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California Regional Water Quality Control Board

San Francisco Bay Region

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Edmund G. Brown, Jr.
Governor

REVISED TENTATIVE ORDER NO. R2-2011-00XX
NPDES NO. CA0038768

The following Discharger and discharges from the discharge points identified below are subject to waste discharge requirements set forth in this Order.

Table 1. Discharger Information

Discharger	City of American Canyon
Name of Facility	American Canyon Wastewater Treatment Facility and its associated wastewater collection system.
CIWQS Place Number	205477
Facility Address	151 Mezzetta Court, American Canyon, CA 94503, Napa County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Advanced Secondary Treated Municipal Wastewater	38° 11′ 16.5″ N	122° 16′ 37.7″ W	North Slough
003	Advanced Secondary Treated Municipal Wastewater	38° 11′ 05.7″ N	122° 16′ 44.8″ W	Constructed Freshwater Wetlands

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	<Adoption date>
This Order shall become effective on:	September 1, 2011
This Order shall expire on:	August 31, 2016
CIWQS Regulatory Measure Number:	379930
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for re-issuance of waste discharge requirements no later than:	March 4, 2016

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

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Bruce H. Wolfe**,** Executive Officer

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Attachments

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	City of American Canyon
Name of Facility	American Canyon Wastewater Treatment Facility and its associated wastewater collection system
Facility Address	151 Mezzetta Court, American Canyon, CA, 94503, Napa County
CIWQS Place Number	205477
Facility Contact, Title, and Phone	Peter Lee, Wastewater Systems Manager, (707) 647–4525
CIWQS Party Number	350236
Mailing Address	151 Mezzetta Court, American Canyon, CA 94503
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	2.5 million gallons per day (MGD) (average dry weather design flow) 4.0 MGD (peak dry weather flow) 5.0 MGD (peak wet weather flow)
Service Area	City of American Canyon
Service Population	16,800 (2010 estimate)

II. FINDINGS

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

A. Background. The City of American Canyon (hereinafter the Discharger) is currently discharging under Order No. R2-2006-0036 (CIWQS Regulatory Measure No. 304952). This Order was amended by Order No. R2-2010-0056 National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038768, to implement cyanide site-specific objectives. The Discharger submitted a Report of Waste Discharge dated December 20, 2010, and applied for an NPDES permit reissuance to discharge treated wastewater from its American Canyon Wastewater Treatment Facility to waters of the State and the United States. Additional information was submitted January 24, 2011. The discharge is also regulated under Regional Water Board Order No. R2-2007-0077 (NPDES Permit No. CA0038849), as amended, which supersedes all requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges. This Order does not affect the mercury and PCBs permit.

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 Discharger herein.

B. Facility Description and Discharge Location

1. Facility Description. The Discharger owns and operates the American Canyon Wastewater Treatment Facility (hereinafter the Plant), and its associated wastewater collection system (hereinafter collectively the Facility). The Plant, located within the City of American Canyon (See Attachment B), provides advanced secondary treatment of domestic, commercial, and industrial wastewater for the City, which has a population of approximately 16,800. Industrial

dischargers to the Plant include a food processing facility, a winery, a drinking water bottling and water softener regeneration facility, and a beverage bottling company. The waste from these industrial dischargers has elevated total dissolved solids concentrations.

Treated wastewater from the Plant is disinfected and either used as recycled water for irrigation or it is discharged directly, or through constructed wetland ponds, to the North Slough, a tributary of the Napa River.

As indicated, there are two types of influent flows to the Plant, one being domestic and commercial wastewater and the other industrial wastewater. These flows can be separated because only treated domestic and commercial wastewater is suitable for reclamation. Industrial wastewater has a total dissolved solids concentration that makes it unsuitable for reclamation, so it is treated and then conveyed to the North Slough or the constructed wetlands.

2. **Treatment Description.** Treatment processes consist of headworks, screening, grit removal, and treatment trains consisting of anoxic and aerobic biological treatment and membrane filters. These steps are shown in the process flow diagram, Attachment C. Wastewater discharged to the North Slough and wetlands is then UV-disinfected and flows to North Slough are aerated before discharge. The separate reclaimed water stream is disinfected with hypochlorite before being pumped to an off-site reclaimed water storage tank.

3. **Discharge Points.** In the wet season, from November 1 through April 30, the demand for reclaimed water is minimal, and treated effluent from domestic and commercial sources can be discharged to North Slough at Discharge Point 001. North Slough flows to the Napa River. During the dry season, from May 1 through October 31, when there is a demand for reclaimed water, direct discharge to the North Slough is prohibited. Throughout the year, treated effluent from industrial sources is discharged at Discharge Point 003 to two constructed freshwater wetland ponds. Treated effluent enters the wetlands at Pond 1, flows to Pond 2 through an outlet device, and flows from Pond 2 to North Slough. During the dry season, treated domestic and commercial wastewater not used for reclamation is also discharged to these ponds. Between July 2006 and October 2010 the maximum daily and average daily discharge rates to these wetlands were 2.9 and 1.0 MGD.

4. **Reclamation Activities.** Primarily during the dry season, May 1 through October 31, but also at other times, treated effluent from domestic and commercial wastewater is chlorine-disinfected for reclamation uses. As indicated above, flow not used for reclamation is UV-disinfected and discharged to the constructed wetlands. Reclaimed water is used for irrigation at American Canyon High School, local vineyards, and City parks and street medians. Reclamation facilities include at least ten miles of reclamation pipe and a one million gallon storage tank. Reclamation activities are governed by a General Water Reuse Order, Regional Water Board Order No. 96-011.

5. **Collection System.** The Discharger's wastewater collection system includes approximately 31 miles of gravity sewer main, 2.5 miles of force main, and five pump stations.

6. **Biosolids Management.** Biosolids generated during the treatment process are stored in two earthen clay lined sludge storage basins, each with a three million gallon capacity. One of the

basins also contains a hypalon liner. The basins are sized to provide an approximate storage capacity of up to ten years of solids.

7. **Storm Water Discharge.** The Discharger is not required to be covered under the State Water Board's statewide industrial stormwater NPDES permit (NPDES General Permit No. CAS000001) because all storm water flows in contact with equipment or wastewater at the Plant and the pump stations serving the Plant are collected and directed to the headworks for treatment.

C. Legal Authorities. This Order is issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by USEPA and chapter 5.5, division 7, of the California Water Code (CWC) (commencing with section 13370). It serves as an NPDES permit for point source discharges from the Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC article 4, chapter 4, division 7 (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for requirements of the Order, is hereby incorporated into this Order and constitutes part of the findings for this Order. Attachments A through E, and G through H, are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.

F. Technology-Based Effluent Limitations. CWA Section 301(b) and NPDES regulations at Title 40 of the Code of Federal Regulations (40 CFR) section 122.44 require that permits include conditions meeting applicable technology-based requirements at 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 Secondary Treatment Standards at 40 CFR 133. Further discussion of the technology-based effluent limitation development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations (WQBELs). CWA section 301(b) 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. NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate 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).

H. Water Quality Control Plan. *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning

document. It designates beneficial uses and water quality objectives (WQOs) for waters of the State, including surface and groundwater. It also includes implementation programs to achieve WQOs. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan. The Basin Plan specifically identifies beneficial uses for the tidal portion of the Napa River, to which North Slough and the freshwater constructed wetlands are tributary.

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. Because of the marine influence on North Slough, total dissolved solids levels exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. The constructed wetlands also meet an exception to Resolution No. 88-63 because they are designed to collect wastewater treatment plant effluent. The MUN designation therefore does not apply to the receiving waters for Facility discharges. The Basin Plan beneficial uses for the tidal portion of the Napa River are listed in the table below.

Table 5. Basin Plan Beneficial Uses for Tidal Portions of Napa River

Receiving Water Name	Beneficial Uses
Napa River (tidal)	Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

The Regional Water Board adopted Resolution No. 2010-0100 on July 14, 2010, amending Basin Plan Table 2-1. This Basin Plan amendment adds nearly 275 surface water bodies to Table 2-1 and designates beneficial uses for the newly added and some existing water bodies. The Napa River at the confluence with North Slough is tidally influenced. The Basin Plan amendment lists the tidal portion of the Napa River as a new water body and designates the above beneficial uses to it. The State Water Board and USEPA have yet to consider this Basin Plan amendment.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. USEPA amended the CTR on February 13, 2001. These rules contain water quality criteria (WQC) for priority pollutants.

J. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (hereinafter the State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated through the NTR and to the priority pollutant objectives established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated through the CTR. The State

Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

K. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21]. 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.

L. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality based effluent limitations for individual pollutants. Derivation of these technology-based limitations is discussed in the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions on BOD and TSS implement the minimum applicable federal technology-based requirements and meets the requirements of the Basin Plan.

Water Quality Based Effluent Limits (WQBELs) have been derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and WQOs contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required by the CWA.

M. Antidegradation Policy. NPDES regulations at 40 CFR 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 in State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that existing quality of waters 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.

N. Anti-Backsliding Requirements. CWA sections 402(o)(2) and 303(d)(4) and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent that limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

O. Endangered Species Act. 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 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 Discharger is responsible for meeting all requirements of applicable State and federal law pertaining to threatened and endangered species.

P. Monitoring and Reporting. NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP, Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

Q. Standard and Special 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 Discharger must comply with all standard provisions and with those additional conditions that apply under 40 CFR 122.42. The Discharger must also comply with the Regional Standard Provisions provided in Attachment G. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The attached Fact Sheet (Attachment F) provides rationale for the special provisions.

R. Provisions and Requirements Implementing State Law. None of the requirements in this Order are included to implement State law only.

S. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided them with an opportunity to submit written comments and recommendations. The Fact Sheet (Attachment F) provides details of the notification.

T. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet (Attachment F) provides details of the public hearing.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R2-2006-0036, as amended by Order No. R2-2010-0056, except for enforcement purposes, and, in order to meet the provisions contained in CWC Division 7 (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided for in the conditions stated in Subsections I.G.2 and I.G.4 of Attachment D of this Order.

C. The average dry weather effluent flow, measured at monitoring station EFF-001 as described in the attached MRP (Attachment E), shall not exceed 2.5 MGD. Actual average dry weather flow shall be determined for compliance with this prohibition over three consecutive dry weather months each year.

D. Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

E. Discharge of treated wastewater at Discharge Point 001 to North Slough is prohibited during the dry season period of May 1 through October 31 each year, except for emergencies and only when authorized by the Executive Officer after the Discharger satisfies the conditions specified in the emergency discharge request procedure contained in Provision VI.C.6.c.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

In this section, the term "effluent" refers to treated wastewater effluent from the Facility as discharged to North Slough and the constructed wetlands.

A. Effluent Limitations for Conventional and Non-Conventional Pollutants – Discharge Points 001 and 003

1. The Discharger shall maintain compliance with the effluent limitations contained in Table 6 at Discharge Points 001 and 003, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E).

Table 6. Conventional and Non-Conventional Effluent Limitations – Discharge Points 001 & 003

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD 5-day @ 20°C (BOD_5)	mg/L	10	15	---	---	---
Total Suspended Solids (TSS)	mg/L	10	15	---	---	---
BOD and TSS percent removal [1]	%	85 (minimum)	---	---	---	---
Oil and Grease	mg/L	---	---	10	---	---
pH[2]	s.u	---	---	---	6.5	8.5
Total Ammonia	mg/L as N	2.0	3.0	---	---	---
Total Chlorine Residual [3]	mg/L	---	---	---	---	0.0
Turbidity	NTU	---	---	10	---	---

Legend to Table 6:

Unit Abbreviations:

s.u. = standard units
NTU = nephelometric turbidity units

Footnotes to Table 6:

[1] 85 Percent Removal. The arithmetic mean of the biochemical oxygen demand (BOD_5, 20°C) and total suspended solids (TSS) values, by concentration, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by concentration, for influent samples collected at approximately the same times during the same period.

[2] pH. If the Discharger monitors pH continuously, pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

[3] Total Chlorine Residual. The Discharger may elect to use a continuous on-line monitoring system for measuring flows, chlorine, and sulfur dioxide dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that false positive chlorine residual exceedances are not violations of the effluent limitation.

2. **Enterococcus Bacteria:** The discharge at Discharge Point 001 and 003 shall meet the following limitation of bacteriological quality, with compliance measured at Monitoring Location EFF-001:

   The 30-day geometric mean shall not exceed 35 enterococcus colonies per 100 milliliters (mL).

B. Effluent Limitations for Toxic Substances – Discharge Points 001 and 003

The Discharger shall maintain compliance with the effluent limitations contained in Table 7 at Discharge Points 001and 003, with compliance determined at Monitoring Location EFF-001, as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Toxic Pollutants

Constituent	Units	Effluent Limitations[1] [2]	
		Average Monthly	Maximum Daily
Copper	µg/L	10	16
Nickel	µg/L	7.6	11
Cyanide	µg/L	6.9	14
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}

Footnotes to Table 7:

[1] Limitations apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month)

[2] All limitations for metals are expressed as total recoverable metals.

C. Whole Effluent Toxicity

1. Whole Effluent Acute Toxicity

a. Representative samples of the effluent at Discharge Points 001 and 003, with compliance measured at EFF-001 as described in the MRP (Attachment E), shall meet the following limits for acute toxicity. Bioassays shall be conducted in compliance with MRP Section V.A (Attachment E.)

   (1) An eleven (11) – sample median value of not less than 90 percent survival; and

   (2) An eleven (11) – sample 90^{th} percentile value of not less than 70 percent survival.

b. These acute toxicity limitations are further defined as follows:

(1) **11-sample median**. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

(2) **11-sample 90th percentile**. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or less bioassay tests show less than 70 percent survival.

c. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species as specified in writing by the Executive Officer based on the most recent screening test results. Bioassays shall be conducted in compliance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," currently 5th Edition (EPA-821-R-02-012), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

2. Whole Effluent Chronic Toxicity

There shall be no chronic toxicity in the discharge as discharged. Chronic toxicity is a detrimental biological effect of growth rate, reproduction, fertilization success, larval development, or any other relevant measure of the health of an organism population or community. Compliance with this limit shall be determined by analysis of indicator organisms and toxicity tests. Compliance shall be measured at EFF-001 as described in the MRP (Attachment E.)

D. Reclamation Specifications

Regional Water Board Order No. 96-011 contains water reclamation requirements for this Facility.

V. RECEIVING WATER LIMITATIONS

The discharges shall not cause the following in the receiving water:

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foams;

b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and

e. Toxic or other deleterious substances to be present in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or that render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within 1 foot of the water surface:

a. Dissolved Oxygen	5.0 mg/L, minimum (during the dry season from May 1 through October 31) 7.0 mg/L, minimum (all other times of the year) Furthermore, the median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
b. Dissolved Sulfide	Natural background levels
c. pH	The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
d. Un-ionized Ammonia	0.025 mg/L as N, annual median; and 0.16 mg/L as N, maximum
d. Nutrients	Waters shall not contain bio-stimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with federal Standard Provisions included in Attachment D of this Order.

2. **Regional Standard Provisions.** The Discharger shall comply with all applicable items of the Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits (Attachment G), including amendments thereto.

B. MRP Requirements

The Discharger shall comply with the MRP (Attachment E), and future revisions thereto, including applicable sampling and reporting requirements in the standard provisions listed in VI.A above.

C. Special Provisions

1. Reopener Provisions

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

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 WQOs or total maximum daily loads (TMDLs) come into effect for the San Francisco Bay Estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs and waste load allocations in TMDLs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.

c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.

d. If State Water Board precedential decisions, new policies, new laws, or new regulations on chronic toxicity or total chlorine residual become available.

e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.

f. Or as otherwise authorized by law.

The Discharger may request permit modification based on any of the circumstances described above. In any such request, the Discharger shall include an antidegradation and anti-backsliding analysis.

2. Effluent Characterization Study and Report – Discharge Points EFF-001 and EFF-003

a. Study Elements
The Discharger shall continue to characterize and evaluate the discharge from Discharge Points 001 and 003 (measured at EFF-001) to verify that the "no" or "cannot determine"

reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples of the discharges from the locations and at the frequencies as set forth below (see MRP for definitions):

Discharge Point	Monitoring Station	Minimum Frequency
001 and 003	EFF-001	1/yr

The samples shall be analyzed for the priority pollutants listed in Table C of the Regional Standard Provisions (Attachment G), except for those priority pollutants with effluent limitations where monitoring is already required by the MRP. Compliance with this requirement shall be achieved in accordance with the specifications of Regional Standard Provisions (Attachment G) sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any priority pollutant increase over past performance. The Discharger shall investigate the cause of any increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of the constituent as a "pollutant of concern" in the Discharger's Pollutant Minimization Program, described in Provision VI.C.3. The Discharger shall provide a summary of the annual evalustion of data and source investigation activities in the annual self monitoring report.

b. Reporting Requirements

i. Routine Reporting

The Discharger shall, within 30 days of receipt of analytical results, report in the transmittal letter for the appropriate monthly self-monitoring report the following:

(a) Indication that a sample or samples for this characterization study was or were collected; and

(b) Identity of any and all priority pollutants detected above or within one order of magnitude of their applicable water quality criteria (see Fact Sheet [Attachment F] Table F-8 for the criteria), together with the detected concentrations of those pollutants.

ii. Annual Reporting

The Discharger shall provide a summary of the annual data evaluation and source investigation in the annual self-monitoring report.

iii. Final Report

The Discharger shall submit a final report that presents these data to the Regional Water Board no later than 180 days prior to the Order expiration date. The final report shall be submitted with the application for permit reissuance.

3. Best Management Practices and Pollutant Minimization Program

a. The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28 of each calendar year. Each annual report shall include at least the following information:

i. *A brief description of the treatment plant, treatment plant processes and service area*.

ii. *A discussion of the current pollutants of concern.* Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.

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

iv. *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.

v. *Outreach to employees.* The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the treatment facilities. The Discharger may provide a forum for employees to provide input.

vi. *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as

displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

vii. *Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness*. The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This section shall discuss the specific criteria used to measure the effectiveness of each of the tasks in sections VI.C.3. b.iii, iv, v, and vi.

viii. *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.

ix. *Evaluation of Pollutant Minimization Program and task effectiveness.* This Discharger shall use the criteria established in section VI.C.3. b.vii to evaluate the Program's and tasks' effectiveness.

x. *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as DNQ when the effluent limitation is less than the 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) and either:

i. A sample result is reported as DNQ and the effluent limitation is less than the RL; or

ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using SIP definitions.

d. Pollutant Minimization Program Submittals for Pollutants with Effluent Limitations

If triggered by the reasons in section VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

i. Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

ii. Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system, or an alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

v. Annual report required by section VI.C.3.b above, shall specifically address the following items:

1. All Pollutant Minimization Program monitoring results for the previous year;

2. List of potential sources of the reportable priority pollutants;

3. Summary of all actions undertaken pursuant to the control strategy; and

4. Description of actions to be taken in the following year.

4. Facility Reliability Assurance Plan and Status Report

a. The Discharger shall maintain a Facility Reliability Assurance Plan that describes measures in place (e.g., treatment/storage capacities especially during high wet weather inflows, critical system redundancies and spare parts, warning alarms, etc.) to ensure the reliability of the Discharger's system in preventing inadequately treated wastewater from being discharged into the receiving waters. Inadequately treated wastewater includes wastewater that bypasses any portion of the treatment plant. The Facility Reliability Assurance Plan shall be maintained in useable condition and be available for reference and use by all relevant personnel.

b. The Discharger shall regularly review, revise, or update, as necessary, the Facility Reliability Assurance Plan to ensure that the document remains useful and relevant to current equipment and operational practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, relevant revisions shall be completed as soon as practicable.

c. The Discharger shall submit a summary describing the current status of its Facility Reliability Assurance Plan, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall submit this Facility Reliability Assurance Status Report by February 1 each year.

5. Special Provisions for Publicly Owned Treatment Works

a. Pretreatment Program

The Discharger shall implement and enforce its pretreatment program in accordance with the substantive requirements in federal Pretreatment Regulations (40 CFR 403) and Attachment H, except that the Discharger is not required to have a pretreatment program that meets the criteria established in 40 CFR 403.9 or requires approval in accordance with 40 CFR 403.11. The Discharger's responsibilities include, but are not limited to the following:

(1) Enforcement of National Pretreatment Standards of 40 CFR 403.5 and 403.6;

(2) Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the National Pretreatment Program (40 CFR 403).

(3) Submission of reports to the State Water Board and the Regional Water Board as described in Attachment H, "Pretreatment Requirements."

(4) Evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), and within 180 days after the effective date of this Order, submission of a report acceptable to the Executive Officer describing the changes, with a plan and schedule for implementation. To ensure no significant increase in copper discharges, and thus compliance with antidegradation requirements, the Discharger shall not consider eliminating or relaxing local limits for copper in this evaluation.

b. Biosolids Management Practices

(1) All biosolids must be disposed of, managed, or reused in a municipal solid waste landfill, through land application, as a Class A compost, through a waste to energy facility, or through another recognized and approved technology, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503. If the Discharger desires to dispose of biosolids by a different method, the Discharger shall submit a request for permit modification to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR Part 503 are enforceable by USEPA whether or not they are stated in this NPDES permit or another permit issued to the Discharger. The Discharger shall copy the Regional Water Board on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.

(2) Biosolids treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

(3) The Discharger shall take all reasonable steps to prevent or minimize any biosolid use or disposal that has a likelihood of adversely affecting human health or the environment.

(4) The discharge of sludge shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site and deposited in waters of the State.

(5) The biosolids treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

(6) For biosolids applied to land, placed on a surface disposal site, or fired in an incinerator as defined in 40 CFR Part 503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR Part 503, postmarked February 15 of each year, for the period of the previous calendar year.

(7) Biosolids disposed of in a municipal solid waste landfill shall meet the requirements of 40 CFR Part 258. In the annual Self-Monitoring Report, the Discharger shall include the amount of biosolids disposed and the landfill to which it was sent.

(8) This Order does not authorize permanent on-site biosolids storage or disposal activities. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity.

(9) Biosolids Monitoring and Reporting Provisions of the Regional Standard Provisions (Attachment G) apply to sludge handling, disposal, and reporting practices.

(10) The Regional Water Board may amend this Order prior to expiration if changes occur in applicable State or federal biosolids regulations.

c. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger shall properly operate and maintain its collection system (Attachment D, Standard Provisions - Permit Compliance, subsection I.D). The Discharger shall report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2) and mitigate any discharge from the Discharger's collection system in violation of this Order (Attachment D, Standard Provisions - Permit Compliance, subsection I.C).

The General Waste Discharge Requirements for Wastewater Collection Agencies, State Water Board Order No. 2006-0003 DWQ (General Collection System WDRs) has

requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Collection System WDRs and this Order, the General Collection System WDRs more clearly and specifically stipulate requirements for operation and maintenance, and for reporting and mitigating sanitary sewer overflows.

Implementation of the General Collection System WDRs requirements for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements specified in Attachment D (as supplemented by Attachment G) of this Order. Following notification and reporting requirements in the General Collection System WDRs will satisfy NPDES reporting requirements specified in Attachment D (as supplemented by Attachment G) for wastewater spills from the collection system upstream of the Plant boundaries. Attachments D and G of this Order specify reporting requirements for unauthorized discharges from anywhere within the Plant downstream of the Plant boundaries.

6. Other Special Provisions

a. Copper Action Plan

The Discharger shall implement a copper action plan, described in Table 8, below.

Table 8. Copper Action Plan

Task	Compliance Date
(1) Report on Status of Copper Control Program The Discharger shall submit a report to the Regional Water Board documenting implementation of the copper control program. Additionally, the Discharger shall report the findings and results of the studies completed, planned, or in progress under Task (3). The Discharger may collaborate as a group on Task (3) studies and provide this information in a single report.	With the annual pollution prevention report due each year on February 28.
(2) Implement Additional Measures If the Regional Water Board notifies the Discharger that the three-year rolling mean copper concentration of the receiving water exceeds 3.0 µg/L, then within 90 days of the notification, the Discharger shall evaluate the effluent copper concentration trend, and if it is increasing, develop and begin implementation of additional measures to control copper discharges. The Discharger shall report on the progress and effectiveness of action taken together with a schedule for actions to be taken in the next 12 months.	With the annual pollution prevention report due February 28 following 90 days after notification.
(3) Undertake Studies to Reduce Copper Pollutant Impact Uncertainties. The Discharger shall submit an updated study plan and schedule to conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and technical studies to investigate sublethal effects on salmonids. Specifically, the Discharger shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, the Discharger may collaborate and conduct these studies as a group.	Submit with the annual pollution prevention report due February 28 2012

Task	Compliance Date
(4) Report Status of Copper Control Program. The Discharger shall submit an annual report documenting copper control program implementation and addressing the effectiveness of the actions taken including any additional copper controls required by Task2 above, together with a schedule for actions to be taken in the next 12 months. Additionally, the Discharger shall report the findings and results of the studies completed, planned, or in progress under Task 3. Regarding Task 3 studies dischargers may collaborate and provide this information in a single report to satisfy this requirement for an entire group.	With annual pollution prevention report due February 28 each year.

b. Cyanide Action Plan

The Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 9. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Sources The Discharger shall submit an inventory of potential cyanide sources to the treatment plant If no cyanide sources are identified, Tasks 2 and 3 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. If so, the Discharger shall notify the Executive Officer and implement Tasks 2 and 3.	Completed
2. Implement Cyanide Control Program The Discharger shall submit a plan and begin implementation of a program to minimize cyanide discharges to its treatment plant consisting, at a minimum, of the following elements: a. Inspect each potential source to assess the need to include that contributing source in the control program. b. Inspect contributing sources included in the control program annually. Inspection elements may be based on USEPA guidance, such as Industrial User Inspection and Sampling Manual for POTWs (EPA 831-B-94-01). c. Develop and distribute educational materials to contributing sources and potential contributing sources regarding the need to prevent cyanide discharges. d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs.	With annual pollution prevention report due February 28, 2012
3. Implement Additional Cyanide Control Measures If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, the Discharger shall commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, and shall report on the progress and effectiveness of actions taken, together with a schedule for actions to be taken in the next 12 months.	With next annual pollution prevention report due February 28 (at least 90 days following notification)

Task	Compliance Date
4. Report Status of Cyanide Control Program The Discharger shall submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, together with a schedule for actions to be taken in the next 12 months.	With annual pollution prevention report due February 28 each year

c. Emergency Discharge Request Procedure

In the event of the need to discharge to the North Slough during the dry weather season due to an emergency, such as precipitation that reduces reclamation water demand, the Discharger shall notify the Regional Water Board case manager by phone or email of the need to discharge to the North Slough immediately upon making the determination that such a discharge is necessary, and provide information justifying the request. If circumstances prevent the case manager's consideration and response to the request within the time frame necessary, the Discharger may, at its discretion, discharge some or all of the effluent to the North Slough for the duration of the elevated flow event. The Discharger then shall submit a report within five business days from the date of the discharge. In the report, the Discharger shall explain the need to discharge to the North Slough during the dry season and provide information regarding the total volume of flow discharged and the duration of discharge. In accordance with the attached- MRP (Attachment E), the Discharger shall report the discharge quality in the monthly self-monitoring report for that period. Dry weather discharges shall comply with Discharge Prohibition III.C and the effluent limitations contained in sections IV.A, B, and C of this Order.

d. Constructed Freshwater Wetlands Management

The Discharger shall continue to operate and maintain the constructed wetlands in accordance with the Discharger's *Constructed Wetlands Demonstration Project Management Plan* (August 2001, or most recent version). The Discharger shall include monitoring results from any monitoring described in the plan in its monthly self-monitoring reports, and shall report results of the wildlife monitoring census described in the plan quarterly. The Discharger shall report any factors that could affect the finding of net environmental benefit (see Fact Sheet section IV.B) in its annual report.

VII. COMPLIANCE DETERMINATION

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachment A—Definitions, the MRP (Attachment E), Fact Sheet Section VI, and the Regional Standard Provisions (Attachment G). For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger 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).

ATTACHMENT A – DEFINITIONS

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
Those 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
Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (*CV*)
CV is 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 this Order), 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.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit

Dilution Credit is 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.

Effluent Concentration Allowance (ECA)
ECA is 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
Enclosed Bays means 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 San Francisco Bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

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

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters 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 include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the State that 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).

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)
MDL is 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 (40 CFR), Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is 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.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results less than the laboratory's MDL.

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. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

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

Pollutant Minimization Program (PMP)
PMP means 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 California Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means 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 California 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.

Reporting Level (RL)
RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. 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.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

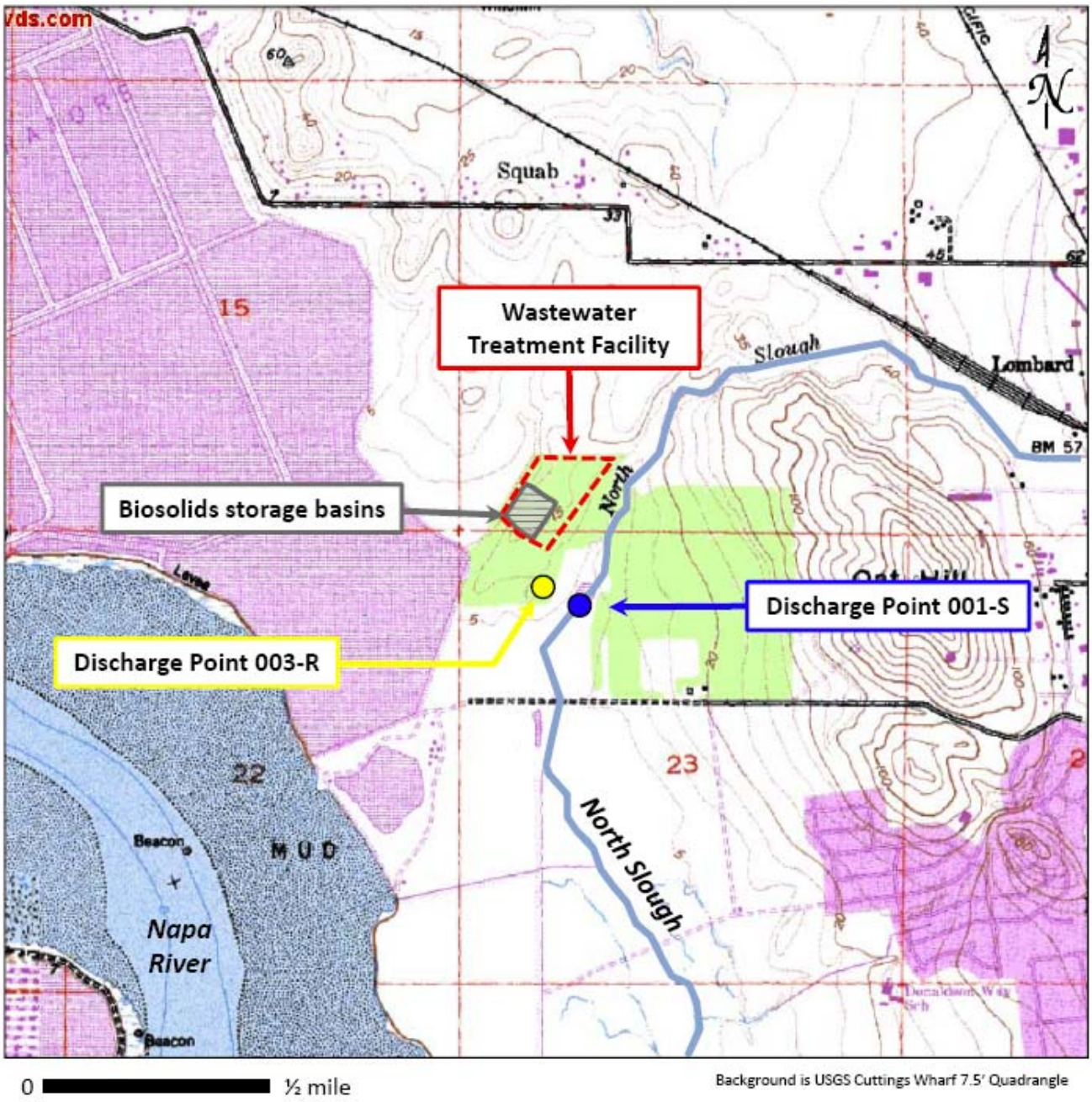
Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

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

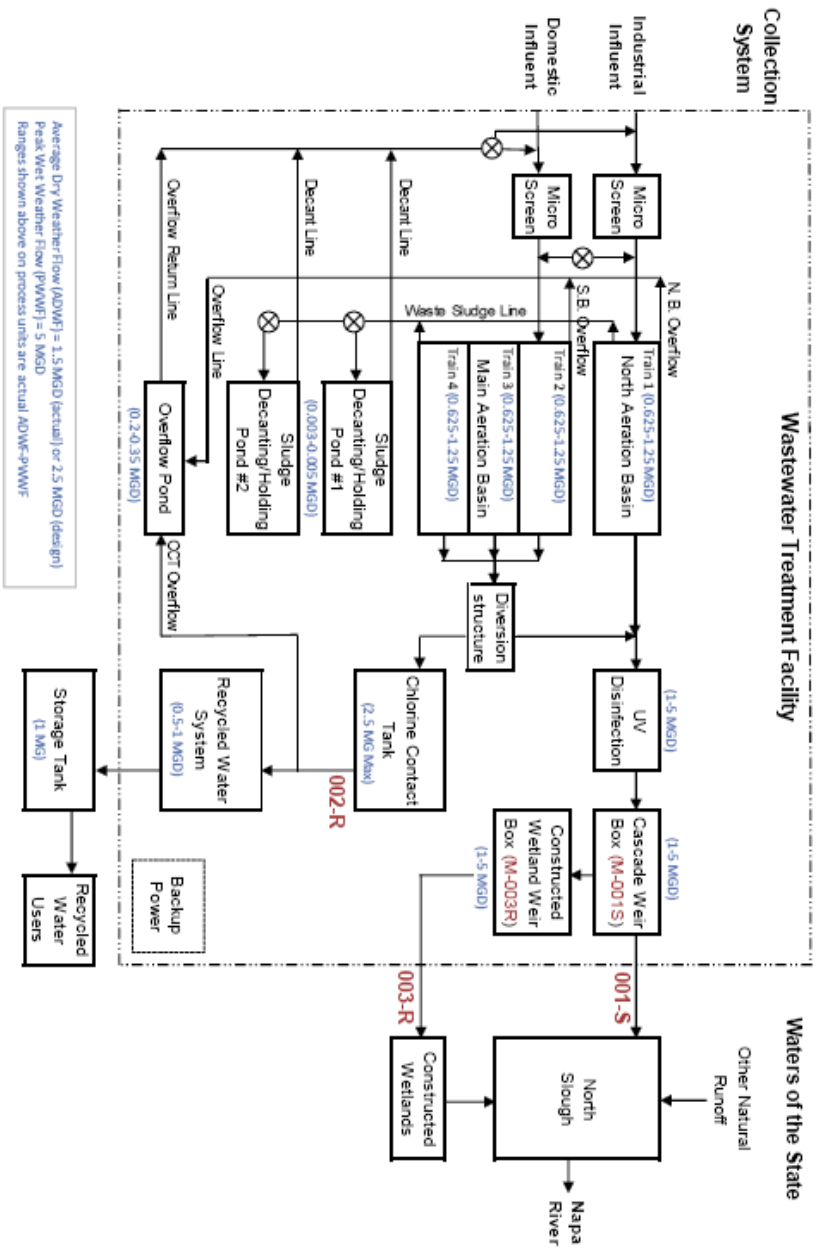
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE)
TRE is 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.)

ATTACHMENT B – FACILITY MAP



ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger 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 Discharger 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 Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR 122.41(c).)

C. Duty to Mitigate

The Discharger 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 Discharger 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 Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order (40 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 Discharger 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); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (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 Discharger 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 Discharger 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 Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C).)

4. 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).)

5. Notice

a. Anticipated bypass. If the Discharger 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 Discharger 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 Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 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 Discharger 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 Discharger 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 Discharger 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 Discharger 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 Discharger 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 Discharger 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 Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 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 this Order to change the name of the Discharger 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 Discharger'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 Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 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 Discharger (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 Discharger 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 Discharger 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); Wat. 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 Discharger 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 Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger 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).)

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 Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 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 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 Discharger'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 Discharger 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 Discharger 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 Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger 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 Order under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 CFR 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Contents

Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

National Pollutant Discharge Elimination System (NPDES) regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and Regional Standard Provisions (Attachment G), the MRP prevails.

B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G of this Order. Equivalent test methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description	Approximate Latitude Longitude
Influent	INF-001	At any point at the Plant's headworks at which all waste from the northern portion of the service area tributary to the North Aeration Basin of the system is present, and preceding any phase of treatment; formerly M-INF-001.	38° 11' 15.8" N 122° 16' 41.4" W
Influent	INF-002	At any point at the Plant's headworks at which all waste from the southern portion of the service area tributary to the Main Aeration Basin of the system is present, and preceding any phase of treatment; formerly M-INF-002.	38° 11' 15.8" N 122° 16' 41.4" W
Effluent	EFF-001	At a point in the Plant's outfall following all treatment, including disinfection, but prior to the cascade weir box where effluent is diverted either to Discharge Point 001 or Discharge Point 003.	38° 11' 17.5" N 122° 16' 38.4" W
Effluent	EFF-001-S	At a point in the Plant's outfall to the North Slough after aeration at the cascade weir box and prior to contact with the receiving water.	38° 11' 16.5" N 122° 16' 37.7" W
Effluent	EFF-002	At a point in the Plant's outfall prior to irrigation reclamation use.	38° 11' 17.9" N 122° 16' 37.9" W
Effluent	EFF-003	At a point in the Plant's outfall to the constructed freshwater wetlands after the cascade weir box and prior to contact with constructed wetlands.	38° 11' 16.5" N 122° 16' 38.0" W
Receiving Water	RSW-001	At a point in the North Slough directly above the center of the outfall; formerly R-001.	38° 11' 16.1" N 122° 16' 37.4" W
Receiving Water	RSW-002	At a point in the North Slough 500 feet downstream of the center of the outfall; formerly R-002.	38° 11' 11.5" N 122° 16' 37.5" W
Receiving Water	RSW-003	At a point in the North Slough 2,000 feet downstream of the center of the outfall; formerly R-003.	38° 10' 52.0" N 122° 16' 41.2" W

Receiving Water	RSW-004	At a point in Pond 1 of the constructed freshwater wetlands; formerly R-004.	38° 11' 5.5" N 122° 16' 49.3" W
Receiving Water	RSW-005	At a point in Pond 2 of the constructed freshwater wetlands; formerly R-005.	38° 11' 2.3" N 122° 16' 53.2" W
Biosolids	BIO-001	Biosolids monitoring of unit 1.	38° 11' 16.6" N 122° 16' 44.5" W
Biosolids	BIO-002	Biosolids monitoring of unit 2.	38° 11' 15.9" N 122° 16' 44.1" W

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor influent to the American Canyon Plant at Monitoring Locations INF-001 and INF-002, as follows. Cyanide monitoring is required under pretreatment monitoring and is not included here.

Table E-2. Influent Monitoring – INF-001 and INF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	2/Week
TSS	mg/L	C-24	2/Week

Legend for Table E-2
Unit Abbreviations:
MG = million gallons
MGD = million gallons per day
mg/L = milligrams per liter
kg/day = kilograms per day
µg/L = micrograms per liter
Sample Type:
C-24 = 24-hour composite
Sampling Frequency:
Continuous/D = measured continuously, and recorded and reported daily
2/Week = Two times per week
1/Month = Once per month

Footnote for Table E-2
[1] Flow Monitoring. Flow shall be monitored continuously, and the following information shall be reported in self-monitoring reports for each month:
- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)

Maximum and minimum daily average flow rates (MGD) and time of occurrence
[2] The Discharger shall report analytical results in its eSMR by manual entry or EDF/CDF (not as an attached file).

IV. EFFLUENT MONITORING REQUIREMENTS

A. Effluent Monitoring –EFF-001

The Discharger shall monitor treated wastewater from the Plant to North Slough and the constructed freshwater wetlands at Monitoring Location EFF-001, as follows. Monitoring is required at Monitoring Location EFF-001 year-round.

Table E-3. Effluent Monitoring – EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	2/Week
TSS	mg/L	C-24	2/Week
BOD and TSS % Removal[2]	%	Calculate	1/Month
Oil and Grease[3]	mg/L	Multiple grabs	1/Month
pH [4]	s.u.	Grab	1/Day or Continuous/D
Total Chlorine Residual[5]	mg/L	Grab	Each occurrence
Enterococcus Bacteria	MPN/100 mL	Grab	2/Week
Turbidity	NTU	C-24	2/Week
Temperature	°C	Grab	1/Day
Salinity	ppt	Grab	1/Week
Acute Toxicity[6]	% Survival	Flow through	1/Month
Chronic Toxicity[7]	TUc	C-24	1/Quarter
Total Ammonia[8]	mg/L as N	C-24	1/Week
Copper	µg/L	C-24	1/Month
Nickel	µg/L	C-24	1/Month
Cyanide	µg/L	Grab	1/Month
Dioxin-TEQ	µg/L	Grab	2/Year
Standard Observations[9]	---	---	1/Month

Legend to Table E-3:

Unit Abbreviations:

MG	= million gallons
MGD	= million gallons per day
s.u.	= standard units
mg/L	= milligrams per liter
kg/day	= kilograms per day
MPN/100 mL	= most probable number per 100 milliliters
NTU	= nephelometric turbidity units
°F	= degrees Fahrenheit
TUc	= chronic toxicity units
µg/L	= micrograms per liter
ppt	= parts per thousand

Sample Type:

C-24	= 24-hour composite

Sampling Frequency:

Continuous/D	= measured continuously, and recorded and reported daily
1/Day	= Once per day
2/Week	= Two times per week
1/Month	= Once per month
1/Quarter	= Once per quarter
1/Year	= Once per year
2/Year	= Twice per year

Footnotes to Table E-3:

[1] Flow Monitoring. Flow shall be monitored continuously, and the following information shall be reported in self-monitoring reports for each month:

- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)

- Maximum daily average flow rates (MGD)

[2] BOD and TSS % Removal. The percent removal for BOD and TSS shall be reported for each calendar month in accordance with Effluent Limitation IV.A.1. Samples for BOD and TSS shall be collected simultaneously with influent samples.

[3] Oil and Grease. Each oil and grease sampling and analysis event shall be conducted in accordance with USEPA Method 1664.

[4] pH. If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in monthly Self-Monitoring Reports (SMRs).

[5] Total Chlorine Residual. During all times when chlorine is used for disinfection. Effluent chlorine residual concentration shall be monitored by a grab sample during the period when chlorine is in use.

[6] Acute toxicity. Acute bioassay tests shall be performed in accordance with Section V.A of this MRP.

[7] Chronic toxicity. Critical life stage toxicity tests shall be performed and reported in accordance with the Chronic Toxicity Requirements of specified in Section V.B of this MRP.

[8] Total Ammonia. Monitoring for total ammonia shall occur concurrently with monitoring for temperature and pH for determination of the un-ionized ammonia fraction.

[9] Standard observations. Standard Observations are specified in the Regional Standard Provisions (Attachment G).

B. Effluent Monitoring – EFF-001-S

The Discharger shall monitor discharges of treated wastewater from the Plant to the North Slough at Monitoring Location EFF-001-S, as follows. Monitoring at Monitoring Location EFF-001-S is required whenever discharges to the North Slough are occurring (November 1 – April 30 and during any emergency discharge to the North Slough during the dry season of May 1 – October 31).

Table E-4. Effluent Monitoring – EFF-001-S

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	Continuous/D
Dissolved Oxygen (D.O.)[2]	mg/L	Grab	1/Day
	% Saturation	Grab	1/Day
Sulfides (if D.O. < 2.0 mg/L)	mg/L	Grab	1/Day

Legend to Table E-4:

Unit Abbreviations:
MG = million gallon
MGD = million gallons per day
mg/L = milligrams per liter
Sample Type:
Continuous = measured continuously
Sampling Frequency:
Continuous/D = measured continuously, and recorded and reported daily

Footnotes to Table E-4:

[1] Flow shall be monitored continuously, and the following information shall be reported in self-monitoring reports for each month:
- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum daily average flow rates (MGD)
- Flows at EFF-001-S are determined by subtracting flow measured at EFF-003 from flow measured at EFF-001.

[2] The Discharger may report just the monthly maximum and minimum for each calendar month in its eSMR by manual entry or EDF/CDF (not as an attached file). The Discharger must continue to keep records of these measurements and make them available upon request.

C. Effluent Monitoring – EFF-002

The Discharger shall monitor discharges of treated wastewater to the reclamation system at Monitoring Location EFF-002, as follows. Monitoring at Monitoring Location EFF-002 is required during the dry season, May 1- October 31, and, as required, during the wet season of November 1 – April 30.

Table E-5. Effluent Monitoring –EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	Continuous/D

Legend to Table E-5:
MGD = million gallons per day
Continuous = measured continuously
Continuous/D = measured continuously, and recorded and reported daily

Footnotes to Table E-5:
[1] Flow shall be monitored continuously, and the following information shall be reported in self-monitoring reports for each month:
- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum daily average flow rates (MGD)

D. Effluent Monitoring –EFF-003

The Discharger shall monitor year round discharges of treated wastewater from the Plant to the constructed wetlands at Monitoring Location EFF-003, as follows.

Table E-6. Effluent Monitoring – EFF-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	Continuous/D
Dissolved Oxygen (D.O.) [2]	mg/L	Grab	1/Day
	% Saturation	Grab	1/Day
Sulfides (if D.O. < 2.0 mg/L)	mg/L	Grab	1/Day

Legend to Table E-6:
Unit Abbreviations:
MG = million gallon
MGD = million gallons per day
mg/L = milligrams per liter
% = percent
Sample Type:
Continuous = measured continuously
Sampling Frequency:
Continuous/D = measured continuously, and recorded and reported daily

Footnotes to Table E-6:
[1] Flow shall be monitored continuously, and the following information shall be reported in self-monitoring reports for each month:
- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum daily average flow rates (MGD)

[2] The Discharger may report just the monthly maximum and minimum for each calendar month in its eSMR by manual entry or EDF/CDF (not as an attached file). The Discharger must continue to keep records of these measurements and make them available upon request.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor whole effluent acute and chronic toxicity at Monitoring Location EFF-001, as follows.

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays at Monitoring Location EFF-001.

2. Test organism shall be fathead minnow (*Pimephales promelas*) or rainbow trout (*Oncorhynchus mykiss*) unless the Executive Officer specifies otherwise in writing.

3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR 136, currently in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* 5th Edition.

4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. The Discharger shall obtain written approval from the Executive Officer to authorize such an adjustment.

5. The sample may be taken from final secondary effluent prior to disinfection. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If a violation of acute toxicity requirements occurs, the bioassay test shall be repeated with new fish as soon as practical and shall be repeated until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

B. Whole Effluent Chronic Toxicity

1. Chronic Toxicity Monitoring Requirements

a. Sampling. The Discharger shall collect 24-hour composite samples of the effluent at Monitoring Location EFF-001 for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

b. Test Species. The test species shall be the mysid shrimp (*Americamysis bahia*). The Discharger shall conduct a screening chronic toxicity test as described in Appendix E-1 following any significant change in the nature of the effluent or prior to application for permit renewal. The most sensitive species shall be used thereafter for routine chronic toxicity monitoring. The Executive Officer may change to another test species if data suggest that another test species is more sensitive to the discharge.

c. Frequency. The frequency of routine and accelerated chronic toxicity monitoring shall be as specified below.

(1) Routine Monitoring: Twice per year, once in the dry season and once in the wet season.

(2) Accelerated Monitoring: Monthly

The Discharger shall accelerate monitoring to monthly after exceeding a three-sample median of 1 TUc[1] or a single sample maximum of 2 TUc. The Executive Officer may specify a different frequency for accelerated monitoring based on the TUc result(s).

(3) Return to Routine Monitoring if accelerated monitoring does not exceed either "trigger" in (2), above.

(4) If accelerated monitoring confirms consistent toxicity in excess of either "trigger" in (2), above, continue with accelerated monitoring, and initiate toxicity reduction evaluation (TRE) procedures in accordance with subsection B.3, below.

(5) Return to routine monitoring after appropriate elements of the TRE are implemented and either the toxicity drops below both "trigger" levels in (2), above, or based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

Monitoring conducted pursuant to a TIE/TRE effort shall satisfy the requirements for routine and accelerated monitoring while the TIE/TRE investigation is underway.

d. Methodology. Sample collection, handling, and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014), and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

[1] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC25, EC25, or NOEC values. These terms, their usage, and other chronic toxicity monitoring program requirements are defined in more detail in the MRP (Attachment E).

e. Dilution Series. The Discharger shall conduct tests with a control and five effluent concentrations (including 100% effluent) and using a dilution factor ≥ 0.5. Test sample pH in each dilution in the series may be controlled to the level of the effluent sample as received prior to being salted up.

2. Chronic Toxicity Reporting Requirements

a. Routine Reporting. Toxicity test results for the current reporting period shall include, at a minimum, for each test:

(1) Sample dates

(2) Test initiation date

(3) Test species

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

(5) NOEC values in percent effluent

(6) IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) as percent effluent

(7) TUc values (100/NOEL, where NOEL =IC_{25}, EC_{25} or NOEC as discussed in Appendix E-1)

(8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

(9) NOEC and LOEC values for reference toxicant tests

(10) IC_{50} or EC_{50} values for reference toxicant tests

(11) Available water quality measurements for each test (pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)

b. Compliance Summary. The results of the chronic toxicity testing shall be provided in the self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include items listed above under 2.a, specifically item numbers (1), (3), (5), (6) (IC_{25} or EC_{25}), (7), and (8).

3. Chronic Toxicity Reduction Evaluation (TRE)

a. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the work plan as necessary so that it remains current and applicable to the discharge and discharge facilities.

b. Within 30 days of exceeding either trigger for accelerated monitoring, the Discharger shall submit to the Regional Water Board a TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. Within 30 days of the date of completion of the accelerated monitoring tests observed to exceed either trigger, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.

d. The TRE shall be specific to the discharge and be in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

(1) Tier 1 consists of basic data collection (routine and accelerated monitoring).

(2) Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.

(3) Tier 3 consists of a toxicity identification evaluation (TIE).

(4) Tier 4 consists of evaluation of options for additional effluent treatment processes.

(5) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.

(6) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with requirements of Section IV.C.2 of the Order).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source 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 evaluation parameters.

h. Many recommended TRE elements parallel required or recommended 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 or recommended efforts of such programs may be acceptable to comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and 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 Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. RECEIVING WATER MONITORING REQUIREMENTS

A. The Discharger shall monitor ambient receiving water conditions in the North Slough at Monitoring Locations RSW-001, RSW-002, and RSW-003, as specified in Table E-7. The monitoring at all the locations shall be conducted on the same day.

Table E-7. Receiving Water Monitoring – RSW-001, RSW-002 and RSW-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
Turbidity	NTU	Grab	1/Month
pH	s.u.	Grab	1/Month
Temperature	°C	Grab	1/Month
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Month
	% Saturation	Grab	1/Month
Total Ammonia[1]	mg/L as N	Grab	1/Month
Total Phosphate	mg/L	Grab	1/Month
Hardness	mg/L	Grab	1/Month
Salinity	ppt	Grab	1/Month
Chlorophyll *a*	µg/L	Grab	1/Month
Standard Observations[2]	---	---	1/Month

Legend to Table E-7:
NTU = nephelometric turbidity units
s.u. = standard units
mg/L = milligrams per liter
µmhos/cm = micromhos/cm
ppt = parts per thousand
µg/L = micrograms per liter
1/Month = once per month

Footnotes to Table E-7:

[1] Monitoring for total ammonia shall occur concurrently with monitoring for temperature and pH for determination of the un-ionized ammonia fraction.

[2] Standard Observations are specified in the Regional Standard Provisions (Attachment G).

B. The Discharger shall monitor, on the same day, ambient receiving water conditions in the constructed freshwater wetland ponds at Monitoring Locations RSW-004 and RSW-005, as specified in Table E-8.

Table E-8. Receiving Water Monitoring –RSW-004 and RSW-005

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow from Pond 2 to North Slough	MG	Continuous	Continuous
pH	s.u.	Grab	1/Month
Temperature	°C	Grab	1/Month
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Month
	% Saturation	Grab	1/Month
Total Ammonia[1]	mg/L as N	Grab	1/Month
Hardness	mg/L	Grab	1/Month
Salinity	ppt	Grab	1/Month

Legend to Table E-8:
MG = million gallons
s.u. = standard units
mg/L = milligrams per liter

µmhos/cm = micromhos/cm
ppt = parts per thousand
µg/L = micrograms per liter
1/Month = once per month

Footnotes to Table E-8:

[1] Monitoring for total ammonia shall occur concurrently with monitoring for temperature and pH for determination of the un-ionized ammonia fraction.

VII. PRETREATMENT AND BIOSOLIDS MONITORING REQUIREMENTS

The Discharger shall comply with the pretreatment requirements specified in Table E-9 for influent (at Monitoring Location INF-001), effluent (at Monitoring Location EFF-001), and biosolids monitoring (at Monitoring Locations BIO-001 and BIO-002). The Discharger shall report summaries of analytical results in annual and semi-annual pretreatment reports in accordance with Attachment H. At its option, the Discharger may also report biosolids analytical results in its eSMR by manual entry, by EDF/CDF, or as an attached file.

Table E-9. Pretreatment and Biosolids Monitoring Requirements

Constituents	Sampling Frequency			Sample Type[4]	
	Influent INF-001	Effluent EFF-001[3]	Biosolids BIO-001 & BIO-002	INF-001 and EFF-001	Biosolids BIO-001 & BIO-002
VOC	2/Year	2/Year	[5]	Grab	Grab[4c]
BNA	2/Year	2/Year	[5]	Grab	Grab[4c]
Metals[1]	1/Month	1/Month	[5]	24-hr Composite[4a]	Grab[4c]
Hexavalent Chromium[2]	1/Month	1/Month	[5]	Grab	Grab[4c]
Mercury	1/Month	1/Month	[5]	24-hr Composite[4a,4b]	Grab[4c]
Cyanide	1/Month	1/Month	[5]	Grab	Grab[4c]

Legend for Table E-9:

Constituents:
VOC volatile organic compounds
BNA base/neutrals and acids extractable organic compounds

Sampling Frequency:

1/month once per month
2/year twice per year

Footnotes for Table E-9:

[1] The metals are arsenic, cadmium, copper, lead, nickel, silver, zinc, and selenium.
[2] The Discharger may elect to report total chromium instead of hexavalent chromium. Sample collection for total chromium measurements shall be 24-hour composite sampling.
[3] Effluent monitoring conducted in accordance with Table E-3 can be used to satisfy these pretreatment monitoring requirements.
[4] Sample types:
  a. 24-hour composite samples may be made up discrete grab samples and may be combined (volumetrically flow-weighted) prior to analysis, or they may be mathematically flow-weighted. If an automatic compositor is used, 24-hour composite samples must be obtained through flow-proportioned composite sampling.
  b. Automatic compositors are allowed for mercury if either (1) the compositing equipment (hoses and containers) comply with ultraclean specifications, or (2) appropriate equipment blank samples demonstrate that the compositing equipment has not contaminated the sample.
  c. The biosolids sample shall be a composite of the biosolids to be disposed. Biosolids collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4. The Discharger shall also comply with the biosolids monitoring requirements of 40 CFR 503.
[5] Biosolids shall be analyzed prior to land application, surface disposal, or incineration.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachment D) and the Regional Standard Provisions (Attachment G) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit paper copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event that there is a service interruption for electronic submittal.

2. The Discharger shall submit SMRs by the due dates specified below:

   a. **Monthly SMR —** Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in V.B. and V.C. of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with the monthly SMR.

   b. **Annual SMR —** Annual SMRs shall be due February 1 of each year, covering the previous calendar year. The annual SMR shall contain the items described in V.C.1.f. of the Regional Standard Provisions (Attachment G). See also Provisions VI.C.2. (Effluent Characterization Study and Report), and VI.C.4 (Facility Reliability Assurance Status Report) of the Order for requirements to submit reports with the annual SMR.

   c. **Additional Specifications for Submitting SMRs to CIWQS —** If the Discharger submits SMRs to CIWQS, it shall submit analytical results and other information using one of the following methods:

Table E-10. SMR Reporting for CIWQS

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for All Results	
Dissolved Oxygen Temperature	Required for Monthly Maximum and Minimum Results Only (1)	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium	Required for All Results (2)	

	Method of Reporting	
Chromium Copper Lead Mercury Nickel Selenium Silver Zinc Dioxins and Furans (by U.S. EPA Method 1613)		
Antimony Beryllium Thallium Pollutants by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625	Not Required (unless identified in influent, effluent, or receiving water monitoring tables), But Encouraged (1)	Discharger may use this method and submit results with application for permit reissuance, unless data submitted by CDF/EDF upload
Volume and Duration of Blended Discharge (3)	Required for All Blended Effluent Discharges	
Analytical Method	Not Required (Discharger may select "data unavailable") (1)	
Collection Time Analysis Time	Not Required (Discharger may select "0:00") (1)	

Footnotes for Table E-10:

(1) The Discharger shall continue to monitor at the minimum frequency specified in the monitoring tables, keep records of the measurements, and make the records available upon request.

(2) These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).

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

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Permit effective date	All
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
1/Week 2/Week	Permit effective date	Sunday through Saturday
1/Month	Permit effective date	First day of calendar month through last day of calendar month
1/Quarter	Permit effective date	November 1 – January 31, February 1 – April 30, May 1 – July 31, August 1 – October 31
1/Year	Permit effective date	January 1through December 31
2/Year	Permit effective date	Once during the wet season (typically November 1 – April 30) and once during the dry season (typically May 1 through October 31)

At its option, the Discharger may choose not to report data required above for "Priority Pollutants for RPA." In this case, the Discharger shall instead identify in the applicable self-monitoring report that the required sample was collected, and identify only those priority pollutants that were detected above or within one order of magnitude of their applicable WQOs (see Fact Sheet Table F-10 in Attachment F of this Order) along with the detected priority pollutants' measured levels. If the Discharger chooses to defer submittal of these data close to the time of collection, it shall instead report all the data with its Report of Waste Discharge and application for permit reissuance.

4. **ML and MDL Reporting**. The Discharger shall report with each sample result the **Reporting** Level (**R**L) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 136. The Discharger 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 **R**L 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. Dischargers 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 Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

C. Discharge Monitoring Reports

1. As described in Section VIII.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs.) Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. Once notified by the State or Regional Water Board, the Discharger shall submit hard copy DMRs. DMRs must be signed and certified as required by the Standard Provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR 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, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

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

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables, or as approved by the Executive Officer.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Appendix E-2 (attached).
b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

5. Dilution series of 100%, 50%, 25%, 12.5%, 6.25%, and 0 %, where "%" is percent effluent as discharged, or as otherwise approved the Executive Officer.

C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

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

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

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.

2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.

3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

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

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Final cell density	4 days	4

Toxicity Test Reference:

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

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

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

[1] (a) Marine refers to receiving water salinities greater than 1 part per thousand (ppt) at least 95 percent of the time during a normal water year.

(b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

(b) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.

[2] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 ppt greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

ATTACHMENT F - FACT SHEET

Contents

Tables

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, 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 Discharger. Sections or subsections of this Order not specifically identified as "not applicable" fully apply to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the American Canyon Wastewater Treatment Facility (hereinafter the Plant).

Table F-1. Facility Information

WDID	2 283021001
CIWQS Place ID	205477
Discharger	City of American Canyon
Name of Facility	American Canyon Wastewater Treatment Facility and its associated wastewater collection system
Facility Address	151 Mezzetta Court, American Canyon, CA 94503, Napa County
CIWQS Place Number	205477
Facility Contact, Title, Phone	Peter Lee, Wastewater Systems Manager, (707) 647-4525
Authorized Person to Sign and Submit Reports	Same as above
CIWQS Party Number	350236
Mailing Address	151 Mezzetta Court, American Canyon, CA 94503
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes (not subject to USEPA approval)
Reclamation Requirements	Regional Water Board Order No. 96-011
Mercury and PCBs Discharge Requirements	Regional Water Board Order No. R2-2007-0077
Facility Permitted Flow	2.5 million gallons per day (MGD) (average daily dry weather flow)
Facility Design Flow	2.5 MGD (average dry weather design flow) 4.0 MGD (peak dry weather flow) 5.0 MGD (peak wet weather flow)
Watershed	San Pablo Bay
Receiving Water	North Slough and constructed freshwater wetlands
Receiving Water Type	Estuarine
Service Area	City of American Canyon
Service Area Population	16,800 (2010 estimate)

A. The City of American Canyon (hereinafter the Discharger) is the owner and operator of the Plant, a publicly owned treatment works, and its associated sewage collection system (hereinafter collectively the Facility). The Plant provides advanced secondary treatment of wastewater collected from its service area and discharges to North Slough during the wet weather season and to constructed freshwater wetlands year-round.

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 Discharger herein.

B. Discharge of treated wastewater from the Plant to the North Slough, a water of the State and the United States, is currently regulated by Order No. R2-2006-0036, CIWQS Regulatory Measure No. 304952 (NPDES Permit No. CA0038768), as amended by Order No. R2-2010-0056. Order No. R2-2006-0036, which was adopted on June 14, 2006 became effective on July 1, 2006 and expired on June 30, 2011. Discharges from the Plant to the North Slough are also covered by Regional Water Board Order No. R2-2007-0077 (NPDES Permit No. CA0038849), which supersedes all requirements regarding mercury and polychlorinated biphenyls (PCBs). This Order does not affect Permit No. CA0038849.

C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit dated December 30, 2010. The Discharger revised the application January 24, 2011. The application was deemed complete and the previous permit was administratively extended.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment

1. **Facility Description.** The Discharger owns and operates the American Canyon Wastewater Treatment Facility, and its associated wastewater collection system (hereinafter collectively the Facility). The Plant, located within the City of American Canyon (See Attachment B), provides advanced secondary treatment of domestic, commercial, and industrial wastewater for the City, which has a population of approximately 16,800. Industrial dischargers to the plant include a food processing facility, a winery, a drinking water bottling and water softener regeneration facility, and a beverage bottling company. The wastewater from these industrial dischargers has elevated total dissolved solids concentrations.

   Treated wastewater from the Plant is disinfected and either used as reclaimed water for irrigation or it is discharged directly, or through constructed wetland ponds, to the North Slough, a tributary of the Napa River.

   As indicated, there are two types of influent flows to the Plant, one being domestic and commercial wastewater and the other industrial wastewater. These flows are kept separate because only treated domestic and commercial wastewater is suitable for reclamation. Industrial wastewater has a total dissolved solids concentration that makes it unsuitable for reclamation, so it is treated and then conveyed to the North Slough or the constructed wetlands.

2. **Treatment Description.** Treatment processes consist of headworks, screening, grit removal, and treatment trains consisting of anoxic and aerobic biological treatment and membrane filters. These steps are shown in the process flow diagram, Attachment C. Wastewater discharged to the North Slough or wetlands is then UV-disinfected and aerated before discharge. The separate reclaimed water stream is disinfected with hypochlorite before being pumped to an off-site reclaimed water storage tank.

3. **Discharge Points.** In the wet season, from November 1 through April 30, the demand for reclaimed water is minimal, and treated effluent from domestic and commercial sources can be discharged to North Slough at Discharge Point 001. North Slough the Napa River. During the dry season, from May 1 through October 31, when there is a demand for reclaimed water, direct discharge to the North Slough is prohibited. Throughout the year, treated effluent from industrial sources is discharged at Discharge Point 003 to two constructed freshwater wetland ponds. Treated effluent enters the wetlands at Pond 1, flows to Pond 2 through an outlet device, and flows from Pond 2 to North Slough. During the dry season, treated domestic and commercial wastewater not used for reclamation is also discharged to these ponds. Between July 2006 and October 2010 the maximum daily and average daily discharge rates to these wetlands were 2.9 and 1.0 MGD.

4. **Reclamation Activities.** During the dry season, May 1 through October 31, treated effluent from domestic and commercial wastewater is chlorine-disinfected for reclamation uses. As indicated above, flow not used for reclamation is UV-disinfected and discharged to the constructed wetlands. Reclaimed water is used for irrigation at American Canyon High School, local vineyards, and City parks and street medians. Reclamation facilities include at least ten miles of reclamation pipe and a one million gallon storage tank. Reclamation activities are governed by a General Water Reuse Order, Regional Water Board Order No. 96-011.

5. **Collection System.** The Discharger's wastewater collection system includes approximately 31 miles of gravity sewer main, 2.5 miles of force main, and five pump stations.

6. **Biosolids Management.** Biosolids generated during the treatment process are stored in two earthen clay lined sludge storage basins, each with a three million gallon capacity. One of the basins also contains a hypalon liner. The basins are sized to provide an approximate storage capacity of up to ten years of solids.

7. **Storm Water Discharge.** The Discharger is not required to be covered under the State Water Board's statewide industrial stormwater NPDES permit (NPDES General Permit No. CAS000001) because all storm water flows in contact with equipment or wastewater at the Plant and the pump stations serving the Plant are collected and directed to the headworks for treatment.

B. Discharge Point and Receiving Waters

The location of the discharge points are shown in Table F-2 below.

Table F-2. Discharge Points

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Advanced Secondary Treated Municipal Wastewater	38° 11′ 16.5″ N	122º 16′ 37.7″ W	North Slough
003	Advanced Secondary Treated Municipal Wastewater	38º 11′ 05.7″ N	122º 16′ 44.8″ W	Constructed Wetlands

North Slough and the constructed wetland ponds are located within the San Pablo watershed. North Slough is a seasonal drainage area that collects stormwater runoff from a relatively small watershed on the eastern slope of Napa Valley. The North Slough wetlands are tidally influenced and wet year-round. Two channels in the vicinity of the discharge lead to North Slough. The Plant discharges to the channel to the west, which is dry during summer. The discharge to North Slough is a shallow water discharge because the discharge does not always receive 10:1 dilution.

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

Effluent limitations applicable to Discharge Points 001 and 003 contained in the previous Order (Order No. R2-2006-0036), as amended by Regional Water Board Order No. R2-2010-0056 (which implements copper and cyanide site specific objectives), and representative monitoring data from the term of the previous permit are presented in Tables F-3 and F-4, below.

Table F-3. Historic Effluent Limitations and Pollutant Monitoring Data

Parameter	Units	Effluent Limitations			Monitoring Data (From 7/07 to 10/10)
		Monthly Average	Weekly Average	Daily Maximum	Highest Daily Discharge
5-day Biochemical Oxygen Demand ($BOD_{5)}$	mg/L	10	15	---	24
Total Suspended Solids (TSS)	mg/L	10	15	---	8
Oil and Grease	mg/L	---	---	10	<5
pH	s.u.	Within 6.5 – 8.5			Minimum: 6.7, Maximum: 8.2
Chlorine Residual	mg/L	---	---	[1]	0.5
Ammonia	mg/L as N	2.0	3.0	4.0	5
Turbidity	NTU	---	---	10	no data
Total Coliform Bacteria	MPN/100 mL	---	2.2[2]	23	500

Legend to Table F-3:
s.u. standard units
MPN/100 mL Most Probable Number per 100 milliliters

Footnotes to Table F-3:
[1] Concentrations of residual chlorine in the effluent is limited to 0.0 mg/L at all times.
[2] The total coliform limitation is expressed as a moving median of any seven consecutive samples.

Table F-4. Historic Effluent Limitations and Monitoring Data for Toxic Pollutants

Parameter	Units	Effluent Limitations		Monitoring Data (From 7/06 to 10/10)
		Monthly Average	Daily Maximum	Highest Daily
Copper	µg/L	6.2	11	6.9
Mercury	µg/L	0.021	0.039	0.021
Selenium	µg/L	4.2	8.0	3
Cyanide	µg/L	7.0	14	4.7

D. Compliance Summary

1. **Compliance with Numeric Effluent Limits.** Ten violations of numeric effluent limits, listed below, have occurred during the previous permit term. Administrative Civil Liabilities issued through State Water Board Order No. SWB-2008-2-0001 and Regional Water Board Order No. R2-2006-0080 addressed these violations.

Table F-5. Numeric Effluent Limitation Exceedances

Date of Violation	Exceeded Parameter	Units	Effluent Limitation	Reported Concentration
09/27/06	Ammonia, Maximum Daily	mg/L	4	5
06/06/07	Chlorine Residual	mg/L	0.0	1.42
06/23/07	BOD_5, Weekly Average	mg/L	15	16.3
06/27/07	Chlorine Residual	mg/L	0.0	0.35
08/16/07	Chlorine Residual	mg/L	0.0	0.4
10/02/07	Chlorine Residual	mg/L	0.0	0.5
06/19/08	Total Coliform, Maximum Daily	MPN/100 mL	23	500
08/26/08	Ammonia, Weekly Average	mg/L	3	3.2
07/06/09	Ammonia, Maximum Daily	mg/L	4	4.78
06/17/10	Ammonia, Maximum Daily	mg/L	4	4.1

2. **Compliance with Previous Permit Provisions**. The Discharger has complied with requirements in the previous permit, Provisions VI.C.2.d and VI.C.2.e., for on going reports on Constructed Wetland Management and Constructed Wetlands.

E. Planned Changes

No changes are planned during this Order's term.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

This Order's requirements are based on the requirements and authorities described in this section.

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

Under CWC section 13389, this action to issue an NPDES permit is exempt from the provisions of CEQA.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The *Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives (WQOs) for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve WQOs. The Basin Plan was adopted by the Regional Water Board and approved by the State Water Board, the Office of Administrative Law, and USEPA as required. Requirements of this Order implement the Basin Plan. The Basin Plan specifically identifies beneficial uses for the tidal portion of the Napa River, to which North Slough and the freshwater constructed wetlands are tributary.

   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. Because of marine influence on North Slough, total dissolved solids levels exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. The constructed wetlands also meet an exception to Resolution No. 88-63 because they are designed to collect wastewater treatment plant effluent. The MUN designation therefore does not apply to the receiving waters for Facility discharges. The Basin Plan beneficial uses for the tidal portion of the Napa River are listed in the table below.

Table F-6 Basin Plan Beneficial Uses

Receiving Water Name	Beneficial Uses
Napa River (tidal)	Commercial and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

The Regional Water Board adopted Resolution No. 2010-0100 on July 14, 2010, amending Basin Plan Table 2-1. This Basin Plan amendment adds nearly 275 surface water bodies to Table 2-1 and designates beneficial uses for the newly added and some existing water bodies, The Napa River, to which North Slough is tributary, is tidally influenced. The Basin Plan amendment lists the tidal portion of the Napa River as a new water body and designates the beneficial uses listed in Table F-7 to it. The State Water Board and USEPA have yet to consider this Basin Plan amendment.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR and apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. USEPA amended the CTR on February 13, 2001. These rules contain water quality criteria (WQC) for priority toxic pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (hereinafter the State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated through the NTR and to the WQOs established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21]. 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.

5 **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality based effluent limitations for individual pollutants. Derivation of these technology-based limitations is discussed in this Fact Sheet. This Order's technology-based pollutant restrictions on BOD and TSS implement the minimum applicable federal technology-based requirements and the requirements of the Basin Plan..

Water Quality Based Effluent Limits (WQBELs) have been derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and WQOs contained in the Basin Plan were approved under State law and submitted to USEPA

prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1).

6 **Antidegradation Policy.** NPDES regulations at 40 CFR 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 in State Water Board Resolution 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that existing quality of waters 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.

7. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and 40 CFR 122.44(l) prohibit 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 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 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 Discharger is responsible for meeting all requirements of applicable State and federal law pertaining to threatened and endangered species.

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

In November 2006, pursuant to CWA section 303(d), USEPA approved a revised list of impaired water bodies 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 water bodies. The SIP requires that final effluent limitations for all 303(d)-listed pollutants be consistent with TMDLs and associated wasteload allocations.

North Slough is not on the 303(d) list but is tributary to the Napa River, which is tributary to San Pablo Bay. The Napa River appears on the 303(d) list due to nutrients, pathogens, and sediment. San Pablo Bay is on the list due to chlordane, DDT, dieldrin, dioxins and furans, mercury, nickel, PCBs, selenium, and exotic species. The Regional Water Board has adopted and USEPA has approved pathogens and sediment TMDLs for the Napa River, and mercury and PCBs TMDLs for San Francisco Bay (including San Pablo Bay). Regional Water Board Order No. R2-2007-0077 implements the mercury and PCBs TMDLs. This Order's effluent limitations for total coliform bacteria and total suspended solids are consistent with the pathogens and sediment TMDLs.

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 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 NPDES regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative WQOs to protect the beneficial uses of the receiving water.

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than that described in this Order):** This prohibition is based on 40 CFR 122.21(a), duty to apply, and CWC section 13260, which requires filing an application and Report of Waste Discharge before discharges can occur. Discharges not described in the permit application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B (No bypass or overflow of untreated or partially treated wastewaters):** This prohibition is based on 40 CFR 122.41(m). See federal Standard Provisions, Attachment D, section G. This prohibition is retained from the previous permit.

3. **Discharge Prohibition III.C (Average dry weather flow not to exceed 2.5 MGD):** This prohibition is retained from the previous permit and is based on the design treatment capacity of the Facility treatment system. Exceedance of the plant's average dry weather flow design capacity may result in lowering the reliability of achieving compliance with water quality requirements.

4. **Discharge Prohibition III. D (No sanitary sewer overflows):** Discharge Prohibition No. 15 from Basin Plan Table 4-1 and the CWA prohibit the discharge of wastewater to surface waters except as authorized under an NPDES permit. Publicly owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards [33 U.S.C. § 1311 (b)(1)(B and C)]. A sanitary sewer overflow that results in the discharge of raw sewage, or sewage not meeting effluent limitations required by the Order, to surface waters is therefore prohibited under the CWA and the Basin Plan.

5. **Discharge Prohibition III.E (Discharge to North Slough prohibited May 1 through October 31):** This prohibition is retained from the previous permit and is based on the Basin Plan Discharge Prohibition 1 (Chapter 4), which prohibits discharges not receiving a minimum 10:1 initial dilution. The North Slough is a seasonal tidal wetland that does not provide 10:1 dilution during the dry season; therefore, discharge is prohibited during this period to protect beneficial uses of the receiving water. A partial exception to Discharge Prohibition 1 is granted during the wet season from November through April, as explained in IV.B, below.

> The Regional Water Board may authorize an exception to this prohibition from May to November under emergency situations. When making an emergency discharge request, the Discharger will need to demonstrate the need to discharge treated wastewater. This exception is continued from the previous permit and is intended to protect the treatment facility from being flooded and prevent the occurrence of uncontrolled spills. This permit also allows (Provision VI.c.6.c) that if an emergency discharge is due to heavy storms, the Discharger may notify the Regional Water Board case manager when a discharge is unavoidable, and discharge treated wastewater at its discretion.

B. Shallow Water Discharge and Basin Plan Discharge Prohibition 1

The Basin Plan (Chapter 4, Table 4-1, Discharge Prohibition 1) prohibits discharges not receiving a minimum 10:1 initial dilution or to dead end sloughs. In accordance with the Basin Plan, this Order continues to grant the Discharger a partial exception to the discharge prohibition for discharges to the North Slough. The partial exception allows discharges to the North Slough during the wet season (November through April) and authorized emergency discharges during the dry season (May through October). An emergency discharge occurred once during the term of the previous permit for one day in May 2007. The basis for allowing the exception is described below.

The Basin Plan states that exceptions to Prohibition 1 will be considered for discharges where:

- an inordinate burden would be placed on the discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means;
- a discharge is approved as part of a reclamation project; or
- net environmental benefits will be derived as a result of the discharge.

The Basin Plan further states:

> Significant factors to be considered by the Regional Water Board in reviewing requests for exceptions will be the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequences of such discharges.

This Order continues the exception to Discharge Prohibition 1 because an inordinate economic burden would be placed on the Discharger relative to the beneficial uses protected to require the discharge achieve a 10:1 dilution. Facilities to achieve 10:1 dilution would be prohibitively expensive to construct considering that the Plant is located 10 miles upstream from the deep water channel in Carquinez Strait. The Discharger provides an equivalent level of protection through advanced secondary treatment of discharges and by implementing enhanced measures to ensure the reliability of the Discharger's treatment system in preventing inadequately treated wastewater from being discharged to the receiving water. To address the Discharger's treatment reliability, Provision VI.C.4 of the Order requires the Discharger to conduct routine analyses of its collection and treatment system with attention toward preventing discharges of inadequately treated wastewater. To ensure reliability, the Facility also includes a 5 MG storage basin to store wastewater during peak flows or other emergency events. Influent can be diverted to and

temporarily stored in the basin and returned to the headworks for full treatment once flows have subsided.

Net environmental benefits from the discharge from Discharge Point 003 would also support an exception. Treated effluent is diverted year-round through Discharge Point 003 to constructed freshwater wetlands. The constructed wetlands are approved as part of a reclamation project and managed consistently with the Regional Water Board's *Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands* (Regional Water Board Resolution 94-086.) The project has been endorsed by the California Department of Fish and Game and the Napa County Mosquito Abatement District. Multiple varieties of vegetation have been cultivated in the freshwater wetlands to create nesting habitat for fresh and brackish water bird species. Quarterly biological surveys have been conducted and have confirmed habitation of Common Moorhen, Kestrel, American Coot, Yellow-rumped Warbler, and snowy egret, and the presence of plant species including duck weed. The constructed freshwater wetlands also provide a transition zone to the brackish wetlands of the North Slough.

In addition to justifying an exception to Prohibition 1 based on inordinate burden and equivalent protection, and net environmental benefit, an exception could also be justified, at least in part, because the Discharger implements and maintains significant reclamation projects. Approximately 15 MG of the Discharger's effluent (2.5% of the influent) was reclaimed in 2007. To increase the amount of water recycled, the Discharger installed 9.5 miles of purple pipe throughout the City of American Canyon and installed a 1 MG storage tank for recycled water. Due to these improvements, new recycled water users have been added. Treated effluent is reused for irrigation of American Canyon High School, local vineyards, and City parks and street medians. Reclaimed water production was increased to 25 MG (approximately 4% of the influent) during the 2010 irrigation season.

C. Technology-Based Effluent Limitations

1. Scope and Authority for Technology-Based Effluent Limitations

CWA section 301(b) and 40 CFR 122.44 require that permits include conditions meeting 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 Secondary Treatment Standards at 40 CFR 133. These Secondary Treatment Regulations include the following minimum requirements. The 30-day average percent removal for Biochemical Oxygen Demand (BOD_5) and total suspended solids (TSS), by concentration, is not to be less than 85 percent.

Table F-7. Secondary Treatment Requirements

Parameters	30-Day Average	7-Day Average
BOD_5	30 mg/L	45 mg/L
$CBOD_5$ [1]	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Footnotes for Table F-8:
[1] At the option of the permitting authority, effluent limitations for $CBOD_5$ may be substituted for limitations for BOD_5.

2. Effluent Limitations for Conventional and Non-conventional Pollutants

This Order retains the effluent limitations for conventional and non-conventional pollutants from the previous permit. The basis for these limitations is explained below.

a. BOD_5 and TSS. The BOD_5 and TSS effluent limitations, including the 85 percent removal requirement, are unchanged from the previous permit. These BOD_5 and TSS concentration-based effluent limitations are more stringent than the secondary treatment standards require, but effluent data show they are technologically feasible and, as discussed in section IV.B above, demonstrate a level of equivalent protection to justify an exception to Basin Plan Discharge Prohibition 1 (Basin Plan Table 4-1).

b. Oil and Grease. The oil and grease effluent limitations are unchanged from the previous permit and more stringent than required by Basin Plan Table 4-2. Effluent data show they are technologically feasible and, as discussed in section IV.B above, demonstrate a level of equivalent protection to justify an exception to Basin Plan Discharge Prohibition 1.

c. pH. The pH limitation is retained from the previous permit and required by Basin Plan Table 4-2 for shallow water discharges.

d. Enterococcus Bacteria: The 30-day geometric mean effluent limitation for enterococcus bacteria is changed from the previous Order to reflect USEPA bacteriological criteria for marine and estuarine waters with the REC-1 beneficial use. (The limitation is consistent with the Regional Water Board's action in 2010 when it amended the Basin Plan through Resolution No. R2-2010-0066; the Basin Plan amendment is under review by the State Water Board and is not yet in effect). Specifically, the limit is based on the USEPA 30-day geometric mean enterococcus bacteria criteria established at 40 CFR 131.41 for coastal recreational waters, including coastal estuaries, in California. These water quality criteria became effective on December 16, 2004 [69 Fed. Register 67218 (November 16, 2006)].

e. Total Chlorine Residual. The chlorine residual effluent limitation is based on Basin Plan Table 4-2. It is unchanged from the previous permit. The Discharger may use a continuous online monitoring system to measure flow, chlorine, and sodium bisulfite concentration and dosage to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that false positives of chlorine residual exceedances are not violations of this limitation. Self-monitoring data show the Discharger can comply with this limitation.

f. Turbidity. The effluent limitation for turbidity is retained from the previous permit to ensure that the Plant maintains a consistent level of treatment and, as discussed in section IV.B above, demonstrates a level of equivalent protection to justify an exception to Basin Plan Prohibition 1. The turbidity limit is consistent with the requirements for disinfected tertiary recycled water at 22 CCR 60301.230.

g. Total Ammonia. The average monthly and, average weekly effluent limitations for total ammonia are retained from the previous permit to ensure that the Plant maintains its

existing ammonia removal performance and that current ammonia conditions are maintained in the receiving water. The maximum daily limitation was not retained because it was not based on operating data, and was more stringent than performance limits set for other facilities. Effluent data show the average weekly and average monthly effluent limits are technologically feasible to achieve.

D. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs have been derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law. The procedures for calculating individual WQBELs are based on the SIP and the Basin Plan. Most Basin Plan beneficial uses and WQOs were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than those required by CWA water quality standards.

1. Scope and Authority

a. 40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have reasonable potential to cause or contribute to an excursion of a water quality standard, including numeric and narrative objectives within a standard. As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants "which the Director determines 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."

   The process for determining "reasonable potential" and calculating WQBELs when necessary is intended to protect the designated beneficial uses of the receiving water as specified in the Basin Plan, and achieve applicable WQOs contained in other state plans and policies, and applicable WQC contained in the CTR and NTR.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

   (1) NPDES Regulations. NPDES regulations at 40 CFR 122.45(d) state, "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."

   (2) SIP. SIP section 1.4 requires WQBELs to be expressed as MDELs and average monthly effluent limitations (AMELs).

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Applicable Beneficial Uses and WQOs

The WQOs applicable to the receiving water for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the NTR, established by USEPA at 40 CFR 131.36. Some pollutants have WQOs established by more than one of these three sources.

a. Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in marine and freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states, "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states, "Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

b. CTR. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of San Francisco Bay Region, although Basin Plan Tables 3-3 and 3-4 include numeric objectives for certain of these priority toxic pollutants that supersede CTR criteria (except in the South Bay south of the Dumbarton Bridge). Human health criteria are further identified as for "water and organisms" and for "organisms only." The CTR criteria applicable to "organisms only" were used for this Reasonable Potential Analysis because the receiving water is not a source of drinking water.

c. NTR. The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic organic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento River-San Joaquin River Delta. The NTR criteria apply to San Pablo Bay, to which the North Slough, the receiving water for this Discharge, is tributary via the Napa River.

d. Basin Plan Receiving Water Salinity Policy. The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable WQOs. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the WQOs are the lower of the salt or freshwater WQOs (the latter calculated based on ambient hardness) for each substance.

The Discharger discharges to the North Slough and to constructed freshwater wetlands, which eventually flow to the North Slough. Salinity data collected from July 2006 to

October 2010 indicate that the salinity was less than 1 ppt in 37 percent of the samples and greater than 10 ppt in 39 percent of the samples in North Slough, while 74% of samples collected in the freshwater ponds were <1 ppt salinity. The waters of the North Slough in the vicinity of the discharge are therefore classified as estuarine, and the reasonable potential analysis and effluent limitations in this Order are based on the more stringent of the fresh and saltwater WQOs for both receiving waters. This determination is consistent with the fact that the North Slough, a tributary of the Napa River, is tidally influenced at the point of discharge, approximately seven miles upstream from the confluence of the Napa River with San Pablo Bay.

e. Receiving Water Hardness. All available ambient hardness values collected in the constructed freshwater wetlands were used to calculate freshwater WQOs that are hardness dependent. Data collected at locations in wetland Pond 1 and wetland Pond 2 from July 2006 through October 2010 were used to determine the WQOs. To calculate the WQOs for hardness dependent metals, the data set was censored to cap hardness values above 400 mg/L as $CaCO_3$ at 400 mg/L. The resulting data set of 99 values was used to calculate an adjusted geometric mean, which is the value that 30 percent of the measurements fall below. The calculated hardness value was 260 mg/L as $CaCO_3$.

f. Site-Specific Metals Translators. NPDES regulations at 40 CFR 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal. Since applicable WQOs for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR includes default translators; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon greatly affect the form of metal (dissolved, non-filterable, or otherwise) present in the water and therefore available to cause toxicity. In general, the dissolved form of the metal is more available and more toxic to aquatic life than non-filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective WQOs.

In this Order, for copper WQOs site-specific translators were used. The Napa Sanitation District developed copper site-specific translators in its Napa River Copper Translator Study and submitted them for use in the reasonable potential analysis. Default translators from 40 CFR 131.38(b)(2), Table 2, were used for all other metals. For copper the acute site-specific translator is 0.57; the chronic translator is 0.42.

3. Determining the Need for WQBELs

Assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required.

a. Reasonable Potential Methodology

For priority pollutants and most other toxic pollutants, the reasonable potential analysis (RPA) identifies the observed maximum effluent concentration (MEC) for each pollutant based on effluent concentration data. There are three triggers in determining Reasonable Potential according to SIP Section 1.3.

(1) The first trigger (Trigger 1) is activated if the MEC is greater than or equal to the lowest applicable WQO (MEC ≥ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has Reasonable Potential, and a WQBEL is required.

(2) The second trigger (Trigger 2) is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B > WQO), and the pollutant is detected in any of the effluent samples.

(3) The third trigger (Trigger 3) is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO.

b. Effluent Data

The Regional Water Board analyzed the Discharger's data for priority pollutants and the nature of the discharge to determine if the discharge has Reasonable Potential. The RPA is based on effluent monitoring data collected by the Discharger from July 2006 through October 2010.

c. Ambient Background Data

On March 5, 2003, a group of five dischargers to the Napa River, including the City of American Canyon, submitted the "Collaborative Napa River Receiving Water Evaluation," which provided ambient background data for the Napa River between the cities of Calistoga and Napa. Ambient data collected in 2002, supplemented with additional data collected for copper, nickel, and selenium in 2008 and 2009, and receiving water data for ammonia collected from July 2006 through October 2010 were used in the RPA. The SIP states that, for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. Ambient background concentrations are the observed maximum detected water column concentrations for aquatic life protection.

d. Reasonable Potential Analysis for Ammonia

Ammonia is a toxic pollutant, but not a priority pollutant as defined by the CTR; therefore, the procedures outlined in the *Technical Support Document for Toxics Control* (TSD) (EPA/505/2-90-001, March 1991) were used to determine if ammonia in the discharge has a reasonable potential to cause water quality objectives to be exceeded in the receiving water.

(1) TSD RPA Procedure

The TSD allows using measured receiving water concentrations (RWC) or projected RWC from effluent data to perform an RPA. The following summarizes steps to

determine reasonable potential for excursions above ambient criteria using effluent data:

Step 1. Determine the number of total observations (n) for a set of effluent data and determine the highest value from that data set (the maximum effluent concentration or MEC).

Step 2. Determine the coefficient of variation (CV) from the data set. For a data set where n<10, the CV is estimated to equal 0.6. For a data set where n>10, the CV is calculated as the standard deviation divided by the mean.

Step 3. Determine an appropriate ratio for projecting a selected upper bound concentration (e.g., the 99th or 95th percentile) assuming a lognormal distribution.

To do this, the percentile represented by the MEC in a data set of "*n*" samples, p_n, needs to be determined based on the desired confidence interval, e.g., 95% or 99%.

$$p_n = (1 - \text{confidence interval})^{1/n}$$

Then concentrations based on two percentile values, $C_{upper\ bound}$, and C_{Pn} need to be calculated using the following equation.

$$C_p = \exp(Z_p\sigma - 0.5\sigma^2)$$

where $\sigma^2 = \ln(CV^2+1)$, p is the percentile (upper bound or p_n), and Z_p is the standard normal distribution value for the percentile p.

The ratio, *R,* is then determined to be

$$R = \frac{C_{upper\ bound}}{C_{Pn}}$$

Step 4. Multiply the MEC by the ratio, R, determined by Step 3. Use this value with the appropriate dilution to project the receiving water concentration (RWC).

$$\text{RWC} = \text{MEC} \times \text{R} / \text{dilution ratio}$$

Step 5. Compare the projected RWC to the applicable WQC (CCC, CMC, human health criteria, etc). If a RWC is greater than or equal to a criterion, then there is reasonable potential.

(2) TSD-based RPA for Ammonia

i. *Ammonia WQOs.* The Basin Plan contains WQOs for un-ionized ammonia of 0.025 mg/L as an annual median for all surface waters and 0.16 mg/L as a maximum for receiving waters north of the Golden Gate Channel.

ii. *Ammonia Data Translation*. Effluent and receiving water monitoring data are available for total ammonia, not un-ionized ammonia, because (1) sampling and laboratory methods are not available to analyze for un-ionized ammonia; and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on the pH, salinity, and temperature of the water. The Regional Water Board used the following equations for freshwater and saltwater environments to determine the fraction of total ammonia that would exist in the toxic, un-ionized form in the receiving water. [Ambient Water Quality Criteria for Ammonia (saltwater) – 1989, USEPA Publication 440/5-88-004, USEPA 1989]:

For salinity < 1 ppt: fraction of $NH_3 = \frac{1}{1+10^{(pK-pH)}}$

Where:

$pK = 0.09018 + 2729.92/T$
T = temperature in Kelvin

For salinity > 10 ppt: fraction of $NH_3 = \frac{1}{1+10^{(pK-pH)}}$

Where:

$pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T$
I = the molal ionic strength of saltwater = $19.9273*(S)/(1000-1.005109*S)$
S = salinity (parts per thousand)
T = temperature in Kelvin
P = pressure (one atmosphere)

iii. *Ammonia Dilution.* For purposes of this RPA, no dilution was assumed for ammonia to represent critical receiving water conditions, i.e., dilution ratio=1. The RWC is therefore the same as the projected upper bound concentration, i.e., RWC=MEC×R (see Step 4 under TSD RPA Procedure above).

iv. *Two Approaches*. According to the TSD, the RPA can be performed based on the projected RWC using effluent data (the steps summarized above) or measured receiving water concentrations. Both values may be compared directly to the WQOs.

(a) RPA Based on Effluent Data

Step 1. The number (n) of observations of effluent data from July 2006 through October 2010 was 168; there were 168 data points with corresponding salinity, temperature, and pH data. Only data where salinity were less than 1 ppt was used. No salinity data were greater than 10 ppt.

Step 2. The maximum un-ionized ammonia effluent concentration was 0.0574 mg/L, the mean was 0.00428 mg/L, the standard deviation was 0.00775, and the CV was 1.81. For non-detect ammonia values, one-half the detection limit was substituted in calculating these statistics.

Step 3. The ratio for projecting the upper bound concentration for the 99th percentile at the 95 percent confidence level was calculated as follows:

pn = (1 - confidence interval)$^{1/n}$ = $(1 - 0.95)^{1/168} = 0.9823$

$Z_{pn} = Z_{1-0.9823} = 2.10$ (from Z statistic table)

$Z_{1-0.99} = 2.32$

$C_{pn} = \exp(Z_{pn}\,\sigma - 0.5\sigma^2) = \exp(2.10*1.21 - 0.5*1.45) = 6.15$

$C_{99} = \exp(Z_{99}\,\sigma - 0.5\,\sigma^2) = \exp(2.32*1.21 - 0.5*1.45) = 8.02$

$$R = \frac{C_{99}}{C_{pn}} = \frac{8.02}{6.15} = 1.30$$

Step 4. The projected maximum un-ionized concentration is calculated as: RWC = MEC * R = 0.0574 * 1.30 = 0.075 mg/L.

The projected median concentration is the same as the median of the data set, which is 0.0016 mg/L.

Step 5. The projected RWC (0.075 mg/L) is less than the Basin Plan acute objective (0.16 mg/L), and the median effluent concentration (0.0016 mg/L) is less than the chronic objective (0.025 mg/L). Therefore, there is no reasonable potential on the basis of the effluent data.

(b) RPA Based on Receiving Water Data

The RPA can also be based on receiving water data if available. Receiving water data for ammonia were not available for the constructed freshwater wetlands. The maximum un-ionized ammonia concentration collected at Monitoring Location R-001 (located above the outfall to the North Slough) out of 95 samples was 0.015 mg/L, which is less than the Basin Plan acute WQO (0.16 mg/L). The median un-ionized concentration was 0.0055 mg/L, which is less than the Basin Plan chronic WQO (0.025 mg/L). Based on receiving water data, ammonia concentrations do not demonstrate reasonable potential.

f. RPA Determination for Priority Pollutants

The MECs, most stringent applicable WQC, and background concentrations used in the RPA are presented in the following table, along with the RPA results (yes or no) for each pollutant. Reasonable Potential was not determined for all pollutants because there are not applicable WQC for all pollutants, and monitoring data are not available for others. Based on a review of the effluent data collected during the previous permit term from July 2006 through October 2010, the pollutants that exhibit Reasonable Potential are copper and cyanide by Trigger 1; nickel by Trigger 2; and dioxin-TEQ by Trigger3.

Table F-8. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	Governing WQC (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
1	Antimony	4300	0.56	1.7	No
2	Arsenic	36	2.1	34	No
3	Beryllium	No Criteria	<0.01	<0.06	Ud
4	Cadmium	2.4	0.09	0.040	No
5a	Chromium (III)	453	---	2.6	No
5b	Chromium (VI)	11	10	0.4	No
6	**Copper**	**6.0**	**6.9**	**4.9**	**Yes**
7	Lead	8.5	0.68	0.78	No
8	Mercury (303d listed)[4]	---	---	---	---
9	**Nickel (303d listed)**	**8.3**	**5.2**	**9.2**	**Yes**
10	Selenium (303d listed)	5.0	3	0.26	No
11	Silver	2.2	0.3	<0.02	No
12	Thallium	6.3	0.01	0.3	No
13	Zinc	86	85	10	No
14	**Cyanide**	**2.9**	**4.7**	**0.36**	**Yes**
15	Asbestos	No Criteria	--	NA	Ud
16	2,3,7,8-TCDD (303d listed)	1.4E-08	<3.55E-07	<6.37E-7	No
	Dioxin TEQ (303d listed)	**1.4E-08**	**2.07E-09**	**7.1E-09**	**Yes**
17	Acrolein	780	<0.56	<1	No
18	Acrylonitrile	0.66	<0.33	<1	No
19	Benzene	71	<0.060	<0.3	No
20	Bromoform	360	<0.070	<0.1	No
21	Carbon Tetrachloride	4.4	<0.060	<0.42	No
22	Chlorobenzene	21000	<0.060	<0.19	No
23	Chlorodibromomethane	34	1.4	<0.18	No
24	Chloroethane	No Criteria	<0.07	<0.34	Ud
25	2-Chloroethylvinyl ether	No Criteria	<0.1	<0.31	Ud
26	Chloroform	No Criteria	12	1.5	Ud
27	Dichlorobromomethane	46	5.1	0.6	No
28	1,1-Dichloroethane	No Criteria	<0.050	<0.28	Ud
29	1,2-Dichloroethane	99	<0.060	<0.18	No
30	1,1-Dichloroethylene	3.2	<0.070	<0.37	No
31	1,2-Dichloropropane	39	<0.050	<0.2	No
32	1,3-Dichloropropylene	1700	<0.050	<0.2	No
33	Ethylbenzene	29000	<0.260	<0.3	No
34	Methyl Bromide	4000	0.09	<0.42	No
35	Methyl Chloride	No Criteria	0.08	<0.36	Ud
36	Methylene Chloride	1600	0.15	<0.38	No
37	1,1,2,2-Tetrachloroethane	11	<0.060	<0.3	No
38	Tetrachloroethylene	8.9	<0.060	<0.32	No

CTR #	Priority Pollutants	Governing WQC (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
39	Toluene	200000	0.2	<0.25	No
40	1,2-Trans-Dichloroethylene	140000	<0.050	<0.3	No
41	1,1,1-Trichloroethane	No Criteria	<0.060	<0.35	Ud
42	1,1,2-Trichloroethane	42	<0.070	<0.27	No
43	Trichloroethylene	81	<0.060	<0.29	No
44	Vinyl Chloride	525	<0.050	<0.34	No
45	2-Chlorophenol	400	<1.2	<0.4	No
46	2,4-Dichlorophenol	790	<0.7	<0.3	No
47	2,4-Dimethylphenol	2300	<0.8	<0.3	No
48	2-Methyl- 4,6-Dinitrophenol	765	<0.6	<0.4	No
49	2,4-Dinitrophenol	14000	<0.6	<0.3	No
50	2-Nitrophenol	No Criteria	<0.6	<0.3	Ud
51	4-Nitrophenol	No Criteria	<0.7	<0.2	Ud
52	3-Methyl 4-Chlorophenol	No Criteria	<0.6	<0.3	Ud
53	Pentachlorophenol	7.9	<0.6	<0.4	No
54	Phenol	4600000	<0.6	<0.2	No
55	2,4,6-Trichlorophenol	6.5	<0.6	<0.2	No
56	Acenaphthene	2700	<0.030	<0.17	No
57	Acenaphthylene	No Criteria	<0.020	<0.03	Ud
58	Anthracene	110000	<0.020	<0.16	No
59	Benzidine	0.00054	<1.0	<0.3	No
60	Benzo(a)Anthracene	0.049	<0.020	<0.12	No
61	Benzo(a)Pyrene	0.049	<0.020	<0.09	No
62	Benzo(b)Fluoranthene	0.049	<0.020	<0.11	No
63	Benzo(ghi)Perylene	No Criteria	<0.020	<0.06	Ud
64	Benzo(k)Fluoranthene	0.049	<0.030	<0.16	No
65	Bis(2-Chloroethoxy)Methane	No Criteria	<0.70	<0.3	Ud
66	Bis(2-Chloroethyl)Ether	1.4	<0.70	<0.3	No
67	Bis(2-Chloroisopropyl)Ether	170000	<0.60	<0.6	No
68	Bis(2-Ethylhexyl)Phthalate	5.9	2.1	<0.3	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<1.0	<0.4	Ud
70	Butylbenzyl Phthalate	5200	1.7	<0.4	No
71	2-Chloronaphthalene	4300	<0.6	<0.3	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<1.0	<0.4	Ud
73	Chrysene	0.049	<0.020	<0.14	No
74	Dibenzo(a,h)Anthracene	0.049	<0.020	<0.04	No
75	1,2-Dichlorobenzene	17000	<0.060	<0.12	No
76	1,3-Dichlorobenzene	2600	<0.1	<0.16	No
77	1,4-Dichlorobenzene	2600	0.2	<0.12	No
78	3,3 Dichlorobenzidine	0.077	<0.6	<0.3	No
79	Diethyl Phthalate	120000	<0.6	<0.4	No
80	Dimethyl Phthalate	2900000	<0.6	<0.4	No
81	Di-n-Butyl Phthalate	12000	<0.6	<0.4	No
82	2,4-Dinitrotoluene	9.1	<0.6	<0.3	No
83	2,6-Dinitrotoluene	No Criteria	<0.5	<0.3	Ud
84	Di-n-Octyl Phthalate	No Criteria	<0.7	<0.4	Ud
85	1,2-Diphenylhydrazine	0.54	<0.6	<0.3	No
86	Fluoranthene	370	<0.020	<0.03	No
87	Fluorene	14000	<0.020	<0.02	No
88	Hexachlorobenzene	0.00077	<0.80	<0.4	No
89	Hexachlorobutadiene	50	<0.80	<0.2	No
90	Hexachlorocyclopentadiene	17000	<0.80	<0.1	No
91	Hexachloroethane	8.9	<0.80	<0.2	No

CTR #	Priority Pollutants	Governing WQC (µg/L)	MEC or Minimum DL [1][2] (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.020	<0.04	No
93	Isophorone	600	<0.50	<0.3	No
94	Naphthalene	No Criteria	<0.020	<0.05	Ud
95	Nitrobenzene	1900	<0.70	<0.3	No
96	N-Nitrosodimethylamine	8.1	<0.60	<0.4	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.60	<0.3	No
98	N-Nitrosodiphenylamine	16	<0.60	<0.4	No
99	Phenanthrene	No Criteria	<0.020	<0.03	Ud
100	Pyrene	11000	<0.020	<0.03	No
101	1,2,4-Trichlorobenzene	No Criteria	<0.19	<0.3	Ud
102	Aldrin	0.00014	<0.0020	<0.003	No
103	Alpha-BHC	0.013	<0.0020	<0.002	No
104	Beta-BHC	0.046	<0.0020	<0.001	No
105	Gamma-BHC	0.063	<0.0020	<0.001	No
106	Delta-BHC	No Criteria	<0.0020	<0.001	Ud
107	Chlordane (303d listed)	0.00059	<0.0050	<0.005	No
108	4,4'-DDT (303d listed)	0.00059	<0.0020	<0.001	No
109	4,4'-DDE (linked to DDT)	0.00059	<0.0030	<0.001	No
110	4,4'-DDD	0.00084	<0.0020	<0.001	No
111	Dieldrin (303d listed)	0.00014	<0.0020	<0.002	No
112	Alpha-Endosulfan	0.0087	<0.0030	<0.002	No
113	beta-Endolsulfan	0.0087	<0.0020	<0.001	No
114	Endosulfan Sulfate	240	<0.0020	<0.001	No
115	Endrin	0.0023	<0.0020	<0.002	No
116	Endrin Aldehyde	0.81	<0.0020	<0.002	No
117	Heptachlor	0.00021	<0.0030	<0.003	No
118	Heptachlor Epoxide	0.00011	<0.0020	<0.002	No
119-125	PCBs sum (303d listed)[4]	---	---	---	---
126	Toxaphene	0.0002	<0.15	<0.2	No
	Tributylin	0.0074	--	<0.00143	No
	Total PAHs	15	<0.020	<0.02	No

Footnotes to Table F-10:

[1] The Maximum Effluent Concentration (MEC) and maximum background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (DL).

[2] The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

[3] RPA Results = Yes, if MEC > WQC, B > WQC and MEC is detected, or Trigger 3;
= No, if MEC and B are < WQC or all effluent data are undetected;
= Undetermined (Ud), if no criteria have been promulgated or there are insufficient data.

[4] SIP section 1.3 excludes from its RPA procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849 (currently Regional Water Board Order No. R2-2007-0077), which implements the San Francisco Bay Mercury and PCB TMDLs.

g. Constituents with limited data. In some cases, Reasonable Potential cannot be determined because effluent data are limited, or ambient background concentrations are unavailable. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether numeric effluent limitations are necessary.

h. Pollutants with No Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the sources of the increases. Remedial measures are required if the increases pose a threat to receiving water quality.

4. WQBEL Calculations

a. Pollutants with Reasonable Potential. WQBELs were developed for the toxic and priority pollutants determined to have reasonable potential to cause or contribute to exceedances of the WQOs. The WQBELs were calculated based on WQOs and the procedures specified in SIP Section 1.4. The WQOs used for each pollutant with reasonable potential are discussed below.

b. Dilution Credit. The Order allows a dilution credit for cyanide. The SIP allows dilution credits for completely-mixed discharges, and under certain circumstances for incompletely-mixed discharges. Without evidence showing the discharge is completely mixed, the discharge is viewed as incompletely mixed. Cyanide is a non-persistent pollutant that quickly disperses and degrades. The Basin Plan sets forth the dilution credit of 3.25:1 (D=2.25) for calculating cyanide WQBELs. This Order provides no dilution credit for any other pollutant.

c. Development of WQBELs for Specific Pollutants

(1) Copper

a. **Copper WQOs.** The Basin Plan contains chronic and acute marine WQOs for copper of 6.0 and 9.4 micrograms per liter (µg/L), respectively, expressed as dissolved metal. These WQOs were converted to total recoverable metal using the site-specific translators of 0.42 (chronic) and 0.57 (acute), as described in section IV.C.2.f, above. The resulting acute WQC is 6.8 µg/L and chronic WQC is 6.0 µg/L.

b. RPA Results. This Order establishes effluent limitations for copper because the MEC (6.9 µg/L) exceeds the governing WQC (6.0 µg/L), demonstrating Reasonable Potential by Trigger 1.

c. Copper WQBELs. WQBELs for copper, calculated according to SIP procedures with an effluent data coefficient of variation (CV) of 0.38 and no credit for dilution, are an AMEL of 10 µg/L and an MDEL of 16 µg/L.

d. Anti-backsliding. The previous permit, as amended by Regional Water Board Order No. R2-2010-0056, included an AMEL of 6.2 µg/L and an MDEL of 11 µg/L. This Order increases these limits to an AMEL of 10 µg/L and an MDEL of 16 µg/L. The effluent limits are higher since the values were calculated using translator data not available to the Discharger in its previous permit application. In addition, the Plant has materially changed as more water is reclaimed for irrigation and less is discharged as effluent. While the amount of copper

discharged has not increased, since it is dissolved in less water then the concentration has increased. Anti-backsliding requirements are satisfied because new effluent limitations meet the exceptions listed in Clean Water Act section 402(o)(2), that new information is available and that there is a material and substantial change to justify lower limitations.

(2) Nickel

a. **Nickel WQOs.** The Basin Plan contains chronic and acute saltwater WQOs for nickel of 8.2 µg/L and 74 µg/L, respectively, expressed as dissolved metal. These WQOs were converted to total recoverable metal using the CTR default translator of 0.99 (both chronic and acute). The resulting acute WQC is 75 µg/L and chronic WQC is 8.3 µg/L.

b. **RPA Results.** This Order establishes effluent limitations for nickel because the maximum background concentration (9.2 µg/L) exceeds the governing WQC (8.3 µg/L) and nickel was detected in the effluent, demonstrating Reasonable Potential by Trigger 2.

c. **Nickel WQBELs.** WQBELs for nickel, calculated according to SIP procedures with an effluent data CV of 0.24 and no credit for dilution, are an AMEL of 7.6 µg/L and an MDEL of 11 µg/L.

d. Anti-backsliding. The previous permit did not contain final effluent limitations for nickel; therefore, these new limits comply with anti-backsliding requirements.

(3) Cyanide

a. **Cyanide WQC.** The Basin Plan contains chronic and acute marine WQOs for cyanide of 2.9 µg/L and 9.4 µg/L, respectively (site-specific objectives for San Francisco Bay).

b. **RPA Results.** This Order establishes effluent limitations for cyanide because the MEC (4.7 µg/L) exceeds the governing WQO (2.9 µg/L), demonstrating Reasonable Potential by Trigger 1.

c. **Cyanide WQBELs.** WQBELs for cyanide, calculated according to SIP procedures with an effluent data CV of 0.66 and a dilution credit of 2.25 (dilution ratio = 3.25:1), are an AMEL of 6.9 µg/L and an MDEL of 15 µg/L.

d. Anti-backsliding. The cyanide limitations in the previous permit as amended by Order No. R2-2010-0056 were an AMEL of 7.0 µg/L and an MDEL of 14 µg/L. This Order establishes more stringent limitations because the lower AMEL (6.9 µg/L) will hold the concentration in the discharge to a lower long-term average and thereby comply with anti-backsliding requirements.

(4) Dioxin – TEQ

a. **Dioxin-TEQ WQO.** The Basin Plan narrative WQO for bioaccumulative substances states, "Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan's narrative bioaccumulation WQO is applicable to these pollutants. Elevated levels of dioxins and furans in fish tissue in San Francisco Bay demonstrate that the narrative bioaccumulation WQO is not being met. USEPA has therefore included San Pablo Bay as impaired by dioxin and furan compounds in the current 303(d) listing of receiving waters, where water quality objectives are not being met after imposition of applicable technology-based requirements.

The CTR establishes a numeric WQO for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} µg/L for the protection of human health, when aquatic organisms are consumed. When the CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, "if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric WQBELs for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme" [65 Fed. Reg. 31682, 31695 (2000)].

This Order uses a TEQ scheme based on a set of toxicity equivalency factors (TEFs) the World Health Organization (WHO) developed in 1998, and a set of bioaccumulation equivalency factors (BEFs) USEPA developed for the Great Lakes region (40 CFR132, Appendix F) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the narrative bioaccumulation objective into a numeric criterion appropriate for the RPA.

To determine if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative bioaccumulation WQO, TEFs and BEFs were used to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These "equivalent" concentrations were then compared to the CTR numeric criterion for 2,3,7,8-TCDD (1.4×10^{-8} µg/L). Although the 1998 WHO scheme includes TEFs for dioxin-like PCBs, they are not included in this

Order's TEQ scheme. The CTR has established a specific water quality standard for PCBs, and dioxin-like PCBs are included in the analysis of total PCBs.

b. **RPA Results.** Dioxin-TEQ has been detected in the effluent and the receiving waters are listed as impaired due to dioxin and furan bioaccumulations within the food web. Because the dioxin-TEQ in the discharge could cause or contribute to an exceedance of the Basin Plan's bioaccumulation WQO, there is reasonable potential based on Trigger 3.

c. **Dioxin-TEQ WQBELs.** WQBELs for dioxin-TEQ, calculated according to SIP procedures with a default CV of 0.6 and no dilution credit, are an AMEL of 1.4×10^{-8} µg/L and an MDEL of 2.8×10^{-8} µg/L.

d. **Anti-backsliding.** The previous permit did not contain final effluent limitations for dioxin-TEQ; therefore, these new limits comply with anti-backsliding requirements.

d. Effluent Limit Calculations

The following table shows WQBEL calculations for copper, nickel, cyanide, and dioxin-TEQ. For copper, the calculated limits were an AMEL of 10 and a MDEL of 16. Since the Discharger, however, could comply with existing limits, these, an AMEL = 6.2 and a MDEL= 11, as indicated in section IV.D.4.c.(1)d above were retained from the previous order.

Table F-9. WQBEL Calculations

PRIORITY POLLUTANTS	Copper - recalc'd limits for R2-2010-0056 using translators	Nickel	Cyanide	Dioxin-TEQ
Units	ug/L	ug/L	ug/L	
Basis and Criteria type	BP SSOs	BP SW Aquatic Life	BP SSOs	Basin Plan Narrative
Criteria -Acute	-----	75	-----	-----
Criteria -Chronic	-----	8.3	-----	-----
SSO Criteria -Acute	3.9	-----	9.4	-----
SSO Criteria -Chronic	2.5	-----	2.9	-----
Water Effects ratio (WER)	2.4	1	1	1
Lowest WQO	6.0	8.3	2.9	1.4E-08
Site Specific Translator - MDEL	0.57	-----	-----	-----
Site Specific Translator - AMEL	0.42	-----	-----	-----
Dilution Factor (D) (if applicable)	0	0	2.25	0
No. of samples per month	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N
HH criteria analysis required? (Y/N)	N	Y	Y	Y
Applicable Acute WQO	16	75	9.4	
Applicable Chronic WQO	14	8.3	2.9	
HH criteria	-----	4600.00	220000	1.4E-08
Background (Maximum Conc for Aquatic Life calc)	32.0	9.2	0.363	
Background (Average Conc for Human Health calc)	-----	7.02	0.288	4.73E-09
Is the pollutant on the 303d list (Y/N)?	N	N	N	Y
ECA acute	16	75	30	
ECA chronic	14	8.3	9	
ECA HH		4600	714999	1.4E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	Y
Avg of effluent data points	3.2	3.20	1.9	
Std Dev of effluent data points	1.4	0.76	1.2	
CV calculated	0.43	0.24	0.66	N/A
CV (Selected) - Final	0.43	0.24	0.66	0.6
ECA acute mult99	0.42	0.60	0.29	
ECA chronic mult99	0.62	0.76	0.50	
LTA acute	6.8	44.6	8.8	
LTA chronic	8.9	6.3	4.3	
minimum of LTAs	6.8	6.3	4.3	
AMEL mult95	1.4	1.2	1.6	1.6
MDEL mult99	2.4	1.7	3.4	3.1
AMEL (aq life)	9.5	7.6	6.9	
MDEL(aq life)	16	10.6	14.5	
MDEL/AMEL Multiplier	1.73	1.39	2.10	2.01
AMEL (human hlth)		4600	714999	0.0
MDEL (human hlth)		6397	1502292	0.0
minimum of AMEL for Aq. life vs HH	9.5	7.6	6.9	1.40E-08
minimum of MDEL for Aq. Life vs HH	16	10.6	15	2.81E-08
Current limit in permit (30-day average)		-----	7.0	-----
Current limit in permit (daily)		-----	14.0	-----
Final limit - AMEL	10.0	7.6	6.9	1.4E-08
Final limit - MDEL	16	11	15	2.8E-08
Max Effl Conc (MEC)	6.9	5.2	4.7	2.1E-09

5. Whole Effluent Acute Toxicity

This Order includes effluent limitations for whole effluent acute toxicity that are based on Basin Plan Table 4-3 and are unchanged from the previous permit. All bioassays are to be performed according to the USEPA approved method in 40 CFR 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition. The approved test species currently specified in the Monitoring and Reporting Program (Attachment E) is the fathead minnow.

The Discharger's acute toxicity monitoring data show that bioassay results from July 2006 through October 2010 were a minimum of 95% survival as an 11-sample median, and a minimum 100% survival as a 11-sample 90th percentile. There have been no acute toxicity effluent limitation violations during the previous permit term.

6. Whole Effluent Chronic Toxicity

a. Toxicity Objective. Basin Plan section 3.3.18 states, "There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community."

b. Reasonable Potential Analysis. The Discharger's chronic toxicity monitoring data from August 2006 through July 2010 (including screening study results) did not show chronic toxicity. Nevertheless, because of the size of the facility and because the receiving water does not provide much dilution, there is reasonable potential for the discharge to cause or contribute to exceedance of the toxicity objective based on chronic conditions. The SIP, therefore, requires chronic toxicity limits.

c. Permit Requirements. The Order establishes a narrative effluent limitation for chronic toxicity based on the narrative Basin Plan objective. In addition, this Order retains the previous permit's requirements to implement the chronic toxicity narrative objective, including numeric triggers for accelerated monitoring. These triggers are based on Basin Plan Table 4-5.

d. Screening Phase Study. The Discharger is required to conduct a chronic toxicity screening phase study, as described in Appendix E-1 of the MRP (Attachment E), prior to the next permit issuance. The Discharger conducted a chronic toxicity screening study prior to applying for this permit reissuance. It indicated that none of the five test organisms used in the screening study experienced chronic toxicity. This Order, therefore, retains mysid shrimp as the species used for chronic toxicity testing during this permit term.

7. Anti-backsliding and Antidegradation

Effluent limitations in this Order that are less stringent than those in the previous permit or are not retained from the previous permit comply with anti-backsliding and antidegradation requirements for the reasons explained below.

- The previous permit contained an effluent limitation for zinc and selenium; however, the RPA shows that the discharge no longer demonstrates reasonable potential for these pollutants to cause or contribute to exceedances of their respective WQOs. This Order, therefore, does not retain these limitations. Elimination of these limitations is consistent with State Water Board Order No. WQ 2001-16. Receiving water quality will not be degraded because the Discharger will maintain its current level of treatment.

- The previous permit contained a daily maximum effluent limitation for ammonia of 8 mg/L that is not in this Order, because though properly operated and maintained, the treatment facilities installed are not able to consistently achieve that performance. The previous limit was first set in 2000 while the facilities were being installed prior to availability of actual performance data. The limit is more stringent than performance limits for other facilities in the region. Therefore, anti-backsliding is satisfied pursuant to Clean Water Act section 402(o)(2)(E), because the Discharger has been unable to meet the effluent limitation despite installing, and properly operating and maintaining, treatment facilities. Anti-degradation is satisfied with the continuation of weekly and monthly ammonia limitations of the previous permit.

- The effluent limits for copper are higher than in the previous permit since the values were calculated using data not available to the Discharger in its previous application. In addition, the Plant has materially changed as more water is reclaimed for irrigation and less is discharged as effluent. While the amount of copper discharged has not increased, since it is dissolved in less water then the concentration has increased. Anti-backsliding requirements are satisfied because new effluent limitations meet the exceptions listed in Clean Water Act section 402(o)(2), that new information is available and that there is a material and substantial change to justify lower limitations.

- This Order does not retain the mercury effluent limit in the previous permit because mercury discharges to San Francisco Bay are now regulated by Regional Water Board Order No. R2-2007-0077, which became effective March 1, 2008. Order No. R2-2007-0077 is a watershed permit that implements the San Francisco Bay Mercury TMDL. It complies with anti-backsliding and antidegradation requirements.

E. Reclamation Specifications

Regional Water Board Order No. 96-011 establishes water reclamation requirements for this Discharger.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations V.A.1 and V.A.2 are based on narrative and numeric WQOs in Basin Plan Chapter 3.

Receiving water limitation V.A.3 is a more general requirement intended to protect receiving water quality based on water quality standards not expressly addressed in this Order and Fact Sheet. It is retained from the previous permit and requires compliance with all federal and State water quality standards established pursuant to the CWA.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a monitoring program are to:

- Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,
- Facilitate self-policing by the Discharger in the prevention and abatement of pollution arising from waste discharge,
- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and
- Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms and sets out requirements for reporting of routine monitoring data in accordance with NPDES regulations, the CWC, and State and Regional Water Board policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs.

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

A. Influent Monitoring

Influent monitoring requirements at Monitoring Locations INF-001 and INF-002 for BOD_5 and TSS are unchanged from the previous permit to allow determination of compliance with this Order's 85% removal requirement. Flow monitoring is also retained. The Basin Plan requires cyanide influent monitoring with implementation of the cyanide site-specific objectives.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous permit. Changes in effluent monitoring are summarized as follows.

- The effluent from the treatment plant is monitored at Monitoring Location EFF-001. Discharges to the North Slough are measured for dissolved oxygen, sulfides, and flow at Monitoring Location EFF-001-S; discharges to the constructed freshwater wetlands are measured at Monitoring Location EFF-003.
- The MRP retains routine monitoring for the toxic pollutants with effluent limitations (copper, nickel, cyanide, and dioxin-TEQ). Monitoring for all other priority pollutants are to be conducted in accordance with Regional Standard Provisions (Attachment G).

- Routine monitoring is not retained for selenium and zinc because they no longer demonstrate reasonable potential.

- Routine monitoring for mercury is not retained because it is now regulated under a separate Order (Order No. R2-2007-0077).

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity. The MRP requires the use of fathead minnow or rainbow trout as the bioassay test species.

2. **Chronic Toxicity.** This Order requires the Discharger to conduct quarterly chronic toxicity testing. The Discharger conducted an effluent toxicity screening study during the previous permit term; however, none of the five species tested exhibited chronic toxicity effects during testing. The permit therefore retains mysid shrimp as the test species. The Discharger shall re-screen in accordance with MRP Appendix E-1 (Attachment E) after any significant change in the nature of the effluent and 180 days prior to the expiration of this Order.

D. Receiving Water Monitoring

Most receiving water monitoring requirements are retained from the previous permit. Total ammonia monitoring is established at Monitoring Locations RSW-004 and RSW-005 in the constructed freshwater wetlands for future analysis of reasonable potential for ammonia.

E. Pretreatment and Biosolids Monitoring.

This Order specifies the sampling type for pretreatment monitoring. Composites made up of discrete grabs for these parameters are necessary because of the potential loss of the constituents during automatic compositing. Hexavalent chromium is chemically unstable. It, cyanide, and BNAs are also somewhat volatile. For these same reasons, discrete analyses are also necessary since constituents are subject to loss during compositing at the laboratory.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which in accordance with 40 CFR 122.41and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachments D of this Order. 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. 40 CFR 123.25(a)(12) allows a state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions (Attachment G) supplement the Federal Standard Provisions. 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 CWC enforcement authority is more stringent. In lieu of these conditions, this Order incorporates by reference CWC Section 13387(e).

B. MRP Requirements (Provision VI.B)

The Discharger is required to monitor the permitted discharge to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (Attachment E) and Regional Standard Provisions (Attachment G). This provision requires compliance with these documents and is authorized by 40 CFR 122.63 and CWC Sections 13267 and 13308.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated WQOs, regulations, or other new relevant information that may be established in the future and other circumstances allowed by law.

2. Effluent Data Evaluation

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the Regional Standard Provisions (Attachment G) and as specified in the MRP (Attachment E). If concentrations of these constituents increase significantly, the Discharger must investigate the source of the increases and establish remedial measures if the increases result in reasonable potential to cause or contribute to an excursion above an applicable WQO. This provision is based on the SIP and is retained from the previous permit.

3. Best Management Practices and Pollution Minimization Program

This provision for a Pollutant Minimization Program is based on Basin Plan Chapter 4 (Section 4.13.2) and SIP Chapter 2 (section 2.4.5).

4. Reliability Status Report

This provision is required to support the Discharger's demonstration that the discharge continues to qualify for an exception to Basin Plan Discharge Prohibition 1 (see Section IV.B).

5. Special Provisions for Publicly Owned Treatment Works

a. **Pretreatment Program.** This provision is based on 40 CFR 403 (General Pretreatment Regulations for Existing and New Sources of Pollution) and is retained from the previous permit. The Discharger implements a pretreatment program due to the nature and volume of industrial influent to the Plant.

b. **Biosolids Management Practices.** This provision is based on the Basin Plan Section 4.17, and 40 CFR Parts 257 and 503, and is retained from the previous permit.

c. **Sanitary Sewer and Sewer System Management Plan.** This provision is to explain the Order's requirements as they relate to the Discharger's collection system, and to promote consistency with the State Water Board-adopted General Collection System WDRs (General Order, Order No. 2006-0003-DWQ).

The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans and report all sanitary sewer overflows, among other requirements and prohibitions. Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the Facility subject to this Order, certain standard provisions apply as specified in Provision VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies discharging wastewater into the Facility enrolled under the General Order by December 1, 2006, as required.

The State Water Board amended the General Order on February 20, 2008, through Order No. WQ 2008-0002-EXEC, to strengthen the notification and reporting requirements for sanitary sewer overflows. The Regional Water Board issued a letter pursuant to CWC Section 13267 on May 1, 2008, requiring dischargers to comply with the new notification requirements for sanitary sewer overflows, and to comply with similar notification and reporting requirements for spills from wastewater treatment facilities.

6. Other Special Provisions

a. **Copper Action Plan.** This provision is based on Basin Plan sections 7.2.1.2. It is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies.

b. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2. It is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies.

c. **Emergency Discharge Request Procedure.** This provision allows for unanticipated events and is retained from the previous permit to ensure compliance with Discharge Prohibition III.E.

d. **Constructed Freshwater Wetlands Management.** This provision consolidates provisions and monitoring requirements contained in the previous permit. It requires the Discharger to continue management and monitoring of its constructed freshwater wetlands in accordance with the Discharger's *Constructed Wetlands Demonstration Project Management Plan* (August 2001, or most recent version), developed in accordance with the Regional Water Board's *Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands* (Resolution No. 94-086). This is necessary to maintain exemption from the requirements of Basin Plan discharge prohibition 1 as described in section IV.B above.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDRs adoption process, 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 Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the Napa Register on May 6, 2011.

B. Written Comments

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 Officer at the Regional Water Board at the address provided on the cover page of this Order, to the Attention of Derek Whitworth.

To receive full consideration and a written response, written comments must be received at the Regional Water Board offices by 5:00 p.m. on June 6, 2011.

C. Public Hearing

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

Date: July 13, 2011
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Derek Whitworth, (510) 622-2349, email DWhitworth@waterboards.ca.gov

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.

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

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. 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, 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 8:45 a.m. and 5:00 p.m., 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 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 Derek Whitworth at 510-622-2349 or e-mail at DWhitworth@waterboards.ca.gov.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

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

For

NPDES WASTEWATER DISCHARGE PERMITS

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

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

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, record keeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

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

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

1. **Contingency Plan** - The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

    a. Provision of personnel for continued operation and maintenance of sewage facilities during employee strikes or strikes against contractors providing services.

b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.

c. Provisions of emergency standby power.

d. Protection against vandalism.

e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.

f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.

g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.

2. **Spill Prevention Plan** - The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such effects. The Spill Prevention Plan shall:

   a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;

   b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and

   c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

1. **Operations and Maintenance (O&M) Manual** - The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.

2. **Wastewater Facilities Status Report** - The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal

facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

3. **Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) -** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.

2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all storm water flows from the facility to the wastewater treatment plant headworks.

1. Storm Water Pollution Prevention Plan (SWPP Plan)

The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

a. To identify pollutant sources that may affect the quality of storm water discharges; and

b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to storm water discharges, or may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map showing the following:

1) Storm water conveyance, drainage, and discharge structures;

2) An outline of the storm water drainage areas for each storm water discharge point;

3) Paved areas and buildings;

4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;

5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);

6) Surface water locations, including springs and wetlands; and

7) Vehicle service areas.

c. A narrative description of the following:

1) Wastewater treatment process activity areas;

2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;

3) Material storage, loading, unloading, and access areas;

4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and

5) Methods of on-site storage and disposal of significant materials.

d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm water pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional

storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the storm water drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).

2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and

management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).

3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of those cited analytical methods for compliance determination provided the ML is below the effluent limitation and the water quality objective. If no ML value is below the effluent limitation and water quality objective, then the Regional Water Board will assign the lowest ML indicated in Table C, and its associated analytical method for inclusion in the MRP. For effluent monitoring, this alternative method shall also be U.S. EPA-approved (such as the 1600 series) or one of those listed in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

i. The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.

ii. The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.

iii. The Discharger shall collect grab samples of effluent during periods of maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).

iv. Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

1) The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and

2) The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

i. If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling shows that the parameter is in compliance with the monthly average limit.

ii. If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.

iii. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report (SMR).

iv. The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

v. When any type of bypass occurs, the Discharger shall collect samples on a daily basis for all constituents at all affected discharge points that have effluent limits for the duration of the bypass, unless otherwise stipulated by the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30) the Discharger shall:

i. Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.

ii. Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

iii. Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

iv. Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the

monitoring program that storm water discharges from different locations are substantially identical.

v. Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

i. Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.

ii. Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.

iii. Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

Metric tons biosolids/365 days	Frequency
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. Biosolids Pollutants to Monitor

Biosolids shall be monitored for the following constituents:

Land Application: arsenic, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc

Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)

Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (Attachment D)

1. Receiving Water Observations

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. *Discoloration and turbidity*: description of color, source, and size of affected area.

c. *Odor:* presence or absence, characterization, source, distance of travel, and wind direction.

d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.

e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).

f. *Weather conditions*:

1) Air temperature; and

2) Total precipitation during the five days prior to observation.

2. Wastewater Effluent Observations

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.

b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.

b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.

d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

a. *Odor*: presence or absence, characterization, source, and distance of travel.

b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject

discharge, or when requested by the Regional Water Board or Regional Administrator of USEPA, Region IX.

A copy of the permit shall be maintained at the discharge facility and be available at all times to operating personnel.

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

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

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

a. Total volume for each day; and

b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

1) Total volume or mass of solids removed from each unit (e.g., grit, skimmings, undigested biosolids) for each calendar month or other time period as appropriate, but not to exceed annually; and

2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit.)

b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

1) Total volume or mass of dewatered biosolids for each calendar month;

2) Solids content of the dewatered biosolids; and

3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

a. For bacteriological analyses:

   1) Wastewater flow rate at the time of sample collection; and

   2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).

b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:

   1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);

   2) Chlorine dosage (kg/day); and

   3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self-Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

Each SMR shall be submitted with a transmittal letter. This letter shall include the following:

1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;

2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;

3) Causes of violations;

4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);

5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results, etc.], and discussion of the corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.);

6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and

7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director, or other responsible official.

2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

i. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

ii. 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.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollution Minimization Program, the discharger shall not be deemed out of compliance.

3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), and the method detection limit, and the measured concentration.

Estimated concentrations shall be reported for individual congeners, but shall be set equal to zero in determining the dioxin-TEQ value. The Discharger shall multiply each measured or estimated congener concentration by its respective toxicity equivalency factor (TEF) shown in Table A and report the sum of these values.

Table A: Toxic Equivalency Factors for 2,3,7,8-TCDD Equivalents

Congener	TEF
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self-monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;

2) Comprehensive discussion of treatment plant performance and compliance with the permit. (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;

4) List of approved analyses, including the following:

   (i) List of analyses for which the Discharger is certified;

   (ii) List of analyses performed for the Discharger by a separate certified laboratory. Copies of reports signed by the laboratory director of that laboratory shall not be submitted but retained onsite;

   (iii)List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c.(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time.) However, until USEPA approves the electronic signature or other signature technologies, dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger.) This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c.(1).

3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f.(1) and (3).

D. Compliance Schedules – Not Supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.

b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] in accordance with applicable reporting quantities for hazardous materials.

c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

1) Date and time of spill, and duration if known;

2) Location of spill (street address or description of location);

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

9) Corrective actions taken to contain, minimize, or clean up the spill;

10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and

11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

1) Incident description and cause;

2) Location of threatened or involved waterway(s) or storm drains;

3) Date and time the unauthorized discharge started;

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

4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

6) Identity of the person reporting the unauthorized discharge; and

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net that includes, in addition to the information required above, the following:

1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

2) Efforts implemented to minimize public exposure to the unauthorized discharge;

3) Visual observations of the impacts (if any) noted in the receiving water (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

F. Planned Changes – Not Supplemented

G. Anticipated Noncompliance – Not Supplemented

H. Other Noncompliance – Not Supplemented

I. Other Information – Not Supplemented

VI. STANDARD PROVISIONS – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

Table B

Summary of Communication Requirements for Unauthorized Discharges[1] from Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	State Office of Emergency Services (OES)	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from OES)
	Local health department	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Electronic[2] www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than **24 hours** after becoming aware of the	Electronic[3] www.wbers.net

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

[2] In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board's online system in electronic format.

[3] In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board's online system in electronic format.

		unauthorized discharge.	
3. Report	Regional Water Board	Within **5 business days** of becoming aware of the unauthorized discharge.	Electronic[4] www.wbers.net

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

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

1. Arithmetic Calculations

   a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

   Geometric Mean = $Anti\log\left(\frac{1}{N}\sum_{i=1}^{N} Log(C_i)\right)$

   or

   Geometric Mean = (C1*C2*…*CN)1/N

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

   b. Mass emission rate is obtained from the following calculation for any calendar day:

   Mass emission rate (lb/day) = $\frac{8.345}{N}\sum_{i=1}^{N} Q_i C_i$

   Mass emission rate (kg/day) = $\frac{3.785}{N}\sum_{i=1}^{N} Q_i C_i$

   In which "N" is the number of samples analyzed in any calendar day and "Q_i" and "C_i" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" grab samples that may be taken in any calendar day. If a composite sample is taken, "C_i" is the concentration measured in the composite sample and "Q_i" is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

[4] If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board's online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board's online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

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

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

c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.

d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

Removal Efficiency (%) = 100 × [1-(Effluent Concentration/Influent Concentration)]

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.

3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.

4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.

9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the plant headworks or from any part of a treatment plant facility.

11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

12. Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

13. Toxic pollutant means any pollutant listed as toxic under Clean Water Act Section 307(a)(1) or under 40 CFR 401.15.

14. Untreated waste is raw wastewater.

15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total)[3]	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[4]								0.5			0.2	
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[5]	0100.2 (note)[6]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										

[1] The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

[2] Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

[3] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/L).

[4] The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 ug/l).

[5] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

[6] Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[7]	625		1										

[7] Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

ATTACHMENT H – PRETREATMENT REQUIREMENTS

CALIFORNIA REGIONAL WATER QUALITY CONTROL
BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT H
PRETREATMENT PROGRAM PROVISIONS

For

NPDES POTW WASTEWATER DISCHARGE PERMITS

March 2011
Corrected May 2011

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Attachment H: Pretreatment Program Provisions

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

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

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

2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Discharger shall cause nondomestic users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

3. The Discharger shall perform the pretreatment functions as required in 40 CFR 403 and amendments or modifications thereto including, but not limited to:

   A) Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);

   B) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

   C) Publish an annual list of nondomestic users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(viii);

   D) Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and

   E) Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.

4. The Discharger shall submit annually a report to USEPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous calendar year. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix H-1 entitled, "Requirements for Pretreatment Annual Reports." The annual report is due each year on February 28.

5. The Discharger shall submit a pretreatment semiannual report to USEPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, information specified in Appendix H-2 entitled, "Requirements for Pretreatment Semiannual Reports." The semiannual report is due July 31 for the period January through June. The information for the period July through December of each year shall be included in the Annual Report identified in Appendix H-1. The Executive Officer may exempt the Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and USEPA's comment and approval.

6. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge (biosolids) as described in Appendix H-4 entitled, "Requirements for Influent, Effluent and Sludge (Biosolids) Monitoring." (The term "biosolids," as used in this Attachment, shall have the same meaning as wastewater treatment plant "sludge" and will be used from this point forward.) The Discharger shall evaluate the results of the sampling and analysis during the preparation of the semiannual and annual reports to identify any trends. Signing the certification statement used to transmit the reports shall be deemed to certify the Discharger has completed this data evaluation. A tabulation of the data shall be included in the pretreatment annual report as specified in Appendix H-4. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX H-1

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

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

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

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

1) **Cover Sheet**

The cover sheet shall include:

A) The name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of the Discharger(s) that is part of the Pretreatment Program;

B) The name, address and telephone number of a pretreatment contact person;

C) The period covered in the report;

D) A statement of truthfulness; and

E) The dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(m)).

2) **Introduction**

This section shall include:

A) Any pertinent background information related to the Discharger and/or the nondomestic user base of the area;

B) List of applicable interagency agreements used to implement the Discharger's pretreatment program (e.g., Memoranda of Understanding (MOU) with satellite sanitary sewer collection systems); and

C) A status summary of the tasks required by a Pretreatment Compliance Inspection (PCI), Pretreatment Compliance Audit (PCA), Cleanup and Abatement Order (CAO), or other pretreatment-related enforcement actions required by the Regional Water Board or the USEPA. A more detailed discussion can be referenced and included in the section entitled, "Program Changes," if needed.

3) **Definitions**

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

4) **Discussion of Upset, Interference and Pass Through**

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

A) A description of what occurred;

B) A description of what was done to identify the source;

C) The name and address of the nondomestic user responsible;

D) The reason(s) why the incident occurred;

E) A description of the corrective actions taken; and

F) An examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

5) **Influent, Effluent and Biosolids Monitoring Results**

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

This section shall include:

A) Description of the sampling procedures and an analysis of the results (see Appendix H-4 for specific requirements);
B) Tabular summary of the compounds detected (compounds measured above the detection limit for the analytical method used) for the monitoring data generated during the reporting year as specified in Appendix H-4;
C) Discussion of the investigation findings into any contributing sources of the compounds that exceed NPDES limits; and
D) Graphical representation of the influent and effluent metal monitoring data for the past five years with a discussion of any trends.

6) **Inspection, Sampling and Enforcement Programs**

This section shall include at a minimum the following information:

A) Inspections: Summary of the inspection program (e.g., criteria for determining the frequency of inspections and inspection procedures);

B) Sampling Events: Summary of the sampling program (e.g., criteria for determining the frequency of sampling and chain of custody procedures); and

C) Enforcement: Summary of Enforcement Response Plan (ERP) implementation including dates for adoption, last revision and submission to the Regional Water Board.

7) **Updated List of Regulated SIUs**

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

A) CIUs - Include a table that alphabetically lists the CIUs regulated by the Discharger as of the end of the reporting period. This list shall include:

i. Name;

ii. Address;

iii. Applicable federal category(ies);

iv. Reference to the location where the applicable Federal Categorical Standards are presented in the report;

v. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and

vi. Information, calculations and data used to determine the limits for those CIUs for which a combined waste stream formula is applied.

B) Non-categorical SIUs - Include a table that alphabetically lists the SIUs not subject to any federal categorical standards that were regulated by the Discharger as of the end of the reporting period. This list shall include:

i. Name;

ii. Address;

iii. A brief description of the type of business;

iv. Identify all deletions and additions keyed to the list submitted in the previous annual report. All deletions shall be briefly explained (e.g., closure, name change, ownership change, reclassification, declassification); and

v. Indicate the applicable discharge limits (e.g., different from local limits) to which the SIUs are subject and reference to the location where the applicable limits (e.g., local discharge limits) are presented in the report.

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

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

A) **Inspection and Sampling Summary:** This section shall contain a summary of all the SIU inspections and sampling activities conducted by the Discharger and sampling activities conducted by the SIU over the reporting year to gather information and data regarding SIU compliance. The summary shall include:

i. The number of inspections and sampling events conducted for each SIU by the Discharger;

ii. The number of sampling events conducted by the SIU. Identify SIUs that are operating under an approved Total Toxic Organic Management Plan;

iii. The quarters in which the above activities were conducted; and

iv. The compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

a. Consistent compliance;

b. Inconsistent compliance;

c. Significant noncompliance;

d. On a compliance schedule to achieve compliance (include the date final compliance is required);

e. Not in compliance and not on a compliance schedule; and

f. Compliance status unknown, and why not.

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

i. Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

ii. Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

iii. Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

iv. Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements;

v. Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty;

vi. Order to restrict/suspend discharge to the Discharger; and

vii. Order to disconnect the discharge from entering the Discharger.

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

i. Name and facility address of the SIU;

ii. Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;

iii. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

iv. Indicate the compliance status of the SIU for the two quarters of the reporting period; and

v. For violations/noncompliance identified in the reporting period, provide:

a. The date(s) of violation(s);

b. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

c. A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

9) **Baseline Monitoring Report Update**

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

10) **Pretreatment Program Changes**

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

A) Legal authority;

B) Local limits;

C) Monitoring/ inspection program and frequency;

D) Enforcement protocol;

E) Program's administrative structure;

F) Staffing level;

G) Resource requirements;

H) Funding mechanism;

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

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

11) **Pretreatment Program Budget**

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

12) **Public Participation Summary**

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

13) **Biosolids Storage and Disposal Practice**

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

14) **Other Pollutant Reduction Activities**

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

15) **Other Subjects**

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

16) **Permit Compliance System (PCS) Data Entry Form**

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

A) Discharger's name,

B) NPDES Permit number,

C) Period covered by the report,

D) Number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule,

E) Number of notices of violation and administrative orders issued against SIUs,

F) Number of civil and criminal judicial actions against SIUs,

G) Number of SIUs that have been published as a result of being in SNC, and

H) Number of SIUs from which penalties have been collected.

APPENDIX H-2

REQUIREMENTS FOR JANUARY-JUNE PRETREATMENT SEMIANNUAL REPORT

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

1) **Influent, Effluent and Biosolids Monitoring**

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

2) **Significant Industrial User Compliance Status**

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

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

A) Name and facility address of the SIU;

B) Indicate if the SIU is subject to Federal Categorical Standards; if so, specify the category including the subpart that applies;

C) For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard;

D) Indicate the compliance status of the SIU for the two quarters of the reporting period; and

E) For violations/noncompliance identified in the reporting period, provide:

   i. The date(s) of violation(s);

   ii. The parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters; and

iii. A brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

3) **Discharger's Compliance with Pretreatment Program Requirements**

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

A) Date of latest PCA or PCI report;

B) Date of the Discharger's response;

C) List of unresolved issues; and

D) Plan(s) and schedule for resolving the remaining issues.

APPENDIX H-3

SIGNATURE REQUIREMENTS FOR PRETREATMENT ANNUAL AND SEMIANNUAL REPORTS

The pretreatment annual and semiannual reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Discharger [POTW - 40 CFR 403.12(m)]. Signed copies of the reports shall be submitted to the USEPA, the State Water Board, and the Regional Water Board at the following addresses unless the Discharger is instructed by any of these agencies to submit electronic copies of the required reports:

Pretreatment Program Reports
Clean Water Act Compliance Office (WTR-7)
Water Division
Pacific Southwest Region
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105-3901

Submit electronic copies only to State and Regional Water Boards:
Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality-15th Floor
1001 I Street
Sacramento, CA 95814
DMR@waterboards.ca.gov
NPDES_Wastewater@waterboards.ca.gov

Pretreatment Coordinator
NPDES Wastewater Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(Submit the report as a single Portable Document Format (PDF) file to the Pretreatment Coordinator's folder in the Regional Water Board's File Transfer Protocol (FTP) site. The instructions for using the FTP site can be found at the following internet address:
http://www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/FTP_Discharger_Guide-12-2010.pdf.)

APPENDIX H-4

REQUIREMENTS FOR INFLUENT, EFFLUENT AND BIOSOLIDS MONITORING

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

1. Reduction of Monitoring Frequency

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

Table H-1: Minimum Frequency of Pretreatment Program Monitoring	
Number of SIUs	Minimum Frequency
< 5	Once every five years
> 5 and < 50	Once every year
> 50	Twice per year

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

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

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

2. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required sampling and test methods listed in **the pretreatment table** of the MRP. Any test method substitutions must have received prior written Executive Officer approval. Influent and effluent sampling locations shall be the same as those sites specified in the MRP.

The influent and effluent samples should be taken at staggered times to account for treatment plant detention time. Appropriately staggered sampling is considered consistent with the requirement for collection of effluent samples coincident with influent samples in Section III.A.3.a(2) of Attachment D. All samples must be representative of daily operations. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated ML, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

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

A) Sampling Procedures, Sample Dechlorination, Sample Compositing, and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its sampling procedures including methods of dechlorination, compositing, and data validation.

B) A tabulation of the test results for the detected parameters shall be provided.

C) Discussion of Results – The report shall include a complete discussion of the test results for the detected parameters. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

3. Biosolids Monitoring

Biosolids should be sampled in a manner that will be representative of the biosolids generated from the influent and effluent monitoring events except as noted in (C) below. The same parameters required for influent and effluent analysis shall be included in the biosolids analysis. The biosolids analyzed shall be a composite sample of the biosolids for final disposal consisting of:

A) Biosolids lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

B) Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

C) Dewatered biosolids - daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) each truckload, and shall be combined into a single 5- day composite.

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

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

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

- Sampling Procedures and Data Validation (applicable quality assurance/quality control) shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto. The Discharger shall make available upon request its biosolids sampling procedures and data validation methods.

- Test Results – Tabulate the test results for the detected parameters and include the percent solids.

- Discussion of Results – Include a complete discussion of test results for the detected parameters. If the detected pollutant(s) is reasonably deemed to have an adverse effect on biosolids disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

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

B. Comments Letters

CITY OF AMERICAN CANYON

June 6, 2011

VIA EMAIL: To: dwhitworth@waterboards.ca.gov
cc: bwolfe@waterboards.ca.gov; ltang@waterboards.ca.gov; wjohnson@waterboards.ca.gov; moakley@rmcwater.com

Mr. Derek Whitworth
San Francisco Bay Regional Water Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Comments Regarding Tentative Order Reissuing the City of American Canyon Wastewater Treatment Facility's NPDES Permit (CA0038768)

Dear Mr. Whitworth:

Thank you for the opportunity to comment on the Tentative Order for the reissuance of the City of American Canyon Wastewater Treatment Facility's NPDES Permit. We would particularly like to thank you and your staff for your diligence and care in preparing this document. Our comments can be found in the attached document.

Thank you for consideration of these comments. Please let me know if you have any questions or would like additional information.

Sincerely,

Peter Lee, Wastewater Systems Manager
City of American Canyon

cc: Bruce Wolfe, Regional Water Board
Lila Tang, Regional Water Board
Bill Johnson, Regional Water Board
Monica Oakley, RMC / Oakley Water Strategies

City of American Canyon Wastewater Treatment Facility
Comments Regarding Tentative Order for Renewal of NPDES Permit

June 6, 2011

The City of American Canyon (City) appreciates the opportunity to submit the following comments on the Tentative Order (TO) reissuing the NPDES permit for our Wastewater Treatment Facility (CA 0038768). Due to variations in formatting on different computers and printers, page numbers listed are approximate.

COMMENTS ON NPDES PERMIT TENTATIVE ORDER

1. The City requests that the description of the receiving water be more specific.

The City requests that references to the receiving water indicate North Slough as the receiving water. References to the tidal marsh and North Slough are redundant and confusing because North Slough comprises both the wetlands and the more channelized areas. For example, a leading textbook on wetlands provides the following definition of a slough: An elongated swamp or shallow lake system, often adjacent to a river or stream.[1] The City requests that the following changes be made to the permit language:

(Page 4)

3. **Discharge Points.** In the wet season, from November 1 through April 30, the demand for reclaimed water is minimal, and treated effluent from domestic and commercial sources can be discharged to North Slough at Discharge Point 001. North Slough flows ~~to tidal wetlands that lead~~ to the Napa River. During the dry season, from May 1 through October 31, when there is a demand for reclaimed water, direct discharge to the North Slough is prohibited. Throughout the year, treated effluent from industrial sources is discharged at Discharge Point 003 to two constructed freshwater wetland ponds. Treated effluent enters the wetlands at Pond 1, flows to Pond 2 through an outlet device, and flows from Pond 2 to ~~a tidal marsh that eventually flows to~~ North Slough. During the dry season, treated domestic and commercial wastewater not used for reclamation is also discharged to these ponds. Between July 2006 and October 2010 the maximum daily and average daily discharge rates to these wetlands were 2.9 and 1.0 MGD.

(Page F-5)

3. **Discharge Points.** In the wet season, from November 1 through April 30, the demand for reclaimed water is minimal, and treated effluent from domestic and commercial sources can be discharged to North Slough at Discharge Point 001. North Slough flows ~~to tidal wetlands that lead~~ to the Napa River. During the dry season, from May 1 through October 31, when there is a demand for reclaimed water, direct discharge to the North Slough is prohibited. Throughout the year, treated effluent from industrial sources is discharged at Discharge Point 003 to two constructed freshwater wetland ponds. Treated effluent enters the wetlands at Pond 1, flows to Pond 2 through an outlet device, and flows from Pond 2 ~~to a tidal marsh that eventually flows to~~ North Slough. During the dry season, treated domestic and commercial wastewater not used for reclamation is also

[1] Mitsch, W.J. and J.G. Gosselink. (2007) *Wetlands*. Hoboken, NJ: John Wiley & Sons. Inc.

discharged to these ponds. Between July 2006 and October 2010 the maximum daily and average daily discharge rates to these wetlands were 2.9 and 1.0 MGD.

2. The total ammonia maximum daily effluent limitation (MDEL) is impractical and inappropriate, and the City requests that it be removed.

The City is concerned about the maximum daily effluent limit for ammonia for several reasons. First, the City would not be able to comply with this limit. Effluent data compared to the proposed effluent limitations is shown in **Figure 1**, below.

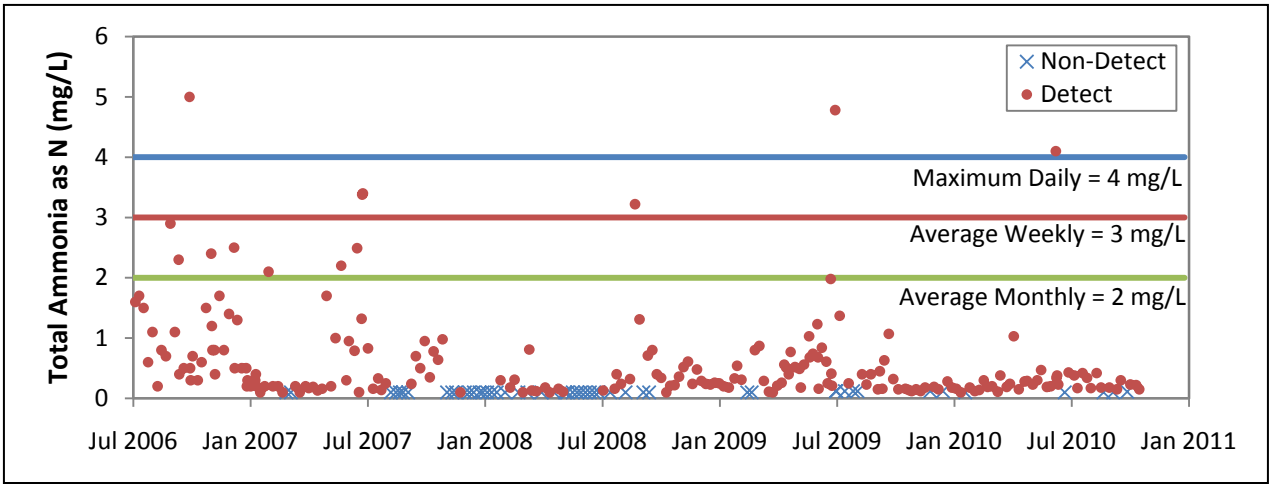

Figure 1: Ammonia Effluent Data from July 2006 through October 2010 Compared to Proposed Effluent Limitations Contained in Tentative Order.

In addition, discharge from the wastewater treatment plant did not show reasonable potential to cause an exceedance of water quality objectives, and therefore the effluent is not causing any potential water quality harm.

A third concern is that the proposed MDEL was retained from pervious permits going back to the original permit issued in 2000. Our understanding is that this limit was based on design information and not effluent data. In fact, the first permit for our treatment plant was issued in 2000 but discharge did not begin until 2002.

The proposed maximum daily limit is also much more stringent than other comparable (i.e. shallow water, no reasonable potential, no dilution) Bay Area dischargers. For example, the Las Gallinas Valley Sanitation District has an MDEL of 18 mg/L, and the much larger San Jose/Santa Clara WPCP's MDEL is 8 mg/L.

In addition, the maximum daily ammonia limitation is inappropriate because it is inconsistent with federal law, which indicates that:

(d) For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:

(1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and

(2) Average weekly and average monthly discharge limitations for POTWs.

(40 CFR 122.45)

In this case, the Regional Water Board has not shown that the combination of average weekly and average monthly limitations for ammonia is impracticable, in order to justify the maximum daily limitation. "By including daily maximum limits, the [Regional Water Board] proceeded in a manner contrary to law, particularly when the record contains no findings or evidence that the use of average weekly or average monthly limits was impracticable." (City of Burbank v. State Water Resources Control Board, Statement of Decision, Los Angeles County Superior Court, Case No. BS 060 960 (April 4, 2001) at p. 12; see 40 C.F.R. §§ 124.7, 124.8, 124.56.)

For all of these reasons, the City requests that the ammonia MDEL be removed and more specifically that the following changes be made to the permit:

(Page 9)

Table 6. Conventional and Non-Conventional Effluent Limitations – Discharge Points 001 & 003

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD 5-day @ 20°C (BOD_5)	mg/L	10	15	---	---	---
Total Suspended Solids (TSS)	mg/L	10	15	---	---	---
BOD and TSS percent removal [1]	%	85 (minimum)	---	---	---	---
Oil and Grease	mg/L	---	---	10	---	---
pH[2]	s.u	---	---	---	6.5	8.5
Total Ammonia	mg/L as N	2.0	3.0	~~4.0~~	---	---
Total Chlorine Residual [3]	mg/L	---	---	---	---	0.0
Turbidity	NTU	---	---	10	---	---

(Page F-14)

g. Total Ammonia. The average monthly and, average weekly~~, and maximum daily~~ effluent limitations for total ammonia are retained from the previous permit to ensure that the Plant maintains its existing ammonia removal performance and that current ammonia conditions are maintained in the receiving water. The maximum daily limitation was not retained because the average weekly and average monthly effluent limits are more applicable and at least as stringent, and therefore they supersede the maximum daily limit. Effluent data show the limits are technologically feasible to achieve.

3. The City requests that copper effluent limitations include the site-specific translators developed for the Napa River.

The City of American Canyon is concerned about the copper effluent limits for several reasons. First, the City would not be able to comply with the maximum daily effluent limit. The maximum effluent concentration observed within the last 3 years was 6.9 µg/L (a very typical concentration for wastewater treatment plant effluent), yet the maximum daily effluent limit being proposed is 6.2 µg/L.

Copper site-specific translators have been calculated by the Napa Sanitation District, just upstream of American Canyon, for use in the Napa River. These translators were approved by the Regional Water Board as scientifically accurate for the receiving water matrix in the computation of copper effluent limits. Use of these translators would increase the City's copper effluent limits modestly, from 6.2 µg/L to 10 µg/L for the average monthly effluent limit, and from 11 µg/L to 16 µg/L for the maximum daily effluent limit.

Because the City only recently became aware that these translators were available and applicable to our discharge, the City believes that an exception to anti-backsliding is applicable under section 402(o)(2)(B)(i) of the Clean Water Act. This section indicates that if new information is available, which was not available at the time of the previous permit issuance, and this information would have justified the application of a less stringent effluent limitation at the time of permit issuance, then a permit may be renewed to contain less stringent effluent limitation. The Clean Water Act also indicates that this section is not applicable unless the cumulative effect of the revised waste load allocations results in a decrease in the mass of pollutants discharged. As the City expands its recycled water program, the total mass discharged through the effluent is expected to remain constant or even decrease, confirming the applicability of this exception. Also of note is that the Regional Water Board placed tiered effluent limits for copper in the existing permit, based on increases in recycled water delivery. The tiers were based on a one-to-one correspondence between copper mass reduction and concentration increase, which is another way to show compliance with this exception.

A second exception to anti-backsliding is applicable under section 402(o)(2)(A), which indicates that if material and substantial alterations or additions to the facility occurred since the last permit issuance which justify the application of a less stringent effluent limitation, then a permit may be renewed to contain less stringent effluent limitations. Since initiating discharge in 2002, the City has continually expanded the recycled water program, and will continue to do so in the future. During the last permit reissuance (reissuing the current permit), this was understood by the Regional Water Board, as evidenced by inclusion of tiered effluent limitations based upon various reclamation scenarios. In anticipation of future demand for recycled water, the City recently installed 49,000 feet (about 10 miles) of purple pipe throughout the city, and installed a 1 million gallon storage tank for recycled water. The expanded recycled water program comprises a material and substantial change and therefore a less stringent limitation can be applied.

Not only is it legal and appropriate to allow a less stringent copper effluent limitations, it is also beneficial to the region to provide the regulatory tools that will allow the City to expand its recycled water activities. The Facility is set up to maintain separate municipal and industrial influent streams to allow water recycling of the municipal source influent only (TDS concentrations of the industrial sources are too high for water reclamation). As recycled water activities increase in the future, the effluent will become more dependent on the quality of the industrial influent. Although the total mass of pollutants discharged will remain unchanged or even decrease, the concentration discharged and the concentration variability could increase due to reduced volume. If the proposed copper limits not incorporating the Napa translators are implemented, the City will not be able to continue to expand its recycled water program, not using the full value of the 49,000 feet of recycled water pipeline already installed in the ground, and not offsetting the scarce water supply for its citizens.

The City therefore requests that changes be made to the following pages in the permit:

(Page 11)

Table 7. Effluent Limitations for Toxic Pollutants

Constituent	Units	Effluent Limitations[1]	
		Average Monthly	Maximum Daily
Copper	µg/L	~~6.2~~10	~~11~~16
Nickel	µg/L	7.6	11
Cyanide	µg/L	6.9	14
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}

(Page F-25)

d. Anti-backsliding. The previous permit, as amended by Regional Water Board Order No. R2-2010-0056, included an AMEL of 6.2 µg/L and an MDEL of 11 µg/L. ~~This Order retains these limits to comply with anti-backsliding requirements.~~ Anti-backsliding requirements are satisfied because new effluent limitations meet the exceptions listed in Section 402(o)(2) of the Clean Water Act, that new information is available and that there is a material and substantial change to justify appropriate lower limitations.

4. The City requests the water quality-based effluent limitations for metals be clarified to indicate that they are expressed as the total recoverable metal.

The City requests that a footnote to Table 7 (Effluent Limitations for Toxic Pollutants) be included to clarify that the effluent limitations for metals are expressed as the total recoverable metal. The following change to the permit is requested:

(Page 10)

Footnotes to Table 7:

[1] Limitations apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month)

[2] All limitations for metals are expressed as total recoverable metals.

5. The City requests that monitoring frequencies for BOD_5, TSS, enterococcus, and turbidity be reduced to twice per week.

Over the last four years the City has demonstrated excellent plant performance as indicated by low effluent concentrations of BOD_5, TSS, and turbidity, as shown in **Figures 2 - 4** below. The City has also collected several enterococcus samples in anticipation of the new limit included in this permit, all of which have been below 4 MPN/100 mL. Monitoring three times per week for these constituents provides the Regional Water Board with no significant additional information to twice per week monitoring, and instead adds an unnecessary burden to the City. Sampling twice per week for BOD_5, TSS, enterococcus, and turbidity is sufficient to characterize the treatment plant's effluent.

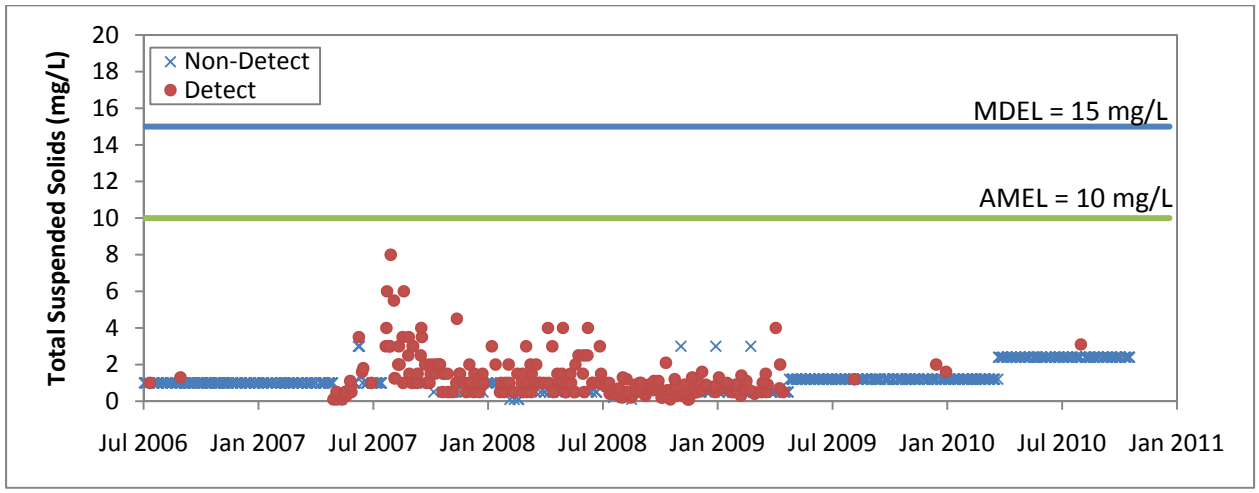

Figure 2: Total Suspended Solids (TSS) Effluent Concentration from July 2006 through October 2010.

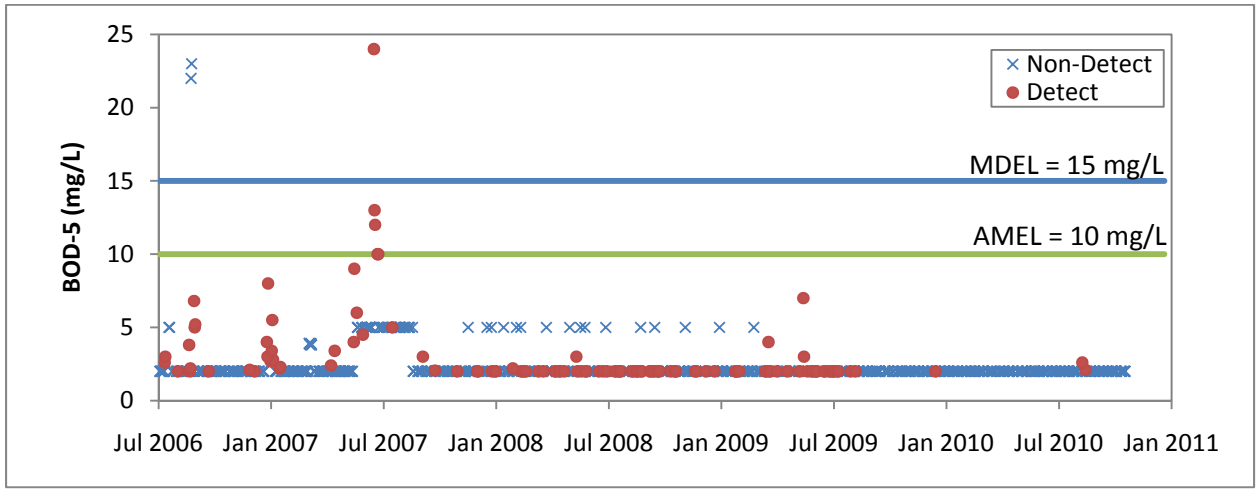

Figure 3: Five-day Biochemical Oxygen Demand (BOD_5) Effluent Concentration from July 2006 through October 2010.

Elevated BOD_5 results in June 2007 occurred due to discharges from an industrial user. This industrial user caused excursions at the wastewater treatment plant, as described in the 2007 Pretreatment Annual Report and subsequent communications with Regional Water Board staff. Corrective actions were taken immediately to address the facility overloading issue and operating practices. This information was also provided in the City's Report of Waste Discharge (for the NPDES permit renewal) submitted on December 20, 2010. Since addressing the situation with this SIU, the City has maintained BOD_5 levels well below effluent limitations.

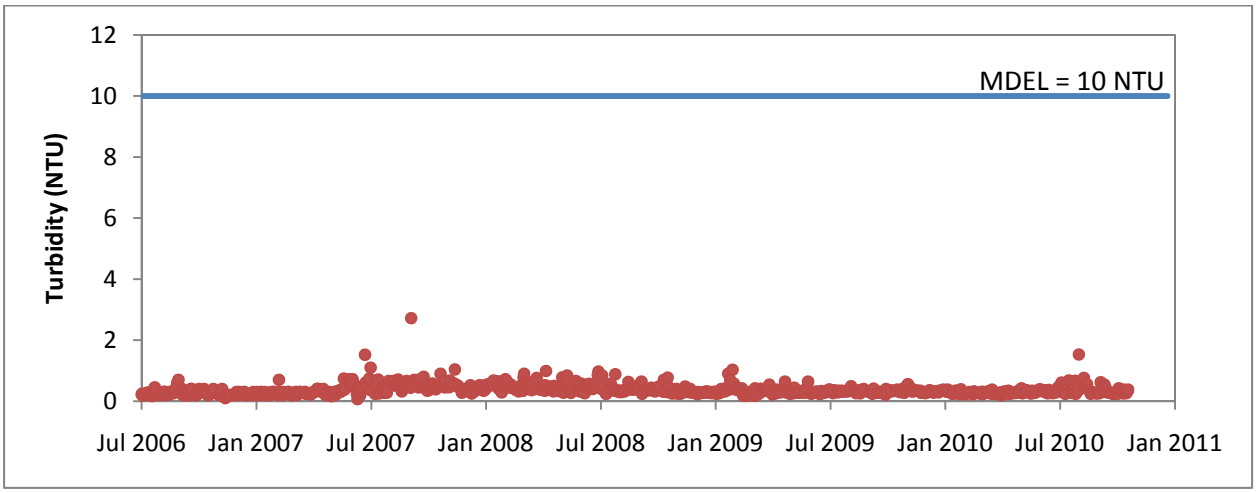

Figure 4: Turbidity Effluent Concentration from July 2006 through October 2010.

In addition, the requested frequencies are consistent with those included in other Bay Area POTW permits recently adopted by the Regional Water Board, including the City of Petaluma (January 2011) and the Napa Sanitation District (February 2011).

Reflecting the requests described above, the City requests that the following changes be made to the permit:

(Page E-3)

Table E-2. Influent Monitoring – INF-001 and INF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	2~~3~~/Week
TSS	mg/L	C-24	2~~3~~/Week

Legend for Table E-2

Unit Abbreviations:

MG	= million gallons
MGD	= million gallons per day
mg/L	= milligrams per liter
kg/day	= kilograms per day
µg/L	= micrograms per liter

Sample Type:

C-24	= 24-hour composite

Sampling Frequency:

Continuous/D	= measured continuously, and recorded and reported daily
2~~3~~/Week	= Two~~Three~~ times per week
1/Month	= Once per month

(Page E-4)

Table E-3. Effluent Monitoring – EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	2~~3~~/Week
TSS	mg/L	C-24	2~~3~~/Week
BOD and TSS % Removal[2]	%	Calculate	1/Month
Oil and Grease[3]	mg/L	Multiple grabs	1/Month
pH [4]	s.u.	Grab	1/Day or Continuous/D
Total Chlorine Residual[5]	mg/L	Grab	Each occurrence
Enterococcus Bacteria	MPN/100 mL	Grab	2~~3~~/Week
Turbidity	NTU	C-24	2~~3~~/Week
Temperature	°C	Grab	1/Day
Salinity	ppt	Grab	1/Week
Acute Toxicity[6]	% Survival	Flow through	1/Month
Chronic Toxicity[7]	TUc	C-24	1/Quarter
Total Ammonia[8]	mg/L as N	C-24	1/Week
Copper[11]	µg/L	C-24	1/Month
Nickel[11]	µg/L	C-24	1/Month
Cyanide[11]	µg/L	Grab	1/Month
Dioxin-TEQ[11]	µg/L	Grab	2/Year
Remaining Priority Pollutants[9]	µg/L	[9]	1/Year
Standard Observations[10]	---	---	1/Month

Legend to Table E-3:

Unit Abbreviations:

MG	= million gallons
MGD	= million gallons per day
s.u.	= standard units
mg/L	= milligrams per liter
kg/day	= kilograms per day
MPN/100 mL	= most probable number per 100 milliliters
NTU	= nephelometric turbidity units
°F	= degrees Fahrenheit
TUc	= chronic toxicity units
µg/L	= micrograms per liter
ppt	= parts per thousand

Sample Type:

C-24	= 24-hour composite

Sampling Frequency:

Continuous/D	= measured continuously, and recorded and reported daily
1/Day	= Once per day
2~~3~~/Week	= Two~~Three~~ times per week
1/Month	= Once per month
1/Quarter	= Once per quarter
1/Year	= Once per year
2/Year	= Twice per year

(Page E-14)

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Permit effective date	All
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
1/Week 2~~3~~/Week	Permit effective date	Sunday through Saturday
1/Month	Permit effective date	First day of calendar month through last day of calendar month
1/Quarter	Permit effective date	November 1 – January 31, February 1 – April 30, May 1 – July 31, August 1 – October 31
1/Year	Permit effective date	January 1through December 31
2/Year	Permit effective date	Once during the wet season (typically November 1 – April 30) and once during the dry season (typically May 1 through October 31)

6. The City requests that receiving water monitoring of priority pollutants be removed since this requirement has already been fulfilled through a collaborative monitoring study.

The City is uncertain as to why the Regional Water Board has included this requirement since sufficient data were recently collected by the five Napa River dischargers and provided to Regional Water Board staff to fulfill a requirement for receiving water monitoring. In 2002, the City worked in conjunction with five other local agencies to conduct a collaborative monitoring study of the Napa River. The study was amended to respond to Regional Water Board staff comments, and also to conduct additional sampling for nickel, selenium, and copper in 2008, to supersede values which were believed to have a salinity interference in the analytical method for the previous study.

It is not expected that additional monitoring would provide new information, since the sampling as well as analytical methods have not changed, and the urban and environmental setting in the vicinity of the receiving water have not changed much since these data were collected.

In addition, the other four Napa River dischargers received reissued permits within the last year, and none of them included new priority pollutant monitoring of the Napa River. The City therefore requests that the following changes be made to the permit:

(Page E-11)

Table E-7. Receiving Water Monitoring – RSW-001, RSW-002 and RSW-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
Turbidity	NTU	Grab	1/Month
pH	s.u.	Grab	1/Month
Temperature	°C	Grab	1/Month
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Month
	% Saturation	Grab	1/Month

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Ammonia[1]	mg/L as N	Grab	1/Month
Total Phosphate	mg/L	Grab	1/Month
Hardness	mg/L	Grab	1/Month
Salinity	ppt	Grab	1/Month
Chlorophyll *a*	µg/L	Grab	1/Month
~~Priority Pollutants for RPA~~	~~[3]~~	~~[4]~~	~~1/Year, at RSW-003 only~~
Standard Observations[2]	---	---	1/Month

Legend to Table E-7:

Unit Abbreviations:

NTU	= nephelometric turbidity units
s.u.	= standard units
°F	= degrees Fahrenheit
mg/L	= milligrams per liter
%	= percent
µmhos/cm	= micromhos/cm
ppt	= parts per thousand
µg/L	= micrograms per liter

Sampling Frequency:

1/Month	= once per month

Footnotes to Table E-7:

[1] Monitoring for total ammonia shall occur concurrently with monitoring for temperature and pH for determination of the un-ionized ammonia fraction.

[2] Standard Observations are specified in the Regional Standard Provisions (Attachment G).

~~[3] The sample type and analytical method should be as described in the Regional Standard Provisions (Attachment G) or as amended and subsequently approved by the Executive Officer.~~

7. The City requests that total ammonia monitoring at receiving water stations RSW-004 and RSW-005 be removed.

Receiving water stations RSW-004 and RSW-005 are located in the City's constructed freshwater wetlands. Because these wetlands support a multitude of wildlife, which produce ammonia as a natural byproduct, sampling for ammonia in these wetlands will not provide City staff a characterization of the ultimate receiving water, which is North Slough.

In addition, it appears that when the ammonia water quality objectives were placed in the Basin Plan, they were intended to apply to marine or estuarine water bodies, not to freshwater. In any event, an annual median objective would be useful only in the context of evaluating trends for the water body, not in setting numeric effluent limits. Separately from the Basin Plan, there is also a significant statewide effort on nutrients currently under development and it would be advantageous to wait until that process is more solidified before scarce public resources are spent on this monitoring.

Regional Water Board staff has previously indicated that the constructed wetlands are classified as a water of the State. If the requirement for sampling in RSW-004 and RSW-005 is to develop a potential ammonia limit, this would go beyond federal requirements so an analysis under California Water Code §13241 would be required.

For all these reasons, the City requests the following changes to the permit:

(Page E-12)

Table E-8. Receiving Water Monitoring –RSW-004 and RSW-005

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow from Pond 2 to North Slough	MG	Continuous	Continuous
pH	s.u.	Grab	1/Month
Temperature	°C	Grab	1/Month
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Month
	% Saturation	Grab	1/Month
~~Total Ammonia[1]~~	~~mg/L as N~~	~~Grab~~	~~1/Month~~
Hardness	mg/L	Grab	1/Month
Salinity	ppt	Grab	1/Month

(Page F-33)

D. Receiving Water Monitoring

Most receiving water monitoring requirements are retained from the previous permit. ~~Total ammonia monitoring is established at Monitoring Locations RSW-004 and RSW-005 in the constructed freshwater wetlands for future analysis of reasonable potential for ammonia.~~

8. The City requests the following typographical errors be corrected:

(Page 1)

Table 1. Discharger Information

Discharger	City of American Canyon
Name of Facility	American Canyon Wastewater Treatment Facility and its associated wastewater collection system.
CIWQS Place Number	205477
Facility Address	151 Mezzetta Court, American Canyon, CA 94503, Napa County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

.

Table 2. Discharge Location

(Page 20) Table 8. Copper Action Plan

(3) Undertake Studies to Reduce Copper Pollutant Impact Uncertainties.

The Dischargers~~s~~ shall submit an updated study plan and schedule to conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and technical studies to investigate sublethal effects on salmonids. Specifically, the Dischargers~~s~~ shall include the manner in which the above will be accomplished and describe the studies to be performed with an implementation schedule. To satisfy this requirement, the Dischargers~~s~~ may collaborate and conduct these studies as a group.

(Page E-1)

Table E-8. Receiving Water Monitoring –RSW-004 and RSW-005[1]……..E-12

C. Responses to Comments

California Regional Water Quality Control Board
San Francisco Bay Region

RESPONSE TO WRITTEN COMMENTS
On the Issuance of Waste Discharge Requirements
for American Canyon Waste Water Treatment Facility, City of American Canyon

A tentative order to reissue the NPDES permit for the American Canyon Wastewater Treatment Facility in the City of American Canyon was available for public comment from May 6 to June 6, 2011. The City of American Canyon submitted comments. These comments are summarized below, followed by our response to each comment. Interested persons should refer to the original texts to ascertain the full substance and context of each comment.

In addition, we identify staff initiated changes to the tentative order. These changes eliminate redundancies, clarify requirements, provide consistency with other NPDES permits, and incorporate changes necessary to comply with the newly established electronic reporting system (CIWQS).

CITY OF AMERICAN CANYON

Comment 1

The City requests that the description of the receiving water be more specific.

The City requests that the references in the Findings in the Permit and in the Facility Description in the Fact Sheet, that describe the flow of water from the treatment facility to the North Slough, be changed. It specifically requests the description "a tidal marsh that eventually flows to" North Slough and "to tidal wetlands that lead" to the Napa River be deleted. The City reasons that a slough, by definition, already incorporates wetlands and shallow channels.

Response to Comment 1

We agree and have changed the tentative order as requested.

Comment 2

The total ammonia maximum daily effluent limitation (MDEL) is impractical and inappropriate, and the City requests that it be removed.

The City requests that the performance-based MDEL for ammonia be removed from the permit. To justify this request, the City notes that the imposed limit was initially included in the original permit, written in 2000, prior to plant operation, and was based on design information available at that time and not operational data. To further support this request, the City provides effluent monitoring data that show the plant complied with all

permit limits except for the ammonia MDEL. The City notes that the ammonia MDEL (4 mg/L) in the tentative order is more stringent than the ammonia limits of other comparable Bay Area dischargers. For example, the Las Gallinas District has an MDEL of 18 mg/L, and the San Jose/Santa Clara Water Pollution Control Plant has an MDEL of 8 mg/L. Furthermore, the City asserts that federal regulations (40 CFR 122.45) state that, for publicly owned treatment works (POTWs), only average weekly and average monthly discharge limitations are required.

Response to Comment 2

We agree to the City's request and have deleted the MDEL requirement. We based this decision on the premise that the existing limit was not based on actual operational capability of the treatment facility because that was unknown at the time. Also, the limit was considerably more stringent than the performance limits imposed on other shallow water dischargers.

We made the following specific changes:

1) Section IV.A, Table 6 of the permit. We deleted the maximum daily limit for total ammonia.
2) Section IV.C.2.g of the Fact Sheet to the permit. We made the following change: **"**The average monthly and average weekly~~, and maximum daily~~ effluent limitations for total ammonia are retained from the previous permit to ensure that the Plant maintains its existing ammonia removal performance and that current ammonia conditions are maintained in the receiving water. The maximum daily limitation was not retained because it was not based on operating data and was more stringent than performance limits set for other facilities. Effluent data show the average weekly and average monthly effluent limits are technologically feasible to achieve."
3) Section IV.D.7 of the Fact Sheet to the permit. We inserted an additional bullet as follows: "The previous permit contained a daily maximum effluent limitation for ammonia of 8 mg/L that is not in this Order, because though properly operated and maintained, the treatment facilities installed are not able to consistently achieve that performance. The previous limit was first set in 2000 while the facilities were being installed prior to availability of actual performance data. The limit is more stringent than performance limits for other facilities in the region. Therefore, anti-backsliding is satisfied pursuant to Clean Water Act section 402(o)(2)(E), because the Discharger has been unable to meet the effluent limitation despite installing, and properly operating and maintaining, treatment facilities. Anti-degradation is satisfied with the continuation of weekly and monthly ammonia limitations of the previous permit."

Comment 3

The City requests that copper effluent limitations reflect the site-specific translators developed for the Napa River.

The City notes that incorporating the copper site-specific translators developed by the Napa Sanitation District, just upstream of American Canyon, would increase the City's copper effluent limits from 6.2 µg/L to 10 µg/L for the average monthly effluent limit

(AMEL), and from 11 µg/L to 16 µg/L for the MDEL. The City notes that making this change would enable it to continue to expand its water reclamation program. The City recognizes that anti-backsliding issues would have to be addressed and provides the following reasons for exception to the anti-backsliding rules.

1) *The City only recently became aware that these translators were available and applicable to its discharge and thus an exception to anti-backsliding applies under Clean Water Act section 402(o)(2)(B)(i). This section indicates that, if new information is available that was unavailable at the time of the previous permit issuance, and this information would have justified the application of a less stringent effluent limitation at the time of permit issuance, then a permit may be reissued to contain less stringent effluent limitations.*
2) *The City notes that with the reclaimed water program since 2002, it has been conducting on going material and substantial alterations to the facility and since the last permit issuance has made several changes that result in more water being reclaimed and less water discharged as effluent. The City notes that the total mass of copper discharged in the effluent is constant, but as the amount of effluent water is decreasing, the concentration of copper will increase. It also points to Section 402(o)(2)(A) that indicates if material and substantial alterations or additions to the facility have occurred, that justifies a less stringent effluent limitation, then a permit may be reissued to contain less stringent effluent limitations and provides an exception to anti-backsliding. The City proposes that implementation of the water reclamation program justifies an increased limit and this would also comply with anti-backsliding since there would be no increase in copper discharged.*

Response to Comment 3

We agree with the City's request and have revised the tentative order to include effluent limits for copper based on the Napa River translators. We acknowledge that previously the City may not have been aware of this information. In addition, we support the City's water reclamation program and agree that it is necessary to increase the effluent limits if the City is to expand this program. We also acknowledge that the two factors (new information and substantial facility alterations) justify an increase in effluent limits and an exception to the anti-backsliding requirements.

We changed Table 7 as shown:

Table 7. Effluent Limitations for Toxic Pollutants

Constituent	Units	Effluent Limitations[1]	
		Average Monthly	Maximum Daily
Copper	µg/L	~~6.2~~ 10	~~11~~ 16
Nickel	µg/L	7.6	11
Cyanide	µg/L	6.9	14
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}

We made deletions and insertions as shown below:

Section IV.D.4.c.(1).d of the Fact Sheet to the permit

The previous permit, as amended by Regional Water Board Order No. R2-2010-0056, included an AMEL of 6.2 µg/L and an MDEL of 11 µg/L. ~~This Order retains these limits to comply with anti-backsliding requirements~~. This Order increases these limits to an AMEL of 10 µg/L and an MDEL of 16 µg/L. The effluent limits are higher since the values were calculated using translator data not available to the Discharger in its previous permit application. In addition, the plant has materially changed as more water is reclaimed for irrigation and less is discharged as effluent. While the amount of copper discharged has not increased, since it is dissolved in less water then the concentration has increased. Anti-backsliding requirements are satisfied because new effluent limitations meet the exceptions listed in Clean Water Act section 402(o)(2), that new information is available and that there is a material and substantial change to justify lower imitations."

We inserted an additional bullet to Section IV.D.7 of the Fact Sheet as shown:

- The effluent limits for copper are higher than in the previous permit since the values were calculated using data not available to the Discharger in its previous application. In addition, the plant has materially changed as more water is reclaimed for irrigation and less is discharged as effluent. While the amount of copper discharged has not increased, since it is dissolved in less water then the concentration has increased. Anti-backsliding requirements are satisfied because new effluent limitations meet the exceptions listed in Clean Water Act section 402(o)(2), that new information is available and that there is a material and substantial change to justify lower limitations.

We changed Table 9 in the Fact Sheet to incorporate the new translator values used to calculate the revised copper limits. The original and revised Table 9 are not included here.

Comment 4

The City requests that the water quality-based effluent limitations for metals be clarified to indicate that they are expressed in terms of total recoverable metal.

The City proposes insertion of an additional footnote to Table 7 that specifically states, "All limitations for metals are expressed as total recoverable metals."

Response to Comment 4

We agree with the City's request and have added the footnote to Table 7.

Comment 5

The City requests that monitoring frequencies for 5-day Biological Oxygen Demand (BOD_5), Total Suspended (TSS), enterococcus, and turbidity be reduced to twice per week.

The City asserts that it has demonstrated excellent plant performance, as indicated by low effluent concentrations of BOD_5, TSS, and turbidity, and has already collected several enterococcus samples in anticipation of the new limit included in the tentative

order, all of which have been below 4 MPN/100 mL. It claims that monitoring three times per week for these constituents would provide no significant additional information compared to twice-per-week monitoring, but would add significant expenses. The City notes that it exceeded its limits only once, in June 2007, with elevated BOD_5, and this was due to the actions of one industrial discharger that have since been corrected, with subsequent full compliance with the limits. The City also notes that the reduced monitoring frequencies are consistent with those required in other Bay Area POTW permits, including the City of Petaluma and the Napa Sanitation District permits.

Response to Comment 5

We agree with the City's request and have revised the tentative order, as shown below, so that monitoring BOD_5, TSS, enterococcus bacteria, and turbidity twice per week is consistent with other recently adopted permits for similar dischargers. Also shown is the removal of the other priority pollutant monitoring requirement from the MRP, and footnote specifying report format. These requirements have been moved to the Provisions section of the tentative order and elsewhere in the MRP, so as to simplify electronic reporting for the City. (See Staff Initiated revisions for Provision VI.C.2, and MRP Section VIII.B., below.)

Attachment E to the permit

Table E-2. Influent Monitoring – INF-001 and INF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	2 ~~3~~/Week
TSS	mg/L	C-24	2 ~~3~~/Week

Legend for Table E-2

Unit Abbreviations:

MG	= million gallons
MGD	= million gallons per day
mg/L	= milligrams per liter
kg/day	= kilograms per day
µg/L	= micrograms per liter

Sample Type:

C-24	= 24-hour composite

Sampling Frequency:

Continuous/D	= measured continuously, and recorded and reported daily
2~~3~~/Week	= Two ~~Three~~ times per week
1/Month	= Once per month

Attachment E to the permit

Table E-3. Effluent Monitoring – EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate[1]	MGD	Continuous	Continuous/D
BOD_5	mg/L	C-24	2 ~~3~~/Week
TSS	mg/L	C-24	2 ~~3~~/Week

Parameter	Units	Sample Type	Minimum Sampling Frequency
BOD and TSS % Removal[2]	%	Calculate	1/Month
Oil and Grease[3]	mg/L	Multiple grabs	1/Month
pH [4]	s.u.	Grab	1/Day or Continuous/D
Total Chlorine Residual[5]	mg/L	Grab	Each occurrence
Enterococcus Bacteria	MPN/100 mL	Grab	2 ~~3~~/Week
Turbidity	NTU	C-24	2 ~~3~~/Week
Temperature	°C	Grab	1/Day
Salinity	ppt	Grab	1/Week
Acute Toxicity[6]	% Survival	Flow through	1/Month
Chronic Toxicity[7]	TUc	C-24	1/Quarter
Total Ammonia[8]	mg/L as N	C-24	1/Week
Copper[11]	µg/L	C-24	1/Month
Nickel[11]	µg/L	C-24	1/Month
Cyanide[11]	µg/L	Grab	1/Month
Dioxin-TEQ[11]	µg/L	Grab	2/Year
~~Remaining Priority Pollutants[9]~~	~~µg/L~~	[9]	~~1/Year~~
Standard Observations[10~~9~~]	---	---	1/Month

Legend to Table E-3:

Unit Abbreviations:

MG	= million gallons
MGD	= million gallons per day
s.u.	= standard units
mg/L	= milligrams per liter
kg/day	= kilograms per day
MPN/100 mL	= most probable number per 100 milliliters
NTU	= nephelometric turbidity units
°F	= degrees Fahrenheit
TUc	= chronic toxicity units
µg/L	= micrograms per liter
ppt	= parts per thousand

Sample Type:

C-24	= 24-hour composite

Sampling Frequency:

Continuous/D	= measured continuously, and recorded and reported daily
1/Day	= Once per day
2 ~~3~~/Week	= Two ~~Three~~ times per week
1/Month	= Once per month
1/Quarter	= Once per quarter
1/Year	= Once per year
2/Year	= Twice per year

Footnotes to Table E-3:

…

[9] ~~Remaining priority pollutants. The sample type and analytical method should be as described in the Regional Standard Provisions (Attachment G) or as amended and subsequently approved by the Executive Officer. For these pollutants, the sampling frequencies shall be the higher ones under this table or under the pretreatment program sampling required in Section IX.A of this MRP. Pretreatment program monitoring can be used to satisfy relevant parts of these sampling requirements. The Discharger shall report in its transmittal letter of the applicable eSMR when it has completed a required analysis for any of these pollutants. If any pollutant is detected above or within one order of magnitude of its applicable WQO (see Attachment F, Table F-10), then in that transmittal letter the Discharger shall identify the pollutant and its analytical results. The Discharger shall either report these~~

~~analytical results in the applicable eSMR by manual entry, by EDF/CDF, or as an attached file, or in the Report of Waste Discharge and application for permit reissuance. If the Discharger chooses to report results in the Report of Waste Discharge and application, it shall indicate that it will do so in the eSMR transmittal letter.~~

[~~10~~9]Standard observations. Standard Observations are specified in the Regional Standard Provisions (Attachment G).

~~[11]Reporting. The Discharger shall report analytical results in its eSMR by manual entry or EDF/CDF (not as an attached file)~~

Attachment E to the permit

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Permit effective date	All
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
1/Week 2 ~~3~~/Week	Permit effective date	Sunday through Saturday
1/Month	Permit effective date	First day of calendar month through last day of calendar month
1/Quarter	Permit effective date	November 1 – January 31, February 1 – April 30, May 1 – July 31, August 1 – October 31
1/Year	Permit effective date	January 1through December 31
2/Year	Permit effective date	Once during the wet season (typically November 1 – April 30) and once during the dry season (typically May 1 through October 31)

Comment 6

The City requests that receiving water monitoring of priority pollutants be removed since this requirement has already been fulfilled through a collaborative monitoring study.

The City notes that, in 2002, it worked with other Napa River dischargers on a monitoring study of the Napa River and completed additional studies in 2008. The City also notes that, since the sampling, analytical methods have not changed and the urban and environmental setting in the vicinity of the receiving water has not changed; therefore, additional monitoring would not provide significant new information. In addition, the City notes that the Regional Water Board reissued the NPDES permits for the other four Napa River dischargers within the last year, and none included new priority pollutant monitoring of the Napa River.

Response to Comment 6

We agree with the City's request and have removed the requirement for priority pollutant monitoring. We originally required the priority pollutant monitoring to have current monitoring data when we expect to reissue this permit in 2016. Otherwise, some data would be 14 years old. We did not, however, include such requirements in our recent permits for other Napa River dischargers. Thus, for consistency, we deleted the requirement from this permit. However, before reissuing the Napa River dischargers' permits in the next permit cycle, we may use our authorities under California Water Code section 13267 to require all of them to collect these data. By requiring these data at one

time, we can promote a collaborative approach that provides consistency and saves resources.

We made the following specific changes to the permit:

Attachment E to the permit

Table E-7. Receiving Water Monitoring – RSW-001, RSW-002 and RSW-003

Parameter	Units	Sample Type	Minimum Sampling Frequency
Turbidity	NTU	Grab	1/Month
pH	s.u.	Grab	1/Month
Temperature	°C	Grab	1/Month
Dissolved Oxygen (D.O.)	mg/L	Grab	1/Month
	% Saturation	Grab	1/Month
Total Ammonia[1]	mg/L as N	Grab	1/Month
Total Phosphate	mg/L	Grab	1/Month
Hardness	mg/L	Grab	1/Month
Salinity	ppt	Grab	1/Month
Chlorophyll a	µg/L	Grab	1/Month
~~Priority Pollutants for RPA~~	~~[3]~~	~~[4]~~	~~1/Year, at RSW-003 only~~
Standard Observations[2]	---	---	1/Month

Legend to Table E-7:

Unit Abbreviations:

NTU = nephelometric turbidity units
s.u. = standard units
°F = degrees Fahrenheit
mg/L = milligrams per liter
% = percent
µmhos/cm = micromhos/cm
ppt = parts per thousand
µg/L = micrograms per liter

Sampling Frequency:

1/Month = once per month

Footnotes to Table E-7:

[1] Monitoring for total ammonia shall occur concurrently with monitoring for temperature and pH for determination of the un-ionized ammonia fraction.

[2] Standard Observations are specified in the Regional Standard Provisions (Attachment G).

~~[3] The sample type and analytical method should be as described in the Regional Standard Provisions (Attachment G) or as amended and subsequently approved by the Executive Officer.~~

Comment 7

The City requests that total ammonia monitoring at receiving water stations RSW-004 and RSW-005 be removed.

The City notes that receiving water stations RSW-004 and RSW-005 are located in the City's constructed freshwater wetlands and that, because these wetlands support a multitude of wildlife, which produce ammonia as a natural byproduct, sampling for ammonia in these wetlands would not help characterize water in the North Slough. The City asserts that when the ammonia water quality objectives were placed in the Basin Plan, they were intended to apply only to marine or estuarine water bodies, not to freshwater. The City posits that an annual median objective would be useful only in the context of evaluating trends for the water body, not in setting numeric effluent limits. The

City also claims the Regional Water Board had indicated that the constructed wetlands are classified as a water of the State and that if the requirement for sampling in RSW-004 and RSW-005 is to develop a potential ammonia limit, this would go beyond federal requirements so an analysis under California Water Code §13241 would be required. For these reasons, the City requests removal of this requirement from the permit.

Response to Comment 7
We disagree with the City's request and have retained the monitoring requirement. Whether the freshwater ponds are waters of the United States[1], and whether the numeric ammonia limits in Basin Plan section 3.3.20 were intended to apply to freshwater are immaterial because the tentative order does not contain an ammonia limit for discharges to the freshwater ponds. Nevertheless, there are good reasons why we would like more information about ammonia in the ponds. The Basin Plan contains narrative water quality objectives that apply to both waters of the United States and of the State. Basin Plan section 3.3.18 states, "All waters shall be maintained free of toxic substances in concentrations that are lethal to … aquatic organisms." Basin Plan section 3.3.20 states, "Ammonia … is a demonstrated toxicant." Basin Plan section 3.3.3 states, "Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths … ." Because the discharge is known to contain ammonia, we believe it is reasonable to collect some ammonia data in these receiving waters to assess their attainment of water quality standards. The required information will be relatively inexpensive to obtain since the City is already also required to monitor for pH, temperature, dissolved oxygen, hardness, and salinity at this location. The Regional Water Board is authorized to require this information through California Water Code section 13267.

Comment 8
The City requests the following typographical errors be corrected:
Typographical errors appeared in Tables 1 and 8.

Response to Comment 8
We agree with the City's request and have corrected the errors noted.

STAFF INITIATED CHANGES

We made the following changes in the tentative order to delete errors, eliminate redundancies, clarify requirements, provide consistency with other permits, and incorporate new requirements for electronic reporting to the CIWQS web site.

Tentative Order, Finding M, last two sentences

[1] All waters of the United States are also waters of the State, but not all waters of the State are waters the United States. WDRs are required for discharges to waters of the State, but only discharges to waters of the United States require NPDES permits.

We deleted and inserted text as shown:

…. ~~All~~ Most beneficial uses and WQOs contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA, ~~prior to May 30, 2000~~ but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1).

Tentative Order, Provision VI.C.2

We deleted and inserted text as shown (see also Response #5, above):

2. Effluent Characterization Study and Report – Discharge Points EFF-001 and EFF-003

a. Study Elements

The Discharger shall continue to ~~monitor~~ characterize and evaluate the discharge from Discharge Points 001 and 003 (measured at EFF-001) ~~for the constituents listed in the Regional Standard Provisions (Attachment G) according to the sampling frequency specified in the MRP (Attachment E). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Standard Provisions.~~) to verify that the "no" or "cannot determine" reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples of the discharges from the locations and at the frequencies as set forth below (see MRP for definitions):

Discharge Point	Monitoring Station	Minimum Frequency
001 and 003	EFF-001	1/yr

The samples shall be analyzed for the priority pollutants listed in Table C of the Regional Standard Provisions (Attachment G), except for those priority pollutants with effluent limitations where monitoring is already required by the MRP. Compliance with this requirement shall be achieved in accordance with the specifications of Regional Standard Provisions (Attachment G) sections III.A.1 and III.A.2.

The Discharger shall evaluate on an annual basis if concentrations of any priority pollutant increase over past performance. The Discharger shall investigate the cause of any increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of the constituent as a "pollutant of concern" in the Discharger's Pollutant Minimization Program, described in Provision VI.C.3.

b. Reporting Requirements

i. Routine Reporting

The Discharger shall, within 30 days of receipt of analytical results, report in the transmittal letter for the appropriate monthly self-monitoring report the following:

(a) Indication that a sample or samples for this characterization study was or were collected; and

(b) Identity of any and all priority pollutants detected above or within one order of magnitude of their applicable water quality criteria (see Fact Sheet [Attachment F] Table F-8 for the criteria), together with the detected concentrations of those pollutants.

ii. Annual Reporting

The Discharger shall provide a ~~A~~ summary of the annual data evaluation ~~of data~~ and source investigation ~~activities shall also be reported~~ in the annual self-monitoring report.

iii. Final Report

The Discharger shall submit a final report that presents these data to the Regional Water Board no later than 180 days prior to the Order expiration date. The final report shall be submitted with the application for permit reissuance.

Monitoring and Reporting Program (Attachment E), Section V.B

We deleted and inserted text as shown:

1. Chronic Toxicity Monitoring Requirements

c. Frequency**.** The frequency of routine and accelerated chronic toxicity monitoring shall be as specified below.

(1) Routine Monitoring: ~~Quarterly~~ Twice per year, once in the dry season and once in the wet season.

Monitoring and Reporting Program (Attachment E), Section VIII.B.

We deleted and inserted text as shown:

2. The Discharger shall submit SMRs by the due dates specified below:

   a. Monthly SMR — Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in V.B. and V.C. of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with the monthly SMR.

   b. Annual SMR — Annual SMRs shall be due February 1 of each year, covering the previous calendar year. The annual SMR shall contain the items described in V.C.1.f. of the Regional Standard Provisions (Attachment G). See also Provisions VI.C.2. (Effluent Characterization Study and Report~~Data Evaluation~~), and VI.C.4 (Facility Reliability Assurance Status Report) of the Order for requirements to submit reports with the annual SMR ~~that demonstrate compliance with those provisions~~.

   c. Additional Specifications for Submitting SMRs to CIWQS — If the Discharger submits SMRs to CIWQS, it shall submit analytical results and other information using one of the following methods:

Table E-10. SMR Reporting for CIWQS

Parameter	Method of Reporting	
	EDF/CDF Data Upload or Manual Entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for All Results	
Dissolved Oxygen Temperature	Required for Monthly Maximum and Minimum Results Only (1)	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver Zinc Dioxins and Furans (by	Required for All Results (2)	

U.S. EPA Method 1613)		
Antimony Beryllium Thallium Pollutants by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625	Not Required (unless identified in influent, effluent, or receiving water monitoring tables), But Encouraged [1]	Discharger may use this method and submit results with application for permit reissuance, unless data submitted by CDF/EDF upload
Volume and Duration of Blended Discharge	Required for All Blended Effluent Discharges	
Analytical Method	Not Required (Discharger may select "data unavailable") [1]	
Collection Time Analysis Time	Not Required (Discharger may select "0:00") [1]	

Footnotes for Table E-10:

[1] The Discharger shall continue to monitor at the minimum frequency specified in the monitoring tables, keep records of the measurements, and make the records available upon request.

[2] These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).

…

4. ML and MDL Reporting. The Discharger shall report with each sample result the ~~applicable reported Minimum~~ Reporting Level (~~MD~~ RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 136. The Discharger 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 RL ~~ML~~ shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample)"