Data	0	<0	1	0	--
Phenolic Compounds (non-chlorinated)						0	<0	30	0	--
2,4-Dimethylphenol		No Data	µg/L	No Data	No Data					
2-Methyl- 4,6-Dinitrophenol		No Data	µg/L	No Data	No Data					
2,4-Dinitrophenol		No Data	µg/L	No Data	No Data					
Phenol		No Data	µg/L	No Data	No Data					
Chlorinated phenolics						0	<0	1	0	--
Pentachlorophenol		No Data	µg/L	No Data	No Data					
Pentachlorophenol		No Data	µg/L	No Data	No Data					
2-Chlorophenol		No Data	µg/L	No Data	No Data					
Pentachlorophenol		No Data	µg/L	No Data	No Data					
2,4,6-Trichlorophenol		No Data	µg/L	No Data	No Data					

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Endosulfan						0	<0	0.009	0	--
alpha-Endosulfan		No Data	µg/L	No Data	No Data					
beta-Endosulfan		No Data	µg/L	No Data	No Data					
Endosulfan sulfate		No Data	µg/L	No Data	No Data					
Endrin		No Data	µg/L	No Data	No Data	0	<0	0.002	0	--
HCH						0	<0	0.004	0	--
HCH-alpha		No Data	µg/L	No Data	No Data					
HCH-beta		No Data	µg/L	No Data	No Data					
HCH-gamma (Lindane)		No Data	µg/L	No Data	No Data					
Acrolein		No Data	µg/L	No Data	No Data	0	<0	220	0	--
Antimony		No Data	µg/L	No Data	No Data	0	<0	1200	0	--
Bis(2-chloroethoxy)methane		No Data	µg/L	No Data	No Data	0	<0	4.4	0	--
Bis(2-chloroisopropyl)ether		No Data	µg/L	No Data	No Data	0	<0	1200	0	--
Chlorobenzene		No Data	µg/L	No Data	No Data	0	<0	570	0	--
Chromium (III)		No Data	µg/L	No Data	No Data	0	<0	190000	0	--
Di-n-butyl phthalate		No Data	µg/L	No Data	No Data	0	<0	3500	0	--
Dichlorobenzenes						0	<0	5100	0	--
1,2-Dichlorobenzene		No Data	µg/L	No Data	No Data					
1,3-Dichlorobenzene		No Data	µg/L	No Data	No Data					

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Diethyl Phthalate		No Data	µg/L	No Data	No Data	0	<0	33000	0	--
Dimethyl Phthalate		No Data	µg/L	No Data	No Data	0	<0	820000	0	--
4,6-Dinitro-2-methylphenol		No Data	µg/L	No Data	No Data	0	<0	220	0	--
2,4-dinitrophenol		No Data	µg/L	No Data	No Data	0	<0	4	0	--
Ethylbenzene		No Data	µg/L	No Data	No Data	0	<0	4100	0	--
Fluoranthene		No Data	µg/L	No Data	No Data	0	<0	15	0	--
Hexachlorocyclopentadiene		No Data	µg/L	No Data	No Data	0	<0	58	0	--
Nitrobenzene		No Data	µg/L	No Data	No Data	0	<0	4.9	0	--
Thallium		No Data	µg/L	No Data	No Data	0	<0	2	0	--
Toluene		No Data	µg/L	No Data	No Data	0	<0	85000	0	--
Tributyltin		No Data	µg/L	No Data	No Data	0	<0	0.0014	0	--
1,1,1-Trichloroethane		No Data	µg/L	No Data	No Data	0	<0	540000	0	--
Acrylonitrile		No Data	µg/L	No Data	No Data	0	<0	0.1	0	--
Aldrin		No Data	µg/L	No Data	No Data	0	<0	0.000022	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Benzene		No Data	µg/L	No Data	No Data	0	<0	5.9	0	--
Benzidine		No Data	µg/L	No Data	No Data	0	<0	0.000069	0	--
Beryllium		No Data	µg/L	No Data	No Data	0	<0	0.033	0	--
Bis(2-chloroethyl)ether		No Data	µg/L	No Data	No Data	0	<0	0.045	0	--
Bis(2-ethylhexyl)Phthalate		No Data	µg/L	No Data	No Data	0	<0	3.5	0	--
Carbon Tetrachloride		No Data	µg/L	No Data	No Data	0	<0	0.9	0	--
Chlordane		No Data	µg/L	No Data	No Data	0	<0	0.000023	0	--
Chlorodibromomethane		No Data	µg/L	No Data	No Data	0	<0	8.6	0	--
Chloroform		No Data	µg/L	No Data	No Data	0	<0	130	0	--
DDT						0	<0	0.00017	0	--
4,4'-DDT		No Data	µg/L	No Data	No Data					
4,4'-DDE		No Data	µg/L	No Data	No Data					
4,4'-DDD		No Data	µg/L	No Data	No Data					
1,4-Dichlorobenzene		No Data	µg/L	No Data	No Data	0	<0	18	0	--
3,3'-Dichlorobenzidine		No Data	µg/L	No Data	No Data	0	<0	0.0081	0	--
1,2-Dichloroethane		No Data	µg/L	No Data	No Data	0	<0	28	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
1,1-Dichloroethylene		No Data	µg/L	No Data	No Data	0	<0	0.9	0	--
Dichlorobromomethane		No Data	µg/L	No Data	No Data	0	<0	6.2	0	--
Dichloromethane						0	<0	450	0	--
Methylene chloride		No Data	µg/L	No Data	No Data					
1,3-Dichloropropene		No Data	µg/L	No Data	No Data	0	<0	8.9	0	--
Dieldrin		No Data	µg/L	No Data	No Data	0	<0	0.00004	0	--
2,4-Dinitrotoluene		No Data	µg/L	No Data	No Data	0	<0	2.6	0	--
1,2-Diphenylhydrazine		No Data	µg/L	No Data	No Data	0	<0	0.16	0	--
Halomethanes						0	<0	130	0	--
Bromoform		No Data	µg/L	No Data	No Data					
Methyl Bromide		No Data	µg/L	No Data	No Data					
Heptachlor		No Data	µg/L	No Data	No Data	0	<0	0.00005	0	--
Heptachlor epoxide		No Data	µg/L	No Data	No Data	0	<0	0.00002	0	--
Hexachlorobenzene		No Data	µg/L	No Data	No Data	0	<0	0.00021	0	--
Hexachlorobutadiene		No Data	µg/L	No Data	No Data	0	<0	14	0	--
Hexachloroethane		No Data	µg/L	No Data	No Data	0	<0	2.5	0	--

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
Isophorone		No Data	µg/L	No Data	No Data	0	<0	730	0	--
N-Nitrosodimethylamine		No Data	µg/L	No Data	No Data	0	<0	7.3	0	--
N-Nitrosodi-N-Propylamine		No Data	µg/L	No Data	No Data	0	<0	0.38	0	--
N-Nitrosodiphenylamine		No Data	µg/L	No Data	No Data	0	<0	2.5	0	--
PAHs						9	0.0075	0.0088	0	1
Acenaphthylene	<	0.01	µg/L	<0.01	<0.01					
Anthracene	<	0.01	µg/L	<0.01	<0.01					
Benzo(a)anthracene	<	0.01	µg/L	<0.01	<0.01					
Benzo(a)pyrene	<	0.01	µg/L	<0.01	<0.01					
Benzo (b) fluoranthene	<	0.01	µg/L	<0.01	<0.01					
Benzo(k)fluoranthene		No Data	µg/L	No Data	No Data					
Chrysene	<	0.01	µg/L	<0.01	<0.01					
Dibenz (a,h) anthracene	<	0.01	µg/L	<0.01	<0.01					
Fluorene	<	0.01	µg/L	<0.01	<0.01					
Fluorene		0.0059	µg/L	0.0059	0.0059					
Indeno (1,2,3-cd) pyrene	<	0.01	µg/L	<0.01	<0.01					
Pyrene		0.0052	µg/L	0.0052	0.0052					
Phenanthrene		0.0075	µg/L	0.0075	0.0075					
PCBs						0	<0	0.000019	0	--
PCB-sum		No Data	µg/L	No Data	No Data					
TCDD Equivalents						0	<0	3.9E-09	0	--
TCDD-TEQ		No Data	µg/L	No Data	No Data					

Pollutant	Qualifier	Value	Unit	Result	Result 2	No. ND	MEC	Co	B	Endpoint
1,1,2,2-Tetrachloroethane		No Data	µg/L	No Data	No Data	0	<0	2.3	0	--
Tetrachloroethylene		No Data	µg/L	No Data	No Data	0	<0	2	0	--
Toxaphene		No Data	µg/L	No Data	No Data	0	<0	0.00021	0	--
Trichloroethylene		No Data	µg/L	No Data	No Data	0	<0	2.70E+01	0	--
1,1,2-Trichloroethane		No Data	µg/L	No Data	No Data	0	<0	9.40E+00	0	--
2,4,6-Trichlorophenol		No Data	µg/L	No Data	No Data	0	<0	0.29	0	--
Vinyl Chloride		No Data	µg/L	No Data	No Data	0	<0	36	0	--