
San Francisco Bay Regional Water Quality Control Board

Sent Via Email
Receipt Confirmation Requested

February 6, 2014

To: Discharger List

Subject: Tentative Order for Municipal Wastewater Discharges of Nutrients to San Francisco Bay, NPDES Permit

Attached is a copy of a Tentative Order that would issue Waste Discharge Requirements for Municipal Wastewater Discharges of Nutrients to San Francisco Bay. The Regional Water Board intends to consider this permit issuance during a meeting that will commence at the time and place indicated below:

DATE/TIME: April 9, 2014, 9:00 a.m.
PLACE: First Floor Auditorium, Elihu Harris State Building,
1515 Clay Street, Oakland

A Notice of Public Hearing is also attached. If you have any comments, please submit them in writing **no later than 5:00 p.m. on March 10, 2014, to the attention of Robert Schlipf**. We will not consider or include comments received after this date when preparing the package for the Regional Water Board's consideration. We will post our response to comments on our website one week prior to the hearing.

If you have any questions regarding this letter, please contact Robert Schlipf at (510) 622-2478 or email him at robert.schlipf@waterboards.ca.gov.

Sincerely,

Lila Tang
Chief, NPDES Wastewater Division

Attachment:
Notice of Public Hearing
Tentative Order

Copy (sent via email):

Robyn Stuber, U.S. EPA, Region 9, stuber.robyn@epa.gov
Jason Flanders, San Francisco Baykeeper, jason@baykeeper.org
Lynda Smith, Metropolitan Water District of Southern California, lsmith@mwdh2o.com
David Williams, Executive Director, BACWA, dwilliams@bacwa.org

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400, Oakland, CA 94612
(510) 622-2300

**NOTICE OF PUBLIC HEARING
FOR
ISSUANCE OF PERMIT ON NUTRIENTS IN
DISCHARGES FROM MUNICIPAL WASTEWATER TREATMENT FACILITIES
IN SAN FRANCISCO BAY**

Water Board staff has prepared a tentative permit covering nutrients in the discharges of all sewage treatment facilities that discharge to San Francisco Bay. The Water Board intends to consider adopting the tentative permit during a meeting to commence at 9:00 a.m., on April 9, 2014, in the First Floor Auditorium, Elihu Harris State Building, 1515 Clay Street, Oakland.

Persons wishing to file written comments on or objections to the tentative permit or other aspects of this matter must do so no later than 5:00 p.m. on March 10, 2014, so that such comments may be considered. No written comments will be accepted or responded to in writing after that date.

Interested persons are invited to attend and express their views at the public hearing on this matter. The Water Board will hear oral testimony, but will not accept written comments after the deadline noted above.

Pursuant to section 2050(c) of Title 23 of the California Code of Regulations, any party that challenges the Water Board's action on this matter through a petition to the State Water Resources Control Board under Water Code section 13320 will be limited to raising only those substantive issues or objections that were raised before the Water Board at the public hearing or in timely submitted written correspondence delivered to the Water Board.

The tentative permit, fact sheet, comments received, and related documents may be inspected and copied at the Water Board office. The tentative permit, fact sheet, and any additional information and developments on this matter are also available at www.waterboards.ca.gov/sanfranciscobay. A response to comments will be posted on that website one week prior to the hearing. Contact Robert Schlipf at (510) 622-2478, or by e-mail at robert.schlipf@waterboards.ca.gov, if you have any questions on this matter.

January 30, 2014

San Francisco Bay Regional Water Quality Control Board

**TENTATIVE ORDER No. R2-2014-XXXX
NPDES No. CA00XXXXX**

**WASTE DISCHARGE REQUIREMENTS FOR NUTRIENTS FROM
MUNICIPAL WASTEWATER DISCHARGES TO SAN FRANCISCO BAY**

The following dischargers are subject to waste discharge requirements (WDRs) set forth in this Order, for the purpose of regulating nutrient discharges to San Francisco Bay and its contiguous bay segments:

Table 1. Discharger Information

Discharger	Facility Name	Facility Address	Minor/ Major
American Canyon, City of	Wastewater Treatment and Reclamation Facility	151 Mezzetta Court American Canyon, CA 94503 Napa County	Major
Benicia, City of	Benicia Wastewater Treatment Plant	614 East Fifth Street Benicia, CA 94510 Solano County	Major
Burlingame, City of	Burlingame Wastewater Treatment Plant	1103 Airport Boulevard Burlingame, CA 94010 San Mateo County	Major
Central Contra Costa Sanitary District	Central Contra Costa Sanitary District Wastewater Treatment Plant	5019 Imhoff Place Martinez, CA 94553 Contra Costa County	Major
Central Marin Sanitation Agency	Central Marin Sanitation Agency Wastewater Treatment Plant	1301 Andersen Drive San Rafael, CA 94901 Marin County	Major
Crockett Community Services District	Port Costa Wastewater Treatment Plant	End of Canyon Lake Drive Port Costa, CA 94569 Contra Costa County	Minor
Delta Diablo Sanitation District	Wastewater Treatment Plant	2500 Pittsburg-Antioch Highway Antioch, CA 94509 Contra Costa County	Major
East Bay Dischargers Authority (EBDA), City of Hayward, City of San Leandro, Oro Loma Sanitary District, Castro Valley Sanitary District, Union Sanitary District, Livermore-Amador Valley Water Management Agency, Dublin San Ramon Services District, and City of Livermore	EBDA Common Outfall	EBDA Common Outfall 14150 Monarch Bay Drive San Leandro, CA 94577 Alameda County	Major
	Hayward Water Pollution Control Facility		
	San Leandro Water Pollution Control Plant		
	Oro Loma/Castro Valley Sanitary Districts Water Pollution Control Plant		
	Raymond A. Boege Alvarado Wastewater Treatment Plant		
	Livermore-Amador Valley Water Management Agency Export and Storage Facilities		

Discharger	Facility Name	Facility Address	Minor/ Major
	Dublin San Ramon Services District Wastewater Treatment Plant		
	City of Livermore Water Reclamation Plant		
East Bay Municipal Utility District	East Bay Municipal Utility District, Special District No. 1 Wastewater Treatment Plant	2020 Wake Avenue Oakland, CA 94607 Alameda County	Major
Fairfield-Suisun Sewer District	Fairfield-Suisun Wastewater Treatment Plant	1010 Chadbourne Road Fairfield, CA 94534 Solano County	Major
Las Gallinas Valley Sanitary District	Las Gallinas Valley Sanitary District Sewage Treatment Plant	300 Smith Ranch Road San Rafael, CA 94903 Marin County	Major
Marin County (Paradise Cove), Sanitary District No. 5 of	Paradise Cove Treatment Plant	3700 Paradise Drive Tiburon, CA 94920 Marin County	Minor
Marin County (Tiburon), Sanitary District No. 5 of	Wastewater Treatment Plant	2001 Paradise Drive Tiburon, CA 94920 Marin County	Major
Millbrae, City of	Water Pollution Control Plant	400 East Millbrae Avenue Millbrae, CA 94030 San Mateo County	Major
Mt. View Sanitary District	Mt. View Sanitary District Wastewater Treatment Plant	3800 Arthur Road Martinez, CA 94553 Contra Costa County	Major
Napa Sanitation District	Soscol Water Recycling Facility	1515 Soscol Ferry Road Napa, CA 94558 Napa County	Major
Novato Sanitary District	Novato Sanitary District Wastewater Treatment Plant	500 Davidson Street Novato, CA 94945 Marin County	Major
Palo Alto, City of	Palo Alto Regional Water Quality Control Plant	2501 Embarcadero Way Palo Alto, CA 94303 Santa Clara County	Major
Petaluma, City of	Municipal Wastewater Treatment Plant	950 Hopper Street Petaluma, CA 94952 Sonoma County	Major
Pinole, City of	Pinole-Hercules Water Pollution Control Plant	11 Tennent Avenue Pinole, CA, 94564 Contra Costa County	Major
Rodeo Sanitary District	Rodeo Sanitary District Water Pollution Control Facility	800 San Pablo Avenue Rodeo, CA 94572 Contra Costa County	Major
San Francisco (San Francisco International Airport), City and County of	Mel Leong Treatment Plant, Sanitary Plant	918 Clearwater Drive San Francisco International Airport San Francisco, CA 94128 San Mateo County	Major
San Francisco (Southeast Plant), City and County of	Southeast Water Pollution Control Plant	750 Phelps Street San Francisco, CA 94124 San Francisco County	Major

Discharger	Facility Name	Facility Address	Minor/ Major
San Jose/Santa Clara Water Pollution Control Plant and Cities of San Jose and Santa Clara	San Jose/Santa Clara Water Pollution Control Plant	4245 Zanker Road San Jose, CA 95134 Santa Clara County	Major
San Mateo, City of	City of San Mateo Wastewater Treatment Plant	2050 Detroit Drive San Mateo, CA 94404 San Mateo County	Major
Sausalito-Marín City Sanitary District	Sausalito-Marín City Sanitary District Wastewater Treatment Plant	#1 Fort Baker Road Sausalito, CA 94965 Marín County	Major
Sewerage Agency of Southern Marin	Wastewater Treatment Plant	450 Sycamore Avenue Mill Valley, CA 94941 Marín County	Major
Sonoma Valley County Sanitary District	Municipal Wastewater Treatment Plant	22675 8th Street East Sonoma, CA 95476 Sonoma County	Major
South Bayside System Authority	South Bayside System Authority Wastewater Treatment Plant	1400 Radio Road Redwood City, CA 94065 San Mateo County	Major
South San Francisco and San Bruno, Cities of	South San Francisco and San Bruno Water Quality Control Plant	195 Belle Air Road South San Francisco, CA 94080 San Mateo County	Major
Sunnyvale, City of	Sunnyvale Water Pollution Control Plant	1444 Borregas Avenue, Sunnyvale, CA 94089 Santa Clara County	Major
U.S. Department of Navy (Treasure Island)	Wastewater Treatment Plant	681 Avenue M, Treasure island San Francisco, CA 94130-1807 San Francisco County	Major
Vallejo Sanitation and Flood Control District	Vallejo Sanitation and Flood Control District Wastewater Treatment Plant	450 Ryder Street Vallejo, CA 94590 Solano County	Major
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	West County Agency Combined Outfall	601 Canal Blvd. Richmond, CA 94804 Contra Costa County	Major

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
Discharge locations are specified in individual NPDES permits listed in Attachment B.				

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	Date
This Order shall become effective on:	July 1, 2014
This Order shall expire on:	June 30, 2019

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

Bruce H. Wolfe, Executive Officer

Contents

I.	Facility Information	2
II.	Findings	2
III.	Discharge Prohibitions.....	3
IV.	Discharge Specifications	3
V.	Receiving Water Limitations	3
VI.	Provisions	3
	A. Federal and Regional Standard Provisions	3
	B. Monitoring and Reporting Program Requirements	3
	C. Special Provisions.....	3
	1. Evaluation of Potential Nutrient Discharge Reduction by Treatment Optimization and Sidestream Treatment	3
	2. Evaluation of Potential Nutrient Discharge Reduction by Treatment Upgrades or Other Means	4
	3. Monitoring, Modeling, and Embayment Studies.....	6
	4. Reopener Provisions.....	7

Tables

Table 1.	Discharger Information	i
Table 2.	Discharge Locations	iv
Table 3.	Administrative Information	iv

Attachments

Attachment A – Not used	
Attachment B – Individual Order and NPDES Permit Numbers.....	B-1
Attachment C – Discharger Location Map	C-1
Attachment D – Federal Standard Provisions (not included, see individual permits)	
Attachment E – Monitoring and Reporting Program (MRP)	E-1
Attachment F – Fact Sheet.....	F-1
Attachment G – Regional Standard Provisions (not included, see individual permits)	

I. FACILITY INFORMATION

Information describing the facilities subject to this Order is summarized in Table 1 and in Fact Sheet (Attachment F) sections I and II.

II. FINDINGS

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

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the Dischargers' facilities to surface waters.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information the Dischargers submitted, information obtained through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for the requirements in this Order and is hereby incorporated into and constitutes findings for this Order. Attachments B, C, and E are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** No provisions or requirements in this Order are included to implement State law only.
- D. Notification of Interested Parties.** The Regional Water Board notified the Dischargers and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharges. The Fact Sheet provides details regarding the public hearing.

THREFORE, IT IS HEREBY ORDERED that, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Dischargers shall comply with the requirements in this Order. This Order supersedes nutrient-related requirements in the individual NPDES permits listed in Attachment B, with the exception of effluent limitations for ammonia as well as special studies the Central Contra Costa Sanitary District is to conduct pursuant to Order No. R2-2012-0016 (Provision C.5c).

III. DISCHARGE PROHIBITIONS

This Order does not establish additional discharge prohibitions.

IV. DISCHARGE SPECIFICATIONS

This Order does not establish additional discharge specifications.

V. RECEIVING WATER LIMITATIONS

This Order continues receiving water limitations that are applicable to nutrients that are specified in the individual NPDES permits listed in Attachment B.

VI. PROVISIONS

A. Federal and Regional Standard Provisions

Federal and Regional Standard Provisions are specified in Attachments D and G in, and as modified by, each Discharger's individual NPDES Permits (see Attachment B).

B. Monitoring and Reporting Program Requirements

Dischargers shall comply with the Monitoring and Reporting Program (MRP), and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Evaluation of Potential Nutrient Discharge Reduction by Treatment Optimization and Sidestream Treatment

The major Dischargers listed in Table 1 shall, individually or in collaboration with other Dischargers, evaluate options and costs for nutrient discharge reduction by optimization of current treatment works. The evaluation shall include the following:

- Describe the treatment plant, treatment plant process, and service area;
- Evaluate site-specific alternatives to reduce nutrient discharges through methods such as operational adjustments to existing treatment systems, process changes, or minor upgrades;
- Evaluate side-stream treatment opportunities;
- Describe where optimization, minor upgrades, and sidestream treatment have already been implemented;
- Evaluate beneficial and adverse ancillary impacts associated with each optimization proposal, such as changes in the treatment plant's energy usage, greenhouse gas emissions, or sludge and biosolids treatment or disposal;
- Identify planning level costs of each option evaluated; and
- Evaluate the impact on nutrient loads due to treatment plant optimization implemented in response to other regulations or requirements.

Dischargers that have recently completed optimization evaluations may use previously completed reports.

a. Submit and Implement Scoping and Evaluation Plans

By December 1, 2014, the major Dischargers listed in Table 1 shall, individually or in collaboration with other Dischargers, submit a Scoping Plan that defines the level of work for the proposed optimization evaluation. The Scoping Plan shall be acceptable to the Executive Officer.

By July 1, 2015, the major Dischargers listed in Table 1 shall, individually or in collaboration with other Dischargers, submit an Evaluation Plan that includes a schedule describing how they will conduct the evaluation of potential nutrient discharge reduction by treatment optimization. The Evaluation Plan shall include sampling, as necessary, to support proposed optimization studies. The Evaluation Plan shall be acceptable to the Executive Officer.

The Dischargers shall proceed with implementation of the Evaluation Plan within 45 days of submittal.

b. Submit Status Report

By July 1, 2016, and subsequently by July 1, 2017, major Dischargers listed in Table 1 shall submit, or cause to be submitted, a report describing the tasks completed, preliminary findings, and tasks to be completed, highlighting any adaptive changes to be made to the Evaluation Plan submitted in accordance with task a, above.

c. Submit Final Report

By July 1, 2018, the major Dischargers listed in Table 1 shall submit, or cause to be submitted, the results of their evaluations with planning level cost estimates for each optimization option studied.

2. Evaluation of Potential Nutrient Discharge Reduction by Treatment Upgrades or Other Means

The major Dischargers listed in Table 1 shall, individually or in collaboration with other Dischargers, conduct an evaluation to identify options and costs for potential treatment upgrades for nutrient removal.

The evaluation shall be conducted for each Discharger's treatment works or categories of like treatment works (e.g., high purity oxygen plants, conventional activated sludge plants, plants without anaerobic digestion). The evaluation must estimate nutrient reductions from treatment upgrades, and, at a minimum, shall entail the following:

- Describe the treatment plant, treatment plant process, and service area;
- Identify potential upgrade technologies for each treatment plant category along with associated nitrogen and phosphorous removal levels;

- Identify site-specific constraints or circumstances that may cause implementation challenges or eliminate any specific technologies from consideration;
- Include planning level capital and operating cost estimates associated with the upgrades and for different levels of nutrient reduction, applying correction factors associated with site-specific challenges and constraints;
- Describe where Dischargers have already upgraded existing treatment systems or implemented pilot studies for nutrient removal. Document the level of nutrient removal the upgrade or pilot study is achieving for total nitrogen and phosphorus;
- Evaluate the impact on nutrient loads due to treatment plant upgrades implemented in response to other regulations and requirements; and
- Evaluate beneficial and adverse ancillary impacts associated with each upgrade, such as changes in the treatment plant's energy use, changes in greenhouse gas emissions, sludge and biosolids treatment or disposal, and reduction of other pollutants (e.g., pharmaceuticals) through advanced treatment.

Dischargers that have recently completed upgrade evaluations may use previously completed reports.

Dischargers who have planned or are implementing facility upgrades or modifications to address the impacts of sea level rise and climate change alone, or as part of infrastructure renewal, shall also include in its nutrient removal evaluation consideration of the impacts of sea level rise and climate change on identified nutrient upgrade options.

In addition to the above upgrade evaluation, Dischargers may evaluate ways to reduce nutrient loading through alternative discharge scenarios, such as water recycling or use of wetlands, in combination with, or in-lieu of the upgrades to achieve similar levels of nutrient load reductions. This evaluation shall include ancillary benefits and adverse impacts associated with such alternative discharge scenarios such as the following:

- Reduction in potable water use through enhanced reclamation;
- Creation of additional wetland or upland habitat;
- Changes in energy use, greenhouse gas emissions, sludge and biosolids quality and quantities;
- Reduction of other pollutant discharges;
- Impacts to existing permit requirements related to alternative discharge scenarios; and
- Implications related to discharge of brine or other side streams associated with advanced recycling technologies.

a. Submit and Implement Scoping and Evaluation Plans

By December 1, 2014, the major Dischargers listed in Table 1 shall, individually or in collaboration with other Dischargers, submit a Scoping Plan that defines the

level of work for the proposed upgrade evaluation. The Scoping Plan shall be acceptable to the Executive Officer.

By July 1, 2015, the major Dischargers listed in Table 1 shall, individually or in collaboration with other Dischargers, submit an Evaluation Plan and schedule describing how they will conduct the evaluation of potential nutrient discharge reduction by treatment upgrades or other means. The Evaluation Plan shall define the treatment works categories that will be evaluated to support potential upgrades and alternative discharge scenarios. The Evaluation Plan shall be acceptable to the Executive Officer.

The Dischargers shall proceed with implementation of the Evaluation Plan within 45 days of submittal.

b. Submit Status Report

By July 1, 2016, and subsequently by July 1, 2017, major Dischargers listed in Table 1 shall submit, or cause to be submitted, a report describing the tasks completed, preliminary findings, and tasks to be completed, highlighting any adaptive changes to be made to the Evaluation Plan submitted in accordance with task a, above.

c. Submit Final Report

By July 1, 2018, major Dischargers listed in Table 1 shall submit, or cause to be submitted, the results of their evaluations with planning level cost estimates for each upgrade option studied.

3. Monitoring, Modeling, and Embayment Studies

Each Discharger shall conduct, or cause to be conducted, studies to address the potential adverse impacts of nutrients on San Francisco Bay beneficial uses. The studies shall include efforts described below.

a. Support Science Plan Development and Implementation

The Dischargers shall collaborate with other regional stakeholders to support development and implementation of a science plan of necessary studies to implement the San Francisco Bay Nutrient Management Strategy and support consideration of future management actions, including the development of nutrient water quality objectives, both informed through modeling. The science plan shall include studies necessary for San Francisco Bay as a whole and also on issues identified for specific subembayments.

By February 1, 2015, the Dischargers shall cause to be submitted an implementation plan and schedule for proposed studies acceptable to the Executive Officer and update and revise it as necessary annually by February 1 of each subsequent year.

b. Support Receiving Water Monitoring for Nutrients

The Dischargers shall collaborate with other regional stakeholders to support receiving water monitoring for nutrients, as necessary, that go beyond the monitoring already provided by the Regional Monitoring Program and others, by providing the following:

- i. A network of nutrient monitoring stations to track nutrient concentrations, dissolved oxygen, and phytoplankton biomass in San Francisco Bay;
- ii. Adequate data to support modeling of nutrient fate and transport in San Francisco Bay; and
- iii. Studies furthering the understanding of harmful algae bloom development, including, at a minimum, monitoring for algae species and toxins.

4. Reopener Provisions

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

- a. If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to, or will cease to have, adverse impacts on water quality or beneficial uses of the receiving waters;
- b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay and contiguous water bodies (whether statewide, regional, or site-specific);
- c. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted;
- d. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to those in this Order; or
- f. As otherwise authorized by law.

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

ATTACHMENT B – INDIVIDUAL ORDER AND NPDES PERMIT NUMBERS

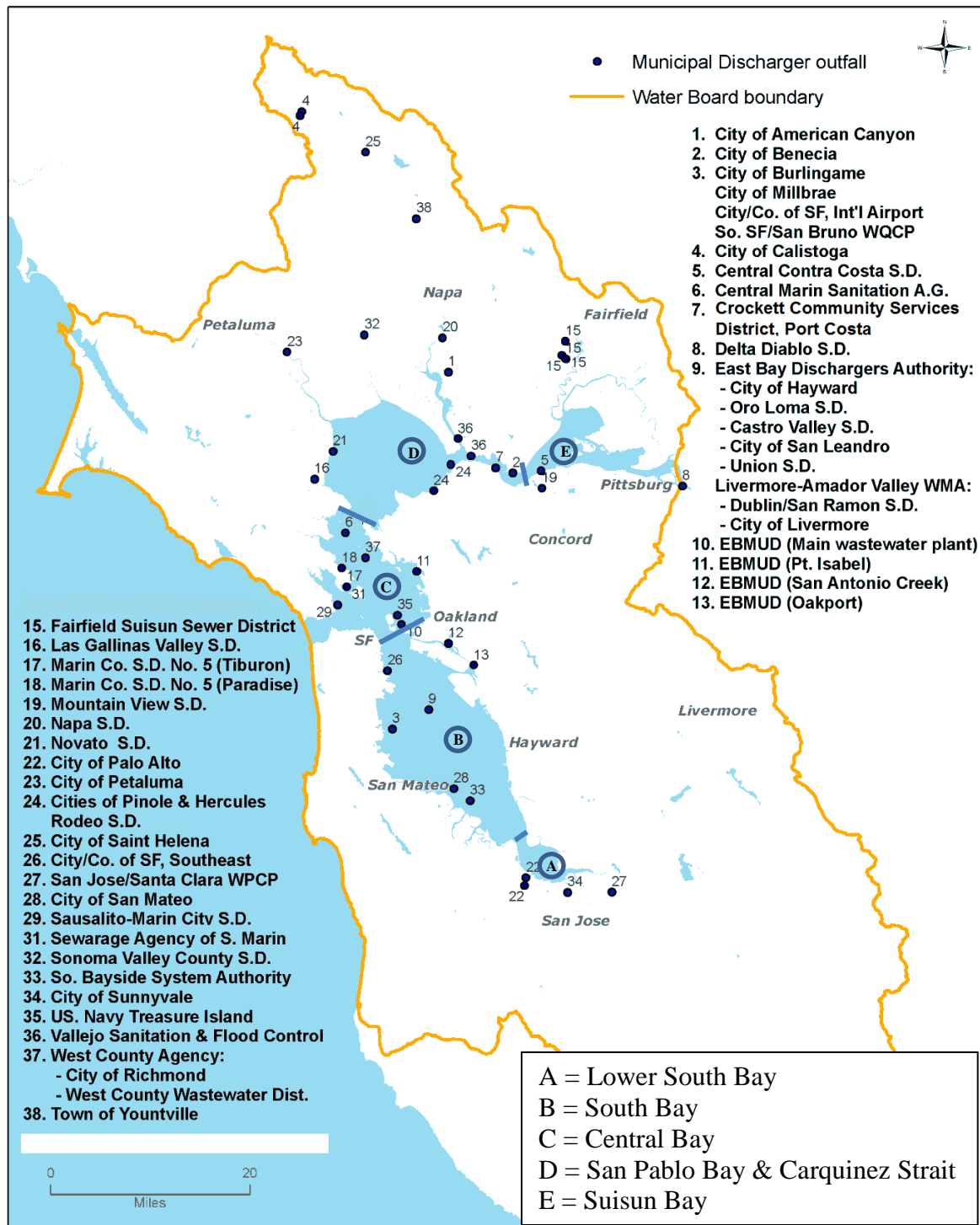
Municipal Dischargers:

Discharger	NPDES Permit No.	Existing Order No. ¹	Existing Order Adoption Date	Existing Order Expiration Date
American Canyon, City of	CA0038768	R2-2011-0046	7/13/11	8/31/16
Benicia, City of	CA0038091	R2-2008-0014	3/12/08	5/30/13
Burlingame, City of	CA0037788	R2-2013-0015	5/08/13	6/30/18
Central Contra Costa Sanitary District	CA0037648	R2-2012-0016	2/08/12	3/31/17
Central Marin Sanitation Agency	CA0038628	R2-2012-0051	6/13/12	7/31/17
Crockett Community Services District, Port Costa Sanitary Dept.	CA0037885	R2-2013-0035	10/09/13	11/30/18
Delta Diablo Sanitation District	CA0038547	R2-2009-0018	3/11/09	4/30/14
East Bay Dischargers Authority	CA0037869	R2-2012-0004	1/18/12	2/28/17
Union S.D. Wet Weather Outfall	CA0038733	R2-2010-0097	7/14/10	8/31/15
Dublin San Ramon Services District	CA0037613	R2-2012-0005	1/18/12	2/28/17
City of Livermore	CA0038008	R2-2012-0006	1/18/12	2/28/17
LAVWMA Wet Weather Outfall	CA0038679	R2-2011-0028	5/11/11	6/30/16
East Bay Municipal Utility Dist. WWTP	CA0037702	R2-2010-0060	3/10/10	4/30/15
Fairfield-Suisun Sewer District	CA0038024	R2-2009-0039	4/08/09	5/31/14
Las Gallinas Valley Sanitary District	CA0037851	R2-2009-0070	10/14/09	11/30/14
Marin County (Paradise Cove), Sanitary District No. 5 of	CA0037427	R2-2011-0016	4/13/11	5/31/16
Marin County (Tiburon), Sanitary District No. 5 of	CA0037753	R2-2013-0027	8/14/13	9/30/18
Millbrae, City of	CA0037532	R2-2013-0037	12/11/13	1/31/19
Mt. View Sanitary District	CA0037770	R2-2010-0114	11/10/10	12/31/15
Napa Sanitation District	CA0037575	R2-2011-0007	2/09/11	3/31/16
Novato Sanitary District	CA0037958	R2-2010-0074	5/12/10	6/30/15
Palo Alto, City of	CA0037834	R2-2009-0032	4/08/09	5/31/14
Petaluma, City of	CA0037810	R2-2011-0003	1/12/11	2/28/16
Pinole, City of	CA0037796	R2-2012-0059	8/08/12	9/30/17
Rodeo Sanitary District	CA0037826	R2-2012-0027	4/11/12	5/31/17
San Francisco, City and County of, San Francisco International Airport	CA0038318	R2-2013-0011	5/08/13	6/30/18
San Francisco (Southeast Plant), City and County of	CA0037664	R2-2013-0029	8/14/13	9/30/18
San Jose/Santa Clara Water Pollution Control Plant and Cities of San Jose and Santa Clara	CA0037842	R2-2009-0038	4/08/09	5/31/14
San Mateo, City of	CA0037541	R2-2013-0006	3/13/13	4/30/18
Sausalito-Marín City Sanitary District	CA0038067	R2-2012-0083	11/14/12	12/31/17
Sewerage Agency of Southern Marin	CA0037711	R2-2012-0094	12/12/12	1/31/18
Sonoma Valley County Sanitary District	CA0037800	R2-2008-0090	10/08/08	11/30/13
South Bayside System Authority	CA0038369	R2-2012-0062	8/08/12	9/30/17
South San Francisco and San Bruno, Cities of	CA0038130	R2-2008-0094	11/12/08	12/31/13
Sunnyvale, City of	CA0037621	R2-2009-0061	8/12/09	9/30/14
US Department of Navy, Treasure Island	CA0110116	R2-2010-0001	1/13/10	2/28/15
Vallejo Sanitation and Flood Control District	CA0037699	R2-2012-0017	2/08/12	3/31/17
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	CA0038539	R2-2013-0016	5/08/13	6/30/18

¹ The orders shown are for the primary permit reissuance and do not include permit amendments.

ATTACHMENT C – DISCHARGER LOCATION MAP

Municipal Discharger outfall locations



ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Contents

I.	General Monitoring Provisions.....	2
II.	Monitoring Locations	2
III.	Effluent Monitoring Requirements	2
IV.	Reporting Requirements.....	3
	A. General Monitoring and Reporting Requirements	3
	B. Individual Reporting in Self-Monitoring Reports (SMRs)	3
	C. Discharge Monitoring Reports (DMRs).....	5

Tables

Table E-1.	Monitoring Station Locations	2
Table E-2.	Effluent Monitoring Requirements	2
Table E-3.	Minimum Sampling Frequency	3
Table E-4.	Monitoring Periods	4

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorizes the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. Dischargers shall comply with this MRP and all requirements contained in the Regional Standard Provisions (Attachment G of individual permits). The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the Regional Standard Provisions, this MRP shall prevail.
- B. Sampling is required during the entire year when discharging. The Discharger shall conduct all monitoring in accordance with the Federal Standard Provisions (Attachment D of individual permits), as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.

II. MONITORING LOCATIONS

Dischargers shall establish the following monitoring locations to characterize loads and comply with other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Description
Effluent sampling shall be at the compliance monitoring location for ammonia specified in the Discharger's NPDES permit. For San Francisco (Southeast Plant) this shall be E-001.	Monitoring locations are described in individual NPDES permits.

III. EFFLUENT MONITORING REQUIREMENTS

Dischargers shall monitor effluent for nutrients as shown in Tables E-2 and E-3 below and report as described in the next section:

Table E-2. Effluent Monitoring Requirements

Parameter	Units	Sample Type ⁽¹⁾
Ammonia	mg/L and kg/day as N	C-24
Total Kjeldahl Nitrogen	mg/L and kg/day as N	C-24
Nitrate-Nitrite	mg/L and kg/day as N	C-24
Total Phosphorus	mg/L and kg/day as P	C-24
Soluble Reactive Phosphorus	mg/L and kg/day as P	C-24
Total Nitrogen	mg/L and kg/day as N	Calculated

Unit Abbreviations:

mg/L = milligrams per liter
kg/day as N = kilograms per day as nitrogen
kg/day as P = kilograms per day as phosphorus

Sample Type:

C-24 = 24-hour composite sample

Footnote:

- (1) 24-hour composite samples (C-24) may be made up of a minimum of four discrete grab samples, collected over the course of 24 hours, and volumetrically or mathematically flow-weighted. During a 24-hour period, the samples may be collected only when the plant is staffed, if necessary.

Table E-3. Minimum Sampling Frequency

Discharger Type	Minimum Sampling Frequency ^(1,2,3)
Major municipal discharger (Flow \geq 10 mgd)	Twice per month
Major municipal discharger (Flow < 10 mgd)	Once per month
Minor municipal discharger (Flow < 1 mgd)	Twice per year

Footnotes:

- (1) Samples need only be collected when discharging (i.e., seasonal dischargers shall collect samples only during the discharge season).
- (2) After two years of data collection, the Discharger may reduce or eliminate the frequency for parameters specified in Table E.2 if it has collected adequate data for modeling and load characterization. The Discharger must request and then obtain written approval from the Executive Officer prior to monitoring reduction.
- (3) For municipal wastewater treatment plants that discharge via the EBDA outfall, individual treatment plant monitoring shall occur twice per year.

IV. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

Dischargers shall comply with all Federal Standard Provisions (Attachment D) and Regional Standard Provisions (Attachment G) related to monitoring, reporting, and recordkeeping, as modified in individual permits.

B. Individual Reporting in Self-Monitoring Reports (SMRs)

1. Reporting of Nutrients Data

a. Routine SMRs

Dischargers shall submit nutrients data collected as part of this Order in the regular monthly or quarterly SMRs required in each Discharger's individual permit. If a Discharger monitors nutrients more frequently than required by this Order at the monitoring location described in Table E-1, the Discharger shall include the results of this monitoring in the calculations and reporting for the SMR.

b. Annual Nutrients Report

Starting in 2015, by September 1 of each year, each Discharger shall provide its nutrient information in a separate annual report or state that it is participating in a group report that will be submitted by the Bay Area Clean Water Agencies (BACWA) under section B.1c below. Each Discharger shall submit the following:

- i. Documentation that it is complying with Provision C.3. Or if group annual reporting pursuant to B.1.c, below, then certification that each Discharger

has provided adequate support or contributed its portion of the required contribution under Provision C.3.

- ii. Summary tables depicting the Discharger's annual and monthly flows, nutrient concentrations, and nutrient mass loads, calculated as described in Section VIII.1 Arithmetic Calculations of Standard Provisions (Attachment G of individual permits) covering July 1 through June 30 of the preceding year. Each individual Discharger shall document its nutrient loads relative to other facilities covered by this Order that discharge to the same subembayment, i.e, Suisun Bay, San Pablo Bay, Central Bay, South Bay, and Lower South Bay. Nutrient information from other Dischargers may be obtained from the State Water Board's California Integrated Water Quality System (CIWQS) Program website (<http://www.waterboards.ca.gov/ciwqs/index.html>).
- iii. An analysis of nutrient trends, load variability, and an assessment as to whether or not nutrient mass discharges are increasing or decreasing.
- iv. If trend analysis shows a significant change in load, the Discharger shall investigate the cause, and shall report its results, or status, or plans for investigation, in the annual report, or in subsequent annual reports. This investigation shall include, at a minimum, whether treatment process changes have reduced or increased nutrient discharges, changes in nutrient loads related to water reclamation (increasing or decreasing), and changes in total influent flow related to water conservation, population growth, transient work community, new industry, and/or changes in wet weather flows.

c. Optional Group Report for Annual Nutrients Report

As an alternative to submitting an individual Annual Nutrients Report, each Discharger may instead be part of a group report provided by BACWA. Starting 2015, by October 1 of each year, the Annual Group Nutrients Report shall include the information detailed in B.1b above.

2. Monitoring Periods

Monitoring periods for all required monitoring shall be completed according to the following schedule:

Table E-4. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Monthly	First day of calendar month following permit effective date or on permit effective date if on first day of month	First day of calendar month through last day of calendar month
Quarterly	Closest January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31

Twice per year	Closest May 1 or November 1 following (or on) permit effective date	November 1 through April 30 May 1 through October 31
Annually	As specified in EO concurrence describe in section III.	January 1 through December 31

C. Discharge Monitoring Reports (DMRs)

1. At any time during the term of this Order, the State Water Board or Regional Water Board may notify the Discharger to electronically submit DMRs. Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. Once notified by the State Water Board or Regional Water Board, the Discharger shall submit hard copy DMRs. The Discharger shall sign and certify DMRs as Attachment D requires. The Discharger shall submit original DMRs to one of the addresses listed below:

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official U.S. EPA pre-printed DMR forms (EPA Form 3320-1) or self-generated forms that follow the exact same format of EPA Form 3320-1.

ATTACHMENT F – FACT SHEET

Contents

I.	Permit Information	2
II.	Facilities Description.....	9
	A. Description of Wastewater Treatment	9
	B. Discharge Points and Receiving Waters	9
	C. Existing Nutrient Discharge Data	9
III.	Applicable Plans, Policies, and Regulations.....	10
	A. Legal Authorities	11
	B. California Environmental Quality Act (CEQA)	11
	C. State and Federal Regulations, Policies, and Plans.....	11
	D. Impaired Waters on CWA 303(d) List.....	12
IV.	Rationale for Discharge Prohibitions and Specifications	12
	A. Anti-backsliding	13
	B. Antidegradation	13
	C. Stringency of Requirements for Individual Pollutants	14
V.	Rationale for Receiving Water Limits.....	14
VI.	Rationale for Provisions.....	14
	A. Standard Provisions	14
	B. Monitoring and Reporting Program	14
	C. Special Provisions.....	14
VII.	Rationale for Monitoring and Reporting Program (MRP)	18
VIII.	Public Participation	18

ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following tables summarize administrative information related to the facility:

Table F-1. Facility Information

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Facility Design Flow (mgd)
American Canyon, City of	Peter Lee Wastewater Systems Manager (707) 647-4525	Same as Facility Address	Advanced Secondary	2.5
Benicia, City of	Jeff Gregory Wastewater Treatment Plant Superintendent (707) 746- 4790	Same as Facility Address	Secondary	4.5
Burlingame, City of	William Toci Plant Manager (650) 342-3727	501 Primrose Burlingame, CA 94010	Secondary	5.5
Central Contra Costa Sanitary District	Curt Swanson Director of Operations (925) 229-7336	Same as Facility Address	Secondary	53.8
Central Marin Sanitation Agency	Robert Cole Environmental Services Manager (415) 459-1455	Same as Facility Address	Secondary	10
Crockett Community Services District	Michael Kirker Port Costa Dept. Manager (510) 787-2992	Crockett Community Services District, Port Costa Sanitary Department P.O. Box 578 Crockett, CA 94525	Secondary	0.033
Delta Diablo Sanitation District	Gary W. Darling General Manager (925) 756-1920	Same as Facility Address	Secondary	16.5
East Bay Dischargers Authority: EBDA Common Outfall	Michael S. Connor General Manager (510) 278-5910	2651 Grant Avenue San Lorenzo, CA 94580	Secondary	107.8
Hayward Water Pollution Control Facility				
San Leandro Water Pollution Control Plant				
Oro Loma/Castro Valley Sanitary Districts Water Pollution Control Plant				
Raymond A. Boege Alvarado Wastewater Treatment Plant				

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Facility Design Flow (mgd)
Livermore-Amador Valley Water Management Agency (LAVWMA) Export and Storage Facilities				
Dublin San Ramon Services District Wastewater Treatment Plant				
City of Livermore Water Reclamation Plant				
East Bay Municipal Utility District Main Wastewater Treatment Plant	Kurt H. Haunschild Manager of Wastewater Treatment (510) 287-1407	P.O. Box 24055 Oakland, CA 94623-1055	Secondary	120
Fairfield-Suisun Sewer District	Greg Baatrup General Manager (707) 429-8930	Same as Facility Address	Advanced Secondary	23.7
Las Gallinas Valley Sanitary District	Mark Williams District Manager (415) 472-1734	300 Smith Ranch Rd San Rafael, CA 94903-1929	Secondary	2.92
Marin County (Paradise Cove), Sanitary District No. 5 of	Tony Rubio Chief Plant Operator (415) 435-1501	P.O. Box 227 Tiburon, CA 94920	Secondary	0.04
Marin County (Tiburon), Sanitary District No. 5 of	Tony Rubio Chief Plant Operator (415) 435-1501	2001 Paradise Drive Tiburon, CA 94920	Secondary	0.98
Millbrae, City of	Joseph Magner Superintendent (650) 259-2388	621 Magnolia Avenue Millbrae, CA 94030	Secondary	3
Mt. View Sanitary District	Michael D. Roe District Manager (925) 228-5635 ext. 32	P. O. Box 2757 Martinez, CA 94553	Advanced Secondary	3.2
Napa Sanitation District	Tim Healy General Manager (707) 258-6000	P.O. Box 2480 Napa, CA 94558	Secondary	15.4
Novato Sanitary District	Beverly James Manager-Engineer (415) 892-1694 x111	500 Davidson Street Novato, CA 94945	Secondary	5.4
Palo Alto, City of	Ken Torke Environmental Compliance Manager (650) 329-2243	2501 Embarcadero Way, Palo Alto, CA 94303	Advanced Secondary	39
Petaluma, City of	Matthew Pierce Operations Supervisor (707) 776-3777	202 N. McDowell Blvd. Petaluma, CA 94954	Secondary	5.2
Pinole, City of	Ron Tobey Plant Manager (510) 724-8963	2131 Pear Street, Pinole, CA 94564	Secondary	4.06
Rodeo Sanitary District	Steven S. Beall Engineer-Manager (510) 799-2970	Same as Facility Address	Secondary	1.14
San Francisco (San Francisco International Airport), City and County of	Mark Costanzo Utilities Manager (650) 821-7809	P.O. Box 8097 San Francisco, CA 94128	Secondary	2.2

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Facility Design Flow (mgd)
San Francisco (Southeast Plant), City and County of	Tommy Moala Assistant General Manager of Wastewater (415) 554-2465	1155 Market St., 11th Floor San Francisco, CA 94103	Secondary	150
San Jose/Santa Clara, Cities of	James Ervin Acting Environmental Compliance Officer (408) 945-5124	700 Los Esteros Road San Jose, CA 95134	Advanced Secondary	167
San Mateo, City of	Larry Patterson Director of Public Works (650) 522-7385	330 West 20 th Avenue San Mateo, CA 94403	Secondary	15.7
Sausalito-Marín City Sanitary District	Craig Justice General Manager (415) 332-0244	P.O. Box 39 Sausalito, CA 94966-0039	Secondary	1.8
Sewerage Agency of Southern Marin	Mark Grushayev General Manager (415) 388-2402	26 Corte Madera Ave. Mill Valley, CA 94941	Secondary	3.6
Sonoma Valley County Sanitary District	Pam Jeane Deputy Chief Engineer (707) 521-1864	Sonoma County Water Agency 404 Aviation Blvd. Santa Rosa, CA 95403	Secondary	3
South Bayside System Authority	Daniel Child Manager (650) 591-7121	Same as Facility Address	Secondary	29
South San Francisco and San Bruno, Cities of	Brian Schumacker Plant Superintendent (650) 877-8555	South San Francisco-San Bruno Water Pollution Control Plant 195 Belle Air Road South San Francisco, CA 94080	Secondary	13
Sunnyvale, City of	Melody Tovar Division Manager (408) 730-7808	Sunnyvale Water Pollution Control Plant P.O. Box 3707 Sunnyvale, CA 94088-3707	Advanced Secondary	29.5
U.S. Department of Navy (Treasure Island)	Patricia A. McFadden BRAC Field Team Leader San Francisco Bay Area (415) 743-4720	Navy BRAC PMOW 410 Palm Avenue, Bldg 1, Suite 161 Treasure Island, San Francisco, CA 94130-1807	Secondary	2
Vallejo Sanitation and Flood Control District	Melissa Morton District Manager (707) 644-8949 X211	Same as Facility Address	Secondary	15.5
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	E.J. Shalaby District Manager (510) 222-6700	2910 Hilltop Drive Richmond, CA 94806	Secondary	28.5

Table F-2. Additional Facility Information

Discharger	Authorized Person to Sign and Submit Reports	Billing Address (if different from mailing address)	Pretreatment Program	Receiving Water Type
American Canyon, City of	Same as Contact	Same as mailing address	Y	Estuarine
Benicia, City of	Same as Contact	Same as mailing address	Y	Estuarine
Burlingame, City of	Same as contact	Same as mailing address	Y	Marine
Central Contra Costa Sanitary District	Same as contact	Same as mailing address	Y	Estuarine
Central Marin Sanitation Agency	Same as contact	Same as mailing address	Y	Estuarine
Crockett Community Services District	Same as contact	Same as mailing address	N	Estuarine
Delta Diablo Sanitation District	Steve Dominguez Plant Manager (925) 756-1967	Same as mailing address	Y	Estuarine
East Bay Dischargers Authority	Same as contact	Same as mailing address	Y	Estuarine
Hayward Water Pollution Control Facility				
San Leandro Water Pollution Control Plant				
Oro Loma/Castro Valley Sanitary Districts Water Pollution Control Plant				
Raymond A. Boege Alvarado Wastewater Treatment Plant				
Livermore-Amador Valley Water Management Agency Export and Storage Facilities				
Dublin San Ramon Services District Wastewater Treatment Plant				
City of Livermore Water Reclamation Plant				
East Bay Municipal Utility District	Ben Horenstein Director of Wastewater (510) 287-1846	EBMUD Accounts Payable P.O. Box 24055, MS #5 Oakland, CA 94623-2306	Y	Marine
Fairfield-Suisun Sewer District	Same as contact	Same as mailing address	Y	Estuarine
Las Gallinas Valley Sanitary District	Same as contact	Same as mailing address	N	Estuarine
Marin County (Paradise Cove), Sanitary District No. 5 of	Same as contact	Same as mailing address	N	Marine
Marin County (Tiburon), Sanitary District No. 5 of	Same as contact	Same as mailing address	N	Marine
Millbrae, City of	Same as contact	Same as mailing address	N	Marine
Mt. View Sanitary District	Same as contact	Same as mailing address	N	Estuarine
Napa Sanitation District	James Keller Plant Manager (707) 258-6020	Same as mailing address	Y	Estuarine
Novato Sanitary District	Same as contact	Same as mailing address	Y	Estuarine

Discharger	Authorized Person to Sign and Submit Reports	Billing Address (if different from mailing address)	Pretreatment Program	Receiving Water Type
Palo Alto, City of	Same as contact	Same as mailing address	Y	Estuarine
Petaluma, City of	Same as contact	Same as mailing address	Y	Estuarine
Pinole, City of	Same as contact	Same as mailing address	N	Marine
Rodeo Sanitary District	Same as contact	Same as mailing address	N	Estuarine
San Francisco (San Francisco International Airport), City and County of	Peter Acton Deputy Airport Director (650) 821-5000	Same as mailing address	Y	Marine
San Francisco (Southeast Plant), City and County of	George Engel Superintendent (415) 920-4944	Same as mailing address	Y	Marine
San Jose/Santa Clara Water Pollution Control Plant and Cities of San Jose and Santa Clara	Joanna De Sa Acting Deputy Director (408) 535-8560	Same as mailing address	Y	Estuarine
San Mateo, City of	Same as contact	Same as mailing address	Y	Marine
Sausalito-Marin City Sanitary District	Same as contact	Same as mailing address	N	Marine
Sewerage Agency of Southern Marin	Same as contact	Same as mailing address	N	Marine
Sonoma Valley County Sanitary District	Brian Anderson Operations Coordinator (707) 526-5370	Same as mailing address	N	Estuarine
South Bayside System Authority	Same as contact	Same as mailing address	Y	Marine
South San Francisco and San Bruno, Cities of	Same as contact	Same as mailing address	Y	Marine
Sunnyvale, City of	Same as contact	Same as mailing address	Y	Estuarine
U.S. Department of Navy (Treasure Island)	Same as contact	Same as mailing address	N	Marine
Vallejo Sanitation and Flood Control District	Same as contact	Same as mailing address	Y	Estuarine
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	E.J. Shalaby District Manager (510) 222-6700	Same as mailing address	Y	Estuarine

- A.** The Dischargers listed in Table 1 of the Order own and operate secondary and advanced secondary wastewater treatment facilities as described in their individual permits. Wastewater is discharged to San Francisco Bay and its tributaries, which are waters of the United States within the San Francisco Bay watershed. Attachment C shows a map of the Dischargers subject to this Order.

This Order supersedes nutrient-related requirements in the individual NPDES permits listed in Attachment B, with the exception of effluent limitations for ammonia as well as special studies the Central Contra Costa Sanitary District is to conduct pursuant to Order No. R2-2012-0016 (Provision C.5c). 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 Dischargers herein.

- B.** The San Francisco Bay estuary has long been recognized as nutrient-enriched. Despite this, the abundance of phytoplankton in the estuary is lower than would be expected due to a number of factors, including strong tidal mixing; high turbidity, which limits light penetration; and high filtration by clams. However, recent data indicate an increase in phytoplankton biomass and a small decline in dissolved oxygen concentrations in many areas of the estuary, suggesting that its historic resilience to the effects of nutrient enrichment may be weakening. The contributing factors for this include (1) natural oceanic oscillations that have increased benthic predators, thus reducing South San Francisco Bay’s clam population and clam grazing; and (2) decreases in suspended sediment that have resulted in a less turbid environment and increased light penetration.

South San Francisco Bay’s clam population filters phytoplankton biomass. However, beginning in the late 1990s, gross primary production in the South San Francisco Bay has increased sharply.¹ This increase appears to be due to a decrease in bivalve grazing because predators (fish, shrimp, and crabs) of benthic feeders have increased significantly. The increase in predator abundance has been attributed to a change in natural oceanic oscillations that is bringing colder waters to San Francisco Bay and has allowed these predators to feed on bivalves.

San Francisco Bay is turbid due to high suspended sediment concentrations. However, recent studies show that the Bay may be clearing, with Bay-wide decreases in turbidity. In certain areas (e.g., Suisun Bay) decreases in turbidity of up to 50% have occurred since 1975.² The reasons appear to be related to decreases in (1) sediment loads from the Sierra Nevada Mountains and Central Valley, and (2) the amount of erodible material within San Francisco Bay. Even with a significant decrease in turbidity, phytoplankton biomass production continues to be suppressed in Suisun Bay. This needs to be further studied as described on page F-16.

Spring phytoplankton blooms are relatively frequent in San Francisco Bay, and fall blooms have been occurring with increased frequency. The reasons are unknown, but the increase could be the result of a less turbid environment and lower grazing pressure

¹ Cloern, J. E., and A. D. Jassby (2012), “Drivers of change in estuarine-coastal ecosystems: Discoveries from four decades of study in San Francisco Bay,” *Reviews of Geophysics*, 50, RG4001, page 21.

² San Francisco Estuary Institute (SFEI), Nutrient Conceptual Model Draft, May 1, 2013, page 14.

from clams. San Francisco Bay experiences strong tidal mixing, which breaks down stratification in the water column.³ However, there are two periods each year (March/April and September/October) that are low points for tidal energy. During these low-energy periods, stratification develops if there are sufficient freshwater inputs (salinity stratification is more typical in the spring) or calm clear days (temperature stratification is more typical in the fall). Under these conditions, phytoplankton can remain in the light-rich zone and grow rapidly. Typically, these blooms are short-lived, lasting 10 to 14 days, with blooms ending when increased tidal energy re-mixes the water column.

Under current conditions, phytoplankton growth and biomass accumulation are limited much of the time by lack of light, and biomass accumulation is further controlled by clam grazing. If these constraints continue to shift, increases in phytoplankton biomass could follow. Under this scenario, it may be necessary to limit the availability of essential nutrients. This Order establishes new information collection requirements because municipal wastewater treatment plants are a significant source of nutrients to San Francisco Bay.

Municipal wastewater treatment plants account for about 63 percent of the annual average total nitrogen load to San Francisco Bay. Their contribution varies, depending on embayment, as shown in the table below:

Table F-3. Annual Average Loads for Dissolved Inorganic Nitrogen, kg/day

Embayment	Municipal	Refinery	Stormwater	Delta	Total	POTW %
Lower South Bay	6,805	n/a	539	n/a	7,344	93
South Bay	19,401	n/a	670	n/a	20,071	97
Central Bay	11,667	n/a	159	n/a	11,826	99
San Pablo Bay & Carquinez Strait	2,721	842	7,484	n/a	11,047	25
Suisun Bay	5,618	130	1,968	15,930	23,646	24
Baywide	46,212	972	10,820	15,930	73,934	63

SFEI, External Nutrient Loads to San Francisco Bay, Table 6, Draft, April 9, 2013.

- C. Several years may be needed to determine an appropriate level of nutrient control and to identify management actions necessary to protect San Francisco Bay beneficial uses. This Order is the first phase of what the Regional Water Board expects to be a multi-permit effort. It sets forth a regional framework to facilitate collaboration on studies that will inform future management decisions and regulatory strategies. The overall purpose of this phase is to track and evaluate treatment plant performance, fund nutrient monitoring programs, support load response modeling, and conduct treatment plant optimization and upgrade studies for nutrient removal. These studies will increase the understanding of external nutrient loads, improve load response models, support development of nutrient objectives, and increase the certainty that any required nutrient removal at treatment plants will produce the desired outcome. In the 2019 permit reissuance, the Regional Water Board anticipates considering establishment of performance-based effluent limits for nutrients and may require implementation of

³ SFEI, Nutrient Conceptual Model Draft, May 1, 2013, page 14.

treatment optimization. The 2019 permit reissuance will also continue efforts to evaluate control measure scenarios as informed by load response modeling. In the 2024 and 2029 permit reissuances, the Regional Water Board anticipates using the information from studies conducted under earlier orders to require implementation of additional management actions, as needed.

II. FACILITIES DESCRIPTION

A. Description of Wastewater Treatment

Municipal wastewater treatment plants provide secondary treatment, which includes screening, skimming, settling, and biological treatment. Some plants also provide advanced treatment that “nitrifies” ammonia to make nitrate-nitrogen. Municipal wastewater treatment plants generally remove around 20 to 30 percent of the total nitrogen load in their influent. The primary source of nutrients in municipal wastewater is human waste; therefore, most dischargers have no practical way of controlling influent nutrient levels.

B. Discharge Points and Receiving Waters

Discharge points and receiving waters are identified in the individual permits listed in Attachment B.

C. Existing Nutrient Discharge Data

Dischargers have been collecting nutrient data since the Executive Officer of the Regional Water Board issued a Water Code section 13267 order on March 2, 2012. These data show that about 90 percent of municipal wastewater treatment plant nutrient discharges are from facilities that have a permitted design flow of 10 mgd or greater. These data are summarized below:

Table F-4. Nutrient Loads (July 2012 to June 2013)

Discharger	Average Annual Total Nitrogen Load (kg/day)	Average Annual Total Phosphorus Load (kg/day)	Design Flow (mgd)
American Canyon, City of	66	26	2.5
Benicia, City of	223	27	4.5
Burlingame, City of	459	95	5.5
Calistoga, City of	58	6.6	0.84
Central Contra Costa Sanitary District	4187	138	53.8
Central Marin Sanitation Agency	903	89	10
Crockett Community Services District			0.033
Delta Diablo Sanitation District	1725	33	16.5
East Bay Dischargers Authority, including City of Hayward, City of San Leandro, Oro Loma Sanitary District, Castro Valley Sanitary District, Union Sanitary District, Livermore-Amador Valley Water Management Agency, Dublin San Ramon Services District, and City of Livermore	8641	555	107.8

Discharger	Average Annual Total Nitrogen Load (kg/day)	Average Annual Total Phosphorus Load (kg/day)	Design Flow (mgd)
East Bay Municipal Utility District	10583	973	120
Fairfield-Suisun Sewer District	1327	196	23.7
Las Gallinas Valley Sanitary District	261	40	2.92
Marin County (Paradise Cove), Sanitary District No. 5 of	2.1	0.27	0.04
Marin County (Tiburon), Sanitary District No. 5 of	61	8.2	0.98
Millbrae, City of	251	16	3
Mt. View Sanitary District	134	18	3.2
Napa Sanitation District	509	48	15.4
Novato Sanitary District	253	23	5.4
Palo Alto, City of	2341	336	39
Petaluma, City of	71	50	5.2
Pinole, City of	347	34	4.06
Rodeo Sanitary District	41	9.3	1.14
Saint Helena, City of	114	36	0.5
San Francisco (San Francisco International Airport), City and County of	236	15	2.2
San Francisco (Southeast Plant), City and County of	8307	101	150
San Jose/Santa Clara WPCP	5233	332	167
San Mateo, City of	1501	124	15.7
Sausalito-Marín City Sanitary District	158	25	1.8
Sewerage Agency of Southern Marin	241	42	3.6
Sonoma Valley County Sanitary District	119	40	3.0
South Bayside System Authority	2118	171	29
South San Francisco and San Bruno, Cities of	1165	153	13
Sunnyvale, City of	1086	213	29.5
U.S. Department of Navy (Treasure Island)	13	1.8	2.0
Vallejo Sanitation and Flood Control District	845	128	15.5
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	850	57	28.5
Yountville, Town of	23	3.8	0.55
Aggregate Mass Load (kg/yr)	54,500⁴	4,160	
Load from design flow \geq 10 mgd	51,300 (94%)	3,650 (88%)	

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements in the Order are based on the requirements and authorities described below:

⁴ The aggregate nitrogen loads in Table F-4 are about 20% higher than those noted in Table F-3. This is because Table F-4 represents total nitrogen whereas Table F-3 only represents the dissolved inorganic form.

A. Legal Authorities

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit for point source discharges from the named facilities to surface waters.

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan specifies numeric and narrative water quality objectives. The narrative biostimulatory substances objective states, "Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses." Requirements in this Order implement the Basin Plan.

This Order is consistent with State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses for the discharges' receiving waters are listed below:

Table F-5. Basin Plan Beneficial Uses

Receiving Water	Beneficial Uses
San Francisco Bay and its Tidally-Influenced Tributaries	Ocean, Commercial, and Sport Fishing (COMM) Estuarine habitat (EST) Industrial Service Supply (IND) Marine Habitat (MAR), Fish Migration (MIGR) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Noncontact Water Recreation (REC2) Shellfish Harvesting (SHELL) Fish Spawning (SPWN) Wildlife Habitat (WILD)

- 2. Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as

stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

- 3. Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.
- 4. Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order contains requirements to protect the beneficial uses of waters of the State, including protecting rare, threatened, or endangered species. Each Discharger is responsible for meeting all applicable Endangered Species Act requirements.

D. Impaired Waters on CWA 303(d) List

In October 2011, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources, and are established to achieve the water quality standards for the impaired waters. San Francisco Bay is not listed as impaired by nutrients.

IV. RATIONALE FOR DISCHARGE PROHIBITIONS AND SPECIFICATIONS

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

This Order continues the receiving water limits that apply to biostimulatory substances from the individual NPDES permits listed in Attachment B. At this time, the Regional Water Board has determined that there is insufficient evidence to conclude that nutrients cause or contribute to excursions of the narrative water quality objective for biostimulatory substances. Therefore, this Order does not include water quality-based effluent limits for nutrients. The individual NPDES permits listed in Attachment B contain other discharge prohibitions, technology-based limitations, and water quality-based specifications, including ammonia effluent limitations.

A. Anti-backsliding

This Order does not backslide because existing permits do not include effluent limitations for nutrients based on the narrative biostimulatory substances water quality objective.

B. Antidegradation

Federal regulations at 40 C.F.R. section 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16. This Order covers existing discharges, all of which have been covered by individual NPDES permits adopted in accordance with antidegradation policies. According to a State Water Board guidance memorandum (William Attwater, Chief Counsel, October 7, 1987), "...the federal antidegradation policy ordinarily does not apply to consideration of existing discharges, even if exceptions or variances from other applicable water quality objectives or effluent guidelines are required to permit the discharge to continue." According to the memorandum, considerations in determining whether to perform an antidegradation analysis include the following:

1. whether there are new discharges or an expansion of existing facilities,
2. whether there would be a reduction in the level of treatment of an existing discharge,
3. whether an existing outfall has been relocated,
4. whether there has been a substantial increase in mass emissions, and
5. whether there has been a change in water quality from a point source or non-point source discharge or water diversion.

None of these conditions apply to this Order.

Moreover, no antidegradation analysis is required when the Regional Water Board has no reason to believe that baseline water quality will be reduced. Baseline quality is the best quality of the receiving water that has existed since 1968 when considering Resolution No. 68-16, or since 1975 under the federal policy, unless subsequent lowering was due to regulatory action consistent with State and federal antidegradation policies. If poorer water quality was permitted, the most recent water quality resulting from permitted action is the baseline water quality to be considered in any antidegradation analysis.

Because all the individual NPDES permits were adopted in accordance with the antidegradation policies, the baseline for evaluating antidegradation is the existing water quality resulting from the individual permits. This Order does not allow for any increase in permitted design flow or allow for any reduction in treatment; therefore, no increase in nutrient discharge beyond the discharges already taking place are foreseeable, and no findings justifying degradation are necessary.

C. Stringency of Requirements for Individual Pollutants

This Order's discharge specifications are no more stringent than required to implement CWA requirements.

V. RATIONALE FOR RECEIVING WATER LIMITS

This Order continues receiving water limits that apply to biostimulatory substances from the individual NPDES permits listed in Attachment B. These limits are based on the Basin Plan water quality objectives. This continuance is necessary, because this Order supercedes nutrient-related requirements in the individual NPDES permits. No other additional limitations are necessary.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

The individual NPDES permits listed in Attachment B contain all standard provisions.

B. Monitoring and Reporting Program

Pursuant to 40 C.F.R. section 122.48, NPDES permits must specify requirements for recording and reporting monitoring results. Water Code section 13383, and 40 C.F.R. sections 122.41(h) and (j), authorize the Regional Water Board to require technical and monitoring reports. This Order establishes monitoring and reporting requirements, contained in the Monitoring and Reporting Program (Attachment E), that implement federal and State requirements. For more background regarding these requirements, see section VII of this Fact Sheet.

C. Special Provisions

1. Evaluation of Potential Nutrient Discharge Reduction by Treatment Optimization and Side-Stream Treatment

This Order requires major Dischargers to study how existing treatment can be optimized, and how much it would cost to optimize and implement minor upgrades to their existing treatment systems to reduce nutrient loads to San Francisco Bay. This information is necessary to understand the extent that Dischargers can maximize existing treatment systems for nutrient removal to reduce the risk of impairment of San Francisco Bay. This Order also requires evaluation for side-stream treatment opportunities. Implementing side-stream treatment can be a capital intensive

upgrade, but it is included in the optimization evaluation since opportunities for side-stream treatment are site-specific.

Major facilities are those with a design flow greater than or equal to 1 million gallons per day (mgd). While most of the nutrient loads to San Francisco Bay are from municipal wastewater treatment facilities with design flows greater than 10 mgd, this Order requires other major facilities to evaluate the potential to optimize their treatment and to evaluate the costs of upgrades because there is uncertainty concerning nutrient cycling within in San Francisco Bay. It is possible that all nutrient sources may contribute significantly to nutrient impacts and that many Dischargers will need to optimize treatment.

For Dischargers that implement minor upgrades or treatment plant optimization, the Regional Water Board intends to recognize early actions and encourage early nutrient removal where opportunities exist. As part of Dischargers' actions to implement minor upgrades or treatment plant optimization, Dischargers should also consider how such actions may be consistent with or contrary to actions Dischargers plan to address the impacts of sea level rise and climate change.

This provision is authorized by Clean Water Act section 1318(a) and Water Code section 13383. Section 1318(a) authorizes the collection of information necessary to carry out the objectives of the Clean Water Act, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard or standard of performance. The Regional Water Board implements this requirement through Water Code section 13383.

2. Evaluation of Potential Nutrient Discharge Reduction by Treatment Plant Upgrades or Other Means

This Order requires major Dischargers to study how existing treatment plants can be upgraded, and how much it could cost to upgrade their existing treatment systems to reduce nutrient loads to San Francisco Bay and its tributaries. This information is necessary to understand measures the Dischargers could need to implement to significantly reduce nutrient discharges should the need arise to reduce the risk of impairment of San Francisco Bay.

This requirement is consistent with U.S. EPA's NPDES Permit Writers' Manual, which states:

Treatability studies are applicable when treatability information is lacking for a pollutant or pollutants that would prohibit a permit writer from developing defensible technology-based effluent limits. Treatability studies can also be required if the permit writer suspects that a facility may not be able to comply with an effluent limit.⁵

⁵ U.S. EPA NPDES Permit Writers' Manual, Publication Number EPA-833-B-96-003, December 1996, page 139.

This Order requires major Dischargers to evaluate options for upgrading their treatment plants because nutrient loads reductions from their facilities could be important in reducing potential nutrient-related impacts in San Francisco Bay.

The intent of the requirement to address sea level rise and climate change as part of the nutrient upgrade evaluation is to avoid identifying nutrient removal options that turn out to be infeasible because of sea level rise or climate change.

Additionally, this provision highlights that major Dischargers can evaluate other means for reducing nutrient loads that may have positive ancillary benefits. For example, Dischargers could consider increasing water recycling to reduce nutrient loads and potable use. It may also be possible to use wetlands or other treatment upgrades to remove nutrients while also providing habitat, including habitat for endangered species; protecting against sea level rise; and removing constituents of emerging concern, such as pharmaceuticals. This evaluation should also consider how upgrades that reduce nutrient loads may be consistent with or contrary to upgrades Dischargers plan to address the impacts of sea level rise and climate change.

This provision is authorized by Clean Water Act section 1318(a) and Water Code section 13383. Section 1318(a) authorizes the collection of information necessary to carry out the objectives of the Clean Water Act, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard or standard of performance. The Regional Water Board implements this requirement through Water Code section 13383.

3. Monitoring, Modeling, and Embayment Studies

This Order requires the Dischargers to conduct, or to collaborate on, studies to address the potential impacts of nutrients on San Francisco Bay beneficial uses. The Regional Water Board recognizes there are great efficiencies from collaborating on large scale study efforts. The Bay Area Clean Water Agencies (BACWA) has identified \$880,000⁶ each permit year as a collective level of effort from the Dischargers. The Regional Water Board finds this amount to be an appropriate level of effort initially to support science plan development and implementation and receiving water monitoring for nutrients identified in this provision. If the Dischargers and BACWA are successful in securing additional outside resources, such as from grants or other agencies for nutrient monitoring or studies identified in the Science Plan, the outside funding and work would not be requirements under this Order, nor would the outside funding count towards the Dischargers' level of effort under this provision.

The Regional Water Board notes that Dischargers have contributed over a million dollars directly and through the RMP to fund scientific studies examining the impact

⁶ The \$880,000 identified by BACWA does not include costs to comply with other provisions of this Order or funds Dischargers contribute to the Regional Monitoring Program.

of nutrients on San Francisco Bay, and have conducted facility nutrient monitoring since July 2012. Dischargers are also collaborating with other regional stakeholders on the development of a science plan and governance structure to guide the scientific research.

Support for modeling will inform the development of Nutrient Numeric Endpoints (NNEs) that the Regional and State Water Boards are developing. The NNE framework aims to establish a suite of numeric endpoints based on the ecological response of a waterbody to nutrient over-enrichment and eutrophication (e.g., excessive algal blooms leading to decreased dissolved oxygen). In addition to numeric endpoints for response indicators, the NNE framework will include models that link the response indicators to nutrient loads and other management controls for a range of potential future conditions in the Bay. The NNE framework is intended to serve as numeric guidance to translate the Basin Plan's narrative objective for biostimulatory substances. The modeling efforts will enable a mechanistic (cause and effect) approach that bases management endpoints on ecological response. In this way, the model may be used to link nutrient loads with co-factors (e.g., strength of tides, residence time, clam grazing, increase/decreases in turbidity) and, therefore, provide more accurate information on the relative importance of reducing nutrient loads from certain Dischargers.

On the subembayment level, there is a need to coordinate studies, such as those in Suisun Bay, to better understand why phytoplankton biomass is suppressed in this bay segment. In Suisun Bay, extremely low phytoplankton biomass and a highly-altered phytoplankton community composition have characterized the system since 1987, when the invasive clam *Corubula amurensis* became widely established. Studies suggest that elevated levels of ammonium or an altered ratio in nitrogen to phosphorus may be contributing to low phytoplankton biomass and changes in phytoplankton species composition.⁷ Additionally, there is also a need to coordinate studies for the Lower South Bay because it is enriched with nitrogen and phosphorus. The median dissolved inorganic nitrogen concentrations in South San Francisco Bay are almost ten times higher than those in estuaries that do not have direct municipal wastewater treatment plant discharges.⁸ Trends in chlorophyll (a) suggest that this portion of the estuary may be starting to lose some of its historic resilience to high nutrient loads.

This provision is authorized by Clean Water Act section 1318(a) and Water Code section 13383. Section 1318(a) authorizes the collection of information necessary to carry out the objectives of the Clean Water Act, including but not limited to developing or assisting in the development of any effluent limitation, other limitation, prohibition, effluent standard, pretreatment standard or standard of performance. The Regional Water Board implements this requirement through Water Code section 13383.

⁷ SFEI, Nutrient Conceptual Model Draft, May 1, 2013, page 6.

⁸ Cloern, J. E., and A. D. Jassby (2012), "Drivers of change in estuarine-coastal ecosystems: Discoveries from four decades of study in San Francisco Bay," *Reviews of Geophysics*, 50, RG4001, page 14.

4. Reopener Provisions

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

VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

Attachment E contains the MRP for this Order. It specifies pollutants to be monitored, monitoring frequencies, and reporting requirements. The following provides the rationale for the MRP requirements.

Consistent with the Regional Water Board's March 2, 2012, Water Code section 13267 order to collect nutrient data, this Order requires Dischargers to report nitrogen and phosphorus discharge levels and trends. The monitoring frequencies specified depend on each Discharger's nutrient loads and its resources to conduct the monitoring. For example, those with larger flows are required to monitor more frequently.

This Order requires the Dischargers to support receiving water monitoring to enable load/response modeling, track nutrient trends over time, and identify harmful algae blooms and associated toxins. These requirements are necessary because San Francisco Bay may be becoming less resistant to nutrient discharges, municipal wastewater treatment facilities are the primary source of nutrient loadings to San Francisco Bay, and the need for future controls can be informed by an improved understanding of the fate and transport of nutrients in San Francisco Bay.

Finally, this Order requires Dischargers to submit an annual report, either individually or as a group. The annual report is to include a summary of monitoring data and an evaluation of nutrient load and concentration trends. This information is necessary to establish baseline loads. The requirement for a trend analysis is to ensure that Dischargers investigate the causes of any changes in nutrient discharges from their treatment plants. This will allow for a better understanding of why nutrient loads may change and help identify controllable measures for maintaining levels of treatment. Additionally, this Order requires that Dischargers report nutrient loads from all municipal treatment plants in their respective subembayments. This is to establish baseline loads by subembayment and the potential for nutrient load trading.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties. The Regional Water Board notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for the discharge

and provided an opportunity to submit written comments and recommendations. Notification was provided by transmitting electronic copies of tentative WDRs to the Dischargers and other interested parties and by publishing a notice in the Oakland Tribune. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at www.waterboards.ca.gov/sanfranciscobay.

B. Written Comments. Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were due either in person or by mail at the Regional Water Board office at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of **Robert Schlipf**. For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by **5:00 p.m.** on Monday, **March 10, 2014**.

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

Date: **April 9, 2014**
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Robert Schlipf, (510) 622-2478, robert.schlipf@waterboards.ca.gov

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

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

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

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

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

- E. Information and Copying.** Supporting documents, and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.
- F. Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.
- G. Additional Information.** Requests for additional information or questions regarding this Order should be directed to Robert Schlipf at (510) 622-2478 or RSchlipf@waterboards.ca.gov.

Peter Lee (plee@cityofamericancanyon.org)
City of American Canyon
Wastewater Systems Manager
300 Crawford Way
American Canyon, CA 94503

Jeff Gregory (jgregory@ci.benicia.ca.us)
Superintendent
City of Benicia
614 East Fifth Street
Benicia, CA 94510

Syed Murtuza (smurtuza@burlingame.org)
City of Burlingame
Director of Public Works
501 Primrose
Burlingame, CA 94010

Curt Swanson (cswanson@centralsan.org)
Director of Operations
Central Contra Costa Sanitary District
5019 Imhoff Place
Martinez, CA 94553

Michael Kirker (mkirker@town.crockett.ca.us)
Port Costa Manager
Crockett Community Services District
Crockett, CA 94525

Robert Cole (rcole@centramarinsa.org)
Central Marin Sanitation Agency
Environmental Services Manager
1301 Andersen Drive
San Rafael, CA 94901

Meg Herston (mherston@fssd.com)
Fairfield-Suisun Sewer District
1010 Chadbourne Road
Fairfield, CA 94534

Gary W. Darling (GaryD@ddsd.org)
General Manager
Delta Diablo Sanitation District
2500 Pittsburg-Antioch Highway
Antioch, CA 94509

Mike Connor (mconnor@ebda.org)
General Manager
East Bay Dischargers Authority
2651 Grant Avenue
San Lorenzo, CA 94580

Ben Horenstein (bhorenst@ebmud.com)
East Bay Municipal Utilities District
P.O. Box 24055
Oakland, CA 94623-1055

Dale McDonald (manager@town.crockett.ca.us)
General Manager
Crockett Community Services District
P.O. Box 578
Crockett, CA 94525

Mark Williams (mwilliams@lqvsd.org)
District Manager
Las Gallinas Valley Sanitation District
300 Smith Ranch Rd
San Rafael, CA 94903-1929

Tony Rubio (trubio@sani5.org)
District Manager
Sanitary District No. 5 of Marin County
P.O. Box 227
Tiburon, CA 94920

Joe Magner (jmagner@ci.millbrae.ca.us)
City of Millbrae
621 Magnolia Avenue
Millbrae, CA 94030

Michael Roe (mroe@mvsd.org)
District Manager
Lilia Corona (LCorona@mvsd.org)
District Chemist
Mt. View Sanitary District
P. O. Box 2757
Martinez, CA 94553

Tim Healy (thealy@napasan.com)
Assistant General Manager/District Engineer
Napa Sanitation District
P.O. Box 2480
935 Hartle Court
Napa, CA 94559

Beverly James (BevJ@novatosan.com)
General Manager
Novato Sanitary District
500 Davidson Street
Novato, CA 94945

James Allen (James.Allen@CityofPaloAlto.org)
Plant Manager
City of Palo Alto
2501 Embarcadero Way
Palo Alto, CA 94303

Lena Cox (lcox@ci.petaluma.ca.us)
Environmental Services Supervisor
City of Petaluma
202 N. McDowell Blvd.
Petaluma, CA 94954

Ron Tobey (rtobey@ci.pinole.ca.us)
Plant Manager
City of Pinole
1 Tennant Avenue
Pinole, CA, 94564

Steven S. Beall (bealls@rodeosan.org)
Engineer-Manager
Rodeo Sanitary District
800 San Pablo Avenue
Rodeo, CA 94572

Tommy Moala (tmoala@sfgwater.org)
City and County of San Francisco
1155 Market Street, 11th Floor
San Francisco, CA 94103

Bill Zolan (bill.zolan@flysfso.com)
Superintendent
San Francisco International Airport
P. O. Box 8097
676 McDonnell Road
San Francisco, CA 94128

Larry Patterson
(patterson@cityofsanmateo.org)
City of San Mateo
2050 Detroit Drive
San Mateo, CA 94404

Jim Ervin (james.ervin@sanjoseca.gov)
City of San Jose
Water Pollution Control
700 Los Esteros Road
San Jose, CA 95134

Daniel Child (dchild@sbsa.org)
Manager
South Bayside System Authority
1400 Radio Road
Redwood City, CA 94065

Craig Justice (craig@smcsd.net)
General Manager
Sausalito-Marín City Sanitary District
#1 East Road
P.O. Box 39
Sausalito, CA 94966-0039

Mark Grushayev
(mgrushayev@cityofmillvalley.org)
General Manager
Sewer Agency of Southern Marin
26 Corte Madera Ave.
Mill Valley, CA 94941

George Lincoln (George.Lincoln@scwa.ca.gov)
Sonoma County Water Agency
404 Aviation Boulevard
Santa Rosa, CA 95403

E.J. Shalaby (eshalaby@wcwa.org)
District Manager
West County Agency
2910 Hilltop Drive
Richmond, CA 94806

Brian Schumacker (Brian.Schumacker@ssf.net)
Plant Superintendent
South San Francisco-San Bruno Water Pollution
Control Plant
195 Belle Air Road
South San Francisco, CA 94080

Melody Tovar (mtovar@sunnyvale.ca.us)
Operations Manager
City of Sunnyvale
Sunnyvale Water Pollution Control Plant
P.O. Box 3707
Sunnyvale, CA 94088-3707

Patricia McFadden (patricia.a.mcfadden@navy.mil)
San Francisco Bay Area
Navy BRAC PMOW
410 Palm Avenue, Bldg 1, Suite 161
Treasure Island
San Francisco, CA 94130-1807

Ron Matheson (rmatheson@vsfcd.com)
Vallejo Sanitation and Flood Control District
450 Ryder Street
Vallejo, CA 94590

Darren Greenwood
(dggreenwood@ci.livermore.ca.us)
Water Resources Manager
City of Livermore
101 W. Jack London Blvd.
Livermore, CA 94551

Alex Ameri (alex.ameri@hayward-ca.gov)
Director of Public Works
Hayward Water Pollution Control Facility
3700 Enterprise Avenue
Hayward, CA 94540

Dean Wilson (dwilson@sanleandro.org)
Water Pollution Control Manager
San Leandro Water Pollution Control Plant
3000 Davis Street
San Leandro, CA 94577

Jason Warner (jwarner@oroloma.org)
General Manager
Oro Loma and Castro Valley Sanitary Districts
2600 Grant Avenue
San Leandro, CA 94577

Tim Grillo (tim_grillo@unionsanitary.com)
Process Engineer
Union Sanitary District
5072 Benson Road
Union City, CA 94587

Daniel Gallagher (gallagher@dsrsd.com)
Operations Manager
Dublin San Ramon Services District
7051 Dublin Blvd.
Dublin, CA 94568