CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2007-XXXX
NPDES NO. CA0053651

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF SAN BUENAVENTURA VENTURA WATER RECLAMATION FACILITY DISCHARGE TO THE SANTA CLARA RIVER ESTUARY VIA DISCHARGE OUTFALL NO. 001

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

Table 1. Discharger Information

Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of San Buenaventura from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated wastewater	34 º, 14', 22.46" N	119 º, 15', 58.84" W	Santa Clara River Estuary via Wildlife Ponds

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	~~July 12, 2007~~To be determined
This Order shall become effective on:	~~September 1, 2007~~To be determined
This Order shall expire on:	~~June 11, 2012~~To be determined
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

IT IS HEREBY ORDERED, that Order No. 00-143 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (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.

I, Tracy J. Egoscue, 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, Los Angeles Region, on ~~July 12, 2007~~the date (to be determined).

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Tracy J. Egoscue, Executive Officer

Table of Contents

List of Tables

List of Attachments

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
Facility Contact, Title, and Phone	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Mailing Address	P.O. Box 99
	Ventura, CA 93002-0099
	Ventura County
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	14 Million Gallons per Day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

A. Background. The City of San Buenaventura (hereinafter Discharger) is currently discharging pursuant to Order No. 00-143 and National Pollutant Discharge Elimination System (hereinafter NPDES) Permit No. CA0053651. The Discharger submitted a Report of Waste Discharge (ROWD), dated April 18, 2005**,** and applied for an NPDES permit renewal to discharge up to 14 millions gallons per day (MGD) of tertiary treated wastewater from Ventura Water Reclamation Facility, hereinafter Facility. The application was deemed complete on March 14, 2007**.**

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.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that:

> *"It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board <u>only</u> when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*

Section I.A. of Order No. 00-143 states that "The running 30-day average volume of treated wastewater discharged to the Santa Clara River Shall not be less than 5.6 mgd." The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Santa Clara River Estuary (Estuary) is beneficial and enhances the Estuary, or has adverse impacts to the Estuary. A Time Schedule Order (No. R4-2006-0093) adopted by the Regional Water Board on December 14, 2006, required the Discharger to evaluate the possible impact(s) on the Estuary through the studies of an increase in the reclamation program and an incremental decrease of discharge to the Estuary.

This NPDES renewal proposes to lift the requirement of maintenance flows of 5.6 mgd to the Estuary so that reclamation can be increased and discharged to the Estuary incrementally decreased by 1 mgd per year. Monitoring will ensure that

endangered species residing in the Estuary are not adversely impacted by the incremental decrease in flow.

Results of a dry season water budget and salinity assessment of the Estuary were used by Kamman Hydrology & Engineering, Inc. (April 30, 2007), on behalf of the Discharger, to model/predict changes in water chemistry and water levels over time using different scenarios of flow when the Facility discharges to the Estuary at 7-MGD, 5-MGD, 3-MGD, and 0-MGD. Data from the spring event (04/08/2004 to 05/16/2004) were chosen to calibrate the model. The model was then validated using data from the summer (06/08/2004 to 07/15/2004) and autumn (11/08/2004 to 12/14/2004) fill/breach events.

Results of the modeling suggest that decreasing rates of wastewater discharges to the Estuary slightly increase the estuarine salinity levels and lengthens the duration of time during which the barrier beach is closed. Even under the most extreme scenario of 0-MGD, cessation of flow, the model suggests that the depth of water and the salinity in the Estuary will remain relatively stable because of the inflow of relatively fresh groundwater. However, modeling is only a prediction, and actual conditions in the Estuary must be monitored to avoid any impact to endangered species habitat as the result in a decrease of flow to the Estuary.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study (May 2005). This Study was performed by Nautilus Environmental hired by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, there was concern expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging, endocrine disrupting, and pharmaceutical chemicals. This monitoring effort could ~~in order to~~ determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

B. Facility Description. The Discharger owns and operates the Facility. The treatment system consists of screenings, grit removal, primary sedimentation, flow equalization, ~~roughing filters,~~ activated sludge nitrification and partial denitrification[1]

[1] For the nitrification process, there are two steps for ammonia being oxidized into nitrate.

Step 1: Ammonia → Nitrite
Step 2: Nitrite → Nitrate

For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.

Nitrate → Nitrogen

The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the

(NDN), tertiary filters, ammonia addition[2], chlorination and dechlorination, primary sludge thickener, dissolved air flotation (DAF) secondary sludge thickener, anaerobically digesteddigestion, and dewatered dewatering (using plate and frame filter presses). A portion of the dewatered sludge is composted (Class B), and hauled to various users in Ventura County. The remainder of the dewatered sludge is disposed of in the Simi Valley and Chiquita Canyon Landfills. All of the Class B anaerobically digested sludge is dewatered and composted to Class A at Lost Hills, Kern County and then land applied to a cotton farm in Kings County. Screenings and grits are disposed of at the Toland Road landfill. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Treated wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds with a combined capacity of 34 million gallons providing approximately 4 days of detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

The most problematic metals were copper, nickel, and zinc prior to improving primary clarifier performance. The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. Prior to the addition of iron salt between October 2000 and December 2002, the average effluent concentrations of copper, nickel, and zinc were 18, 9.7, and 69 µg/L, respectively. The addition of iron salt greatly improved removal of copper (18.0 µg/L to 26.5 µg/L), nickel (9.7 µg/L to 7.1 µg/L), and zinc (69.0 µg/L to 57.1 µg/L) since November 2005. Between August 2003 and August 2007, the average effluent concentrations of copper, nickel, and zinc were 7.2, 3.9, and 37 µg/L, respectively. The effluent concentration of zinc (57.1 µg/L to 18.5 µg/L) was further reduced between February 2006 and August 2006. Neither antimony (reported detection limit: 1.0 µg/L), arsenic (reported detection limit: 2.0 µg/L), beryllium (reported detection limit: 0.2 µg/L), cadmium (reported detection limit: 4.0 µg/L), copper (reported detection limit: 6 µg/L)lead (reported detection limit: 5.0 µg/L), mercury (reported detection limit: 0.2 µg/L), silver (reported detection limit: 0.2 µg/L), nor thallium (reported detection limit: 1.0 µg/L), nickel (reported detection limit: 10 µg/L) was detected between February 2006 and August 20062007. Chromium, copper,

detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2007-XXXX and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

[2] Ammonia (NH_3) has been added into chlorine contact basin since April 2004. Ammonia reacts with hypochlorous acid (HOCl) to form chloramine (NH_2Cl). Here is the reaction below:

$NH_3 + HOCl \rightarrow NH_2Cl + H_2O$

Chloramine is used as a disinfectant in municipal water systems as an alternative to chlorination and also exhibits less tendency to convert organic materials into chlorocarbons such as chloroform, dichlorobromomethane, dibromochloromethane, and carbon tetrachloride.

nickel, and selenium were detected for one time during this period; however, these metals except copper were all less than the CTR-based criteria. Zinc was all less than its CTR-based criteria since November 2004. Permanent facilities for iron salt addition ~~will be~~was completed in November 2007. The final effluent concentrations of ~~these three~~copper, nickel, and zinc ~~metals~~ are expected to be further reduced or non-detected. Due to the major upgrade on the primary clarifier in 2003 and consideration of the representative effluent data, the effluent data collected after ~~January~~July 2003 were used to calculate the final effluent limitations for ~~nonconventional and priority pollutants~~metals.

To date, the City has invested $29.5 million for Upgrades and a new Influent Headworks Projects (Phase I). The Capacity Upgrades (Phase II) projected budget is currently $22 million. Phase II, which is expected to be completed in 2009, constructs an additional secondary treatment plant capacity up to 4 MGD in order to accommodate current and future flow to the Facility.

The City of Ventura conducted the "Chloramine Disinfection Investigation" at the Facility between April 2 and June 30, 2004. The results indicated that chloramine resulting from ammonia reacting with hypochlorous acid greatly reduces the effluent concentrations of dibromochloromethane, and dichlorobromomethane. These compounds were all well bellowed the CTR-based criteria or non-detected Between May 2004 and August 2007. The maximum effluent concentration and CTR-based criterion for dibromochloromethane are 5.5 µg/L and 34 µg/L, respectively. The maximum effluent concentration and CTR-based criterion for dichlorobromomethane are 8.6 µg/L and 46 µg/L, respectively.

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

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the ROWD and application, through Monitoring and Reporting Programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through O are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-Based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[3], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet.

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in Section IV.C.2 of the Fact Sheet.

Section 122.44(d)(1)(i) mandates 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, water quality-based effluent limitations (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 section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:

[3] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	Existing: Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species[4] (RARE), migration of aquatic organisms[5] (MIGR), spawning, reproduction, and/or early development[5] (SPWN), and wet land[6] (WET).
	Pacific Ocean, Nearshore[7]	Existing: IND, NAV, REC-1, REC-2, COMM, MAR, WILD, Preservation of Biological Habitats[8] (BIOL), RARE[4], MIGR[5], SPWN[5], and shellfish harvesting (SHELL).

Requirements of this Order specifically implement the Basin Plan.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater and saltwater criteria.

1. **Freshwater Ammonia Water Objective –** On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.

2. **Saltwater Ammonia Water Objective –** On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Charatistic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent

[4] One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
[5] Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.
[6] Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.
[7] Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.
[8] Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Femin Marine Life Refuge.

with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

If salinity sampled at a particular receiving water station indicates brackish conditions, then the more stringent of the freshwater or saltwater objectives shall apply except where the Regional Water Board, by adoption of a resolution, approves the use of either freshwater or saltwater objectives per Implementation Provision 1(3)(a). **However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the saltwater ammonia water objectives will be used to calculate the final ammonia effluent limitations for the Facility (See Section IV.C.2.i.(iii)(iv) in the accompanying Attachment F, and Attachment M).**

The saltwater ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

The 2006 303(d) listings for the Estuary are Chem A based on an unknown source and coliform bacteria and toxaphene based on nonpoint sources. The Total Daily Maximum Loads (TMDLs) for these pollutants in the Estuary have not been established.

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 forty criteria in the NTR applied 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 were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria 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* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA 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. Compliance Schedules and Interim Requirements. Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does include compliance schedules and interim effluent limitations. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) is included in the Fact Sheet.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual

pollutants. The technology-based effluent limitations consist of restrictions on Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), and pH. Restrictions on BOD_5, TSS, and pH are discussed in the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for BOD and TSS that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in Section IV.B. of the Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives 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 CWA" pursuant to section 131.21(c)(1).

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent that those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is

consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. 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 the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program (MRP) is provided in Attachment E.

Time Schedule Order (TSO) No. R4-2006-0093 adopted on December 14, 2006 requested the Discharger to monitor the possible impacts of incrementally decreasing discharge on the ecosystem of the Estuary. This TSO will expire on December 31, 2007. However, these special studies required by the TSO will take years to complete. Therefore, this Order requires monitoring as specified in the TSO, which will be used to determine the possible impacts to the Estuary as a result of incrementally decreasing the discharge volume of wastewater to the Estuary. The detailed monitoring requirements are contained in the accompanying MRP.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an

opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

A. Pursuant to Chapter I, Part A of the Enclosed Bays and Estuaries Policy, the discharge of treated wastewater to the Estuary is prohibited after December 31, 2018, unless there has been a determination from responsible resource agencies that sustenance flow is required to support endangered species habitat.

B. The discharge to the Estuary must be removed as early as practicable, and to facilitate this, it is required that an incremental decrease of 1 mgd occurs per year, beginning in ~~2008~~ three years[9] from the effective date of this Order.

C. Discharge of wastewater at a location different from that described in this Order is prohibited.

D. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.

E. The maximum daily flow of influent from the collection system to the headworks of the Reclamation Facility shall not exceed the design capacity of 14 MGD. This prohibition is not applicable during wet weather storm events.

F. The Discharger shall not cause degradation of any water supply.

G. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.

H. The discharge of any substances in concentrations toxic to animal or plant is prohibited.

I. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

[9] The City requests and needs three years to construct and install all pipelines and pump stations in order to deliver the recycled water to users.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Effluent Transfer Station

a. The Discharger shall maintain compliance with the following effluent limitations with compliance measured at the Effluent Transfer Station as described in the attached MRP:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$BOD_5$20ºC	mg/L	20	30	45	--	--
	lbs/day[10]	2,300	3,500	5,300	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day[10]	1,800	4,700	5,300	--	--
pH	standard units	--	--	--	6.5	8.5
Oil and Grease	mg/L	10	--	15	--	--
	lbs/day[10]	1,200	--	1,800	--	--
Settleable Solids	ml/L	0.1	--	0.3	--	--
Total Residual Chlorine	mg/L	0.1	--	--	--	--
	lbs/day[10]	12	--	--	--	--
MBAS	mg/L	0.5	--	--	--	--
	lbs/day[10]	59	--	--	--	--
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	--	0.30	--	--
	lbs/day[10]	5.3	--	35	--	--
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	--	0.53	--	--
	lbs/day[10]	9.3	--	62	--	--
Nitrate + Nitrite as Nitrogen	mg/L	10	--	--	--	--
	lbs/day[10]	1,200	--	--	--	--
Nitrite as Nitrogen	mg/L	1	--	--	--	--
	lbs/day[10]	120	--	--	--	--
Nitrate as Nitrogen	mg/L	10	--	--	--	--
	lbs/day[10]	1,200	--	--	--	--

[10] The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (mg/L) x 8.37 (L·lbs/MG·mg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper	µg/L	~~2.8~~4.7[11]	--	~~5.8~~9.9[11]	--	--
	lbs/day[12]	~~0.33~~0.55	--	~~0.68~~1.2	--	--
~~Lead~~	~~µg/L~~	~~4.3~~	~~--~~	~~14~~	~~--~~	~~--~~
	~~lbs/day~~[12]	~~0.50~~	~~--~~	~~1.6~~	~~--~~	~~--~~
Mercury	µg/L	0.051	--	0.10	--	--
	lbs/day[12]	0.0060	--	0.012	--	--
Silver	µg/L	~~0.74~~0.71	--	2.2	--	--
	lbs/day[12]	~~0.087~~0.083	--	0.26	--	--
Zinc	µg/L	~~37~~45[13]	--	~~95~~107[13]	--	--
	lbs/day[12]	~~4.3~~5.3	--	~~11~~13	--	--
~~Cyanide~~	~~µg/L~~	~~0.50~~	~~--~~	~~1.0~~	~~--~~	~~--~~
	~~lbs/day~~	~~0.059~~	~~--~~	~~0.12~~	~~--~~	~~--~~
~~Chlorodibromomethane~~	~~µg/L~~	~~34~~	~~--~~	~~93~~	~~--~~	~~--~~
	~~lbs/day~~	~~4.0~~	~~--~~	~~11~~	~~--~~	~~--~~
~~Dichlorobromomethane~~	~~µg/L~~	~~46~~	~~--~~	~~128~~	~~--~~	~~--~~
	~~lbs/day~~	~~5.4~~	~~--~~	~~15~~	~~--~~	~~--~~
~~Bis(2-ethylhexyl)phthalate~~	~~µg/L~~	~~5.9~~	~~--~~	~~12~~	~~--~~	~~--~~
	~~lbs/day~~[11]	~~0.69~~	~~--~~	~~1.4~~	~~--~~	~~--~~

b. **Percent Removal:** The average monthly removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.

c. The temperature of wastes discharged shall not exceed 86°F, except as a result of external ambient temperature.

d. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

[11] Based on the results of Copper Water Effect Ratio (WER) Study in the Updated Enhancement Study conducted by Nautilus Environmental and Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, WER of 1.77 and MTF of 0.86 were applied for copper final effluent limitations. This WER of 1.77 was the lowest one among 15 data.

[12] The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (µg/L) x 0.00837 (L·lbs/MG·µg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[13] Based on the result of Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, MTF of 0.84 was applied for zinc final effluent limitations.

e. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last seven (7) days for which an analysis has been completed. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.

f. For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed any of the following: (a) an average of 2 Nephelometric turbidity units (NTUs) within a 24-hour period; (b) 5 NTUs more than 5 percent of the time (72 minutes) within a 24-hour period; and (c) 10 NTU at any time.

g. To protect the underlying ground water basins, pollutants shall not be present in the wastes discharged at concentrations that pose a threat to ground water quality.

h. Acute Toxicity Limitation:

i. The acute toxicity of the effluent shall be such that:

(i). the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and,

(ii). no single test producing less than 70% survival.

ii. If either of the above requirements IV.A.1.h.i.(i) or IV.A.1.h.i.(ii) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

iii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately implement Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.

iv. The Discharger shall conduct acute toxicity monitoring as specified in Attachment E - Monitoring and Reporting Program (MRP).

i. Chronic Toxicity Trigger and Requirements:

i. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

ii. There shall be no chronic toxicity in the effluent discharge.

iii. If the chronic toxicity of the effluent exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall immediately implement accelerated chronic toxicity testing according to Attachment E - MRP, Section V.B.3. If any three out of the initial test and the six accelerated tests results exceed 1.0 TU_c, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan, as specified in Attachment E – MRP, Section V.D.

iv. The Discharger shall conduct chronic toxicity monitoring as specified in Attachment E – MRP.

2. Interim Effluent Limitations

Copper, mercury, silver, and zinc have reasonable potential to exceed water quality criteria of these constituents. However, interim effluent limitation is only applicable for copper, because the recent effluent data between February 2006 and August 2007 showed that mercury, and silver were all non-detected, and zinc were well less than its CTR-based criteria.

a. During the period from September 1, 2007 to August 31, 2010, the Discharger shall maintain compliance with the following interim limitations at Discharge Point 001, with compliance measured at the Monitoring Location of Effluent Transfer Station as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding

final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 7. Interim Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper	µg/L	--	17	--	--
	lbs/day	--	2.0	--	--
~~Mercury~~	~~µg/L~~	~~0.43~~	~~0.69~~	~~--~~	~~--~~
	~~lbs/day~~	~~0.050~~	~~0.081~~	~~--~~	~~--~~
~~Silver~~	~~µg/L~~	~~5.1~~	~~9.3~~	~~--~~	~~--~~
	~~lbs/day~~	~~0.60~~	~~1.1~~	~~--~~	~~--~~
~~Zinc~~	~~µg/L~~	~~145~~	~~183~~	~~--~~	~~--~~
	~~lbs/day~~	~~17~~	~~21~~	~~--~~	~~--~~
~~Cyanide~~	~~µg/L~~	~~--~~	~~8~~	~~--~~	~~--~~
	~~lbs/day~~	~~--~~	~~0.94~~	~~--~~	~~--~~
~~Chlorodibromomethane~~	~~µg/L~~	~~--~~	~~43.3~~	~~--~~	~~--~~
	~~lbs/day~~	~~--~~	~~5.1~~	~~--~~	~~--~~
~~Dichlorobromomethane~~	~~µg/L~~	~~--~~	~~92~~	~~--~~	~~--~~
	~~lbs/day~~	~~--~~	~~11~~	~~--~~	~~--~~
~~Bis(2-ethylhexyl)phthalate~~	~~µg/L~~	~~--~~	~~37~~	~~--~~	~~--~~
	~~lbs/day~~	~~--~~	~~4.3~~	~~--~~	~~--~~

b. The interim effluent limits were based upon effluent performance data, provided by the Discharger, collected between ~~February~~ August 2003 and ~~December 2006~~August 2007, and calculated by the *Minitab* program.

~~c.~~The Discharger shall submit quarterly progress reports (February 15, May 15, August 15, and November 15) to describe the progress of studies and/or actions undertaken to reduce copper~~, mercury, silver, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate~~ in the effluent, and to achieve compliance with the limits in this Order by the above-mentioned deadline. The first progress report shall be received at the Regional Water Board by ~~November 15, 2007,~~ the date to be determined beginning with the ~~July to September 2007~~quarter to be determined.

B. Land Discharge Specifications

Not Applicable.

C. Reclamation Specifications

The reuse of the reclaimed water is regulated under a separate Waste Discharge Requirements and Water Recycling Requirements for City of San Buenaventura, Order No. 87-45, CI No. 6190.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Estuary:

1. For waters designated with a warm freshwater habitat (WARM) beneficial use, the temperature of the receiving water at any time or place and within any given 24-hour period shall not be altered by more than 5^0F above the natural temperature (or above 70^0F if the ambient receiving water temperature is less than 60^0F) due to the discharge of effluent at the receiving water station located downstream of the discharge. Natural conditions shall be determined on a case-by-case basis.

2. The pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of wastes discharged. Natural conditions shall be determined on a case-by-case basis.

3. The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged.

4. The fecal coliform concentration in the receiving water shall not exceed the following, as a result of wastes discharged:

    a. Geometric Mean Limits

        i. E.coli density shall not exceed 126/100 mL.

        ii. Fecal coliform density shall not exceed 200/100 mL.

    b. Single Sample Limits

        i. E.coli density shall not exceed 235/100 mL.

        ii. Fecal coliform density shall not exceed 400/100 mL.

5. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits, as a result of wastes discharged:

    a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%; and,

b. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

6. The wastes discharged shall not produce concentrations of toxic substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.

7. The wastes discharged shall not cause concentrations of contaminants to occur at levels that are harmful to human health in waters which are existing or potential sources of drinking water.

8. The concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses as a result of the wastes discharged.

9. The wastes discharged shall not contain substances that result in increases in BOD, which adversely affect the beneficial uses of the receiving waters.

10. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

11. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.

12. The wastes discharged shall not alter the natural taste, odor, and color of fish, shellfish, or other surface water resources used for human consumption.

13. The wastes discharged shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges, or other pests.

14. The wastes discharged shall not result in visible floating particulates, foams, and oil and grease in the receiving waters.

15. The wastes discharged shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the receiving waters.

16. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life as a result of the wastes discharged.

17. Acute Toxicity Receiving Water Quality Objective

    a. There shall be no acute toxicity in ambient waters as a result of wastes discharged.

b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.

c. The acute toxicity of the receiving water, at the Stations R-005 and R-003 located upstream and downstream, respectively, of the discharge, shall be such that: (i) the average survival in the undiluted receiving water for any three (3) consecutive 96-hour static, static-renewal, or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival. Static-renewal bioassay tests may be used, as allowed by the most current USEPA test method for measuring acute toxicity.

d. If the upstream acute toxicity of the receiving water is greater than the downstream acute toxicity but the effluent acute toxicity is in compliance, the acute toxicity accelerated monitoring in the receiving water specified in MRP Section V.A.2.d does not apply.

18. Chronic Toxicity Receiving Water Quality Objective

a. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.

b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.

c. If the chronic toxicity in the receiving water at the monitoring station(s) immediately downstream of the discharge, exceeds the monthly median of 1.0 TU_c trigger in a critical life stage test and the toxicity cannot be attributed to upstream toxicity, as assessed by the Discharger, then the Discharger shall immediately implement an accelerated chronic toxicity testing according to Monitoring and Reporting Program CI 1822, section V.B.3. If two of the six tests exceed a monthly median of 1.0 TU_c trigger, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan.

d. If the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TUc of the effluent chronic toxicity test is less than or equal to a monthly median of 1 TU_c trigger, then accelerated monitoring need not be implemented.

B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the Regional Water Board-specific Standard Provisions as follows:

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

   b. Odors, vectors, and other nuisances of sewage or sludge origin beyond the limits of the treatment plant site or the sewage collection system due to improper operation of facilities, as determined by the Regional Water Board, are prohibited.

   c. All facilities used for collection, transport, treatment, or disposal of "wastes" shall be adequately protected against damage resulting from overflow, washout, or inundation from a storm or flood having a recurrence interval of once in 100 years.

   d. Collection, treatment, and disposal systems shall be operated in a manner that precludes public contact with wastewater.

   e. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer of the Regional Water Board.

   f. The provisions of this order are severable. If any provision of this order is found invalid, the remainder of this Order shall not be affected.

   g. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the CWA.

   h. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

   i. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water

courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

j. Discharge of wastes to any point other than specifically described in this Order is prohibited, and constitutes a violation thereof.

k. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the Federal CWA and amendments thereto.

l. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.

m. Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

n. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.

o. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.

p. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.

q. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify the Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.

r. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil

penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations. Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

s. Under CWC 13387, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order and is subject to a fine of not more than $25,000 or imprisonment of not more than two years, or both. For a second conviction, such a person shall be punished by a fine of not more than $25,000 per day of violation, or by imprisonment of not more than four years, or by both.

t. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.

u. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:

    i. Name and general composition of the chemical;

    ii. Frequency of use;

    iii. Quantities to be used;

    iv. Proposed discharge concentrations; and,

    v. USEPA registration number, if applicable.

v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, or receiving water limitation of this Order, the Discharger shall notify David Hung at the Regional Water Board by telephone (213) 576-6664 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures

being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. This Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to:

i. Violation of any term or condition contained in this Order;

ii. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts; and,

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliances does not stay any condition of this Order.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122 and 124 to include requirements for the implementation of the watershed protection management approach.

d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR, Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the District for an Order modification, revocation and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

f. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122 to 124, to include new MLs.

g. This Order may be reopened and modified, to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, or the adoption of a TMDL for the Santa Clara River Estuary.

h. This Order may be reopened and modified, to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.

i. This Order may be reopened and modified to revise the chronic toxicity effluent limitation, to the extent necessary, to be consistent with State Board precedential decisions, new policies, new laws, or new regulations.

j. This Order may be reopened to modify final effluent limits, if at the conclusion of necessary studies conducted by the Discharger, the Regional Water Board determines that dilution credits, attenuation factors, water effects ratio, or metal translators are warranted.

k. This Order may be reopened to include a provision for sustenance flow if the responsible resource agencies direct so. If future studies demonstrate that the discharge enhances the Estuary, this Order will be reopened.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Special Studies

i. There were several special studies~~,~~ which have been conducted since 2001. These studies were all associated with the influences of the discharge on the Estuary and included the *Salinity Study*, *Residence Species Study*, *Metal Translator Study*, and *Updated Enhancement Study* including Copper Water Effect Ratio Study, which found that a factor of 1.77 should be applied to the copper CTR criteria. This factor was the lowest one among all 15 data.

The results of the some of the Study were highly inconclusive on whether the discharge is beneficial to the Estuary, or if there was enhancement. Furthermore, the Discharger completed two additional studies in April 2007 – the Reclamation Market Survey and Estuary Water Balance. The conclusions of the Reclamation Market Survey were that treated effluent quantities exceed the City's recycled water demand potential (approximately 1.9 mgd). Consideration of seasonal recycled water demand variations and wastewater flow peaks demonstrated that the discharge from the Facility will exceed the demands of its recycled water system under all daily/seasonal discharge and recycled water usage combination. However, the City could expand the recycled water market in combination with enhanced water conservation efforts to decrease the discharge volume. Also, the results of Estuary Water Balance showed that decreasing discharge from the Facility slightly increases salinity levels in Estuary and lengthens the duration of time during which the barrier beach is closed. Even under the non-discharge scenario, the model suggested only a modest increase in salinity levels, because inflow of relatively fresh groundwater maintains the system as a brackish water body. However, the conclusions of Estuary Water Balance Study were based upon a simple model calculation. Therefore, monitoring is required to evaluate the influences of the different discharge flows on breaching frequency, groundwater influence, and water quality.

ii. In order to detect any negative impacts from reduced maintenance flows to the Santa Clara Estuary, the Discharger has been required to provide a Work Plan (required by TSO No. R4-2006-0093), which will be used to determine the minimum sustenance flow in the Estuary needed, if any, to protect the habitat of endangered species in the Estuary. The monitoring aspects of this Work Plan should cover the following:

(a). The level of impact on the tidewater goby's population as a result of an incremental decrease in the discharge from the Facility of 1 mgd per year;

(b). The population and number trends from the "Fish Survey" and Macroinvertebrate (An Index of Biological Integrity score should be calculated from annual macroinvertebrate surveys);

(c). The influences of groundwater on the Estuary; and,

(d). Evaluations of different discharge volume scenarios, which may affect breaching frequency, groundwater influence, and water quality.

The monitoring frequency is based on that proposed in the Discharger's Work Plan. The results shall be reported with the regular annual reports.

b. Toxicity Reduction Requirements

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days from the date in which it was received, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the initial investigation TRE workplan must contain the provisions in Attachment E. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

i. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,

iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

If the effluent toxicity test result exceeds the limitation, then the Discharger shall immediately implement accelerated toxicity testing that consists of six additional tests, approximately every two weeks, over a 12-week period. Effluent sampling for the first test of the six additional tests shall commence within 3 days of receipt of the test results exceeding the toxicity limitation.

If the results of any two of the six tests (any two tests in a 12-week period) exceed the limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE).

If results of the implementation of the facility's initial investigation TRE workplan (as described above) indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE.

Detailed toxicity testing and reporting requirements are contained in Section V of the MRP, (Attachment E).

c. Treatment Plant Capacity

The Discharger shall submit a written report to the Executive Officer of the Regional Water Board within 90 days after the "30-day (monthly) average" daily dry-weather flow equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter, which transmits that report and certifies that the discharger's policy-making body is adequately informed of the report's contents. The report shall include the following:

i. The average daily flow for the month, the date on which the peak flow occurred, the rate of that peak flow, and the total flow for the day;

ii. The best estimate of when the monthly average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and,

iii. A schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

This requirement is applicable to those facilities which have not reached 75 percent of capacity as of the effective date of this Order. For those facilities that have reached 75 percent of capacity by that date but for which no such report has been previously submitted, such report shall be filed within 90 days of the issuance of this Order.

3. Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

Within 90 days of the effective date of this Order the Discharger shall submit an updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State to the Regional Water Board. The SWPPP shall be developed in accordance with the requirements in *Storm Water Pollution Prevention Plan Requirements* **(**Attachment H). If all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the Facility, the Discharge shall provide certification with descriptions of on-site storm water management to the Regional Water Board.

b. Spill Contingency Plan (SCP)

Within ninety days, the Discharger is required to submit a~~n interim~~ Spill Clean-up Contingency Plan, which describes the activities and protocols, to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the Discharger's collection system or treatment facilities, that reach water bodies, including dry channels and beach sands. At a minimum, the ~~interim~~ Plan shall include sections on spill clean-up and containment measures, public notification, and monitoring. The Discharger shall review and amend the Plan as appropriate after each spill from the facility or in the service area of the facility. The Discharger shall include a discussion in the annual summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. Pollutant Minimization Program

Reporting protocols in the Monitoring and Reporting Program, Attachment E, Section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a Reported Minimum Level (RML) and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a Pollution Minimization Program (PMP) as follows:

The Discharger shall develop a Pollutant Minimization Program (PMP) as further described below when there is evidence (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) that a priority pollutant is present in the effluent above an effluent limitation and either:

(1). The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or,

(2). The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the 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 CWC Section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1). An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(2). Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(3). Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(4). Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and,

(5). An annual status report that shall be sent to the Regional Water Board including:

i. All PMP monitoring results for the previous year;

ii. A list of potential sources of the reportable priority pollutant(s);

iii. A summary of all actions undertaken pursuant to the control strategy; and,

iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. Wastewater treatment facilities subject to this Order shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations (Section 13625 of the California Water Code).

b. The Discharger shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the discharger shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge Disposal Requirements

(1) All sludge generated at the wastewater treatment plant will be disposed of, treat, or applied to land in accordance with Federal Regulations 40 CFR Part 503. These requirements are enforceable by USEPA.

(2) The Discharger shall ensure compliance with the requirements in SWRCB Order No. 2004-10-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities" for those sites receiving the Discharger's biosolids which a Regional Water Quality Control Board has placed under this general order, and with the requirements in individual Waste Discharge Requirements (WDRs) issued by a Regional Water Board for sites receiving the Discharger's biosolids.

(3) The Discharger shall comply, if applicable, with WDRs issued by other Regional Water Boards to which jurisdiction the biosolids are transported and applied.

(4) The Discharger shall furnish this Regional Water Board with a copy of any report submitted to USEPA, State Board or other Regional Water Board, with respect to municipal sludge or biosolids.

b. **Pretreatment Requirements**

(1) This Order includes the Discharger's Pretreatment Program as previously submitted to this Regional Water Board. Any change to the Program shall be reported to the Regional Water Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 CFR, 403.18.

(2) The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Federal Clean Water Act with timely, appropriate, and effective enforcement actions. The Discharger shall require industrial users to comply with Federal Categorical Standards and shall initiate enforcement actions against those users who do not comply with the standards. The Discharger shall require industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

(3) The Discharger shall perform the pretreatment functions as required in Federal Regulations 40 CFR, Part 403 including, but not limited to:

i. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

ii. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

iii. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and,

iv. Provide the requisite funding of personnel to implement the Pretreatment Program as provided in 40 CFR 403.8(f)(3).

(4) The Discharger shall submit semiannual and annual reports to the Regional Water Board, with copies to the State Board, and USEPA Region 9, describing the Discharger's pretreatment activities over the period. The annual and semiannual reports shall contain, but not be limited to, the information required in the attached *Pretreatment Reporting Requirements* (Attachment P), or an approved revised version thereof. If the Discharger is not in compliance with any conditions or requirements of this Order, the Discharger shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements.

(5) The Discharger shall be responsible and liable for the performance of all control authority pretreatment requirements contained in 40 CFR,

Part 403, including subsequent regulatory revisions thereof. Where Part 403 or subsequent revision 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 effective date of this Order or the effective date of Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Water Board, USEPA, or other appropriate parties, as provided in the Federal Clean Water Act. The Regional Water Board or USEPA may initiate enforcement action against an industrial user for noncompliance with acceptable standards and requirements as provided in the Federal Clean Water Act and/or the California Water Code.

c. The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Attachment D, subsections I.D, V.E, V.H, and I.C.

6. Spill Reporting Requirements

a. **Notification –** For certain spills, overflows and bypasses, the Discharger shall make notifications as required below:

(1). For any spills or overflows of any volume, discharged where they are, or will probably be discharged, to waters of the State, the Discharger shall immediately notify the local health agency in accordance with the California Health and Safety Code section 5411.5. This notification shall occur no later than two hours after the knowledge of the incident.

(2). For any spills or overflows of 1000 gallons or more discharged where they are, or probably be discharged to waters of the State, the Discharger shall immediately notify the State Office of Emergency Services pursuant to Water Code section 13271. This notification shall occur no later than two hours after the knowledge of the incident.

(3). For spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer or has public exposure, the Discharger shall notify such spills to the Regional Water Board, by telephone or electronically as soon as possible but not later than two hours of knowledge of the incident.

The following information shall be included in the initial notification: location; date and time of spill; volume and nature of the spill; cause(s) of the spill; mitigation measures implemented, if known at time.

b. **Monitoring –** For certain spills, overflows and bypasses, the Discharger shall monitor as required below:

(1). To define the geographical extent of spill's impact the Discharger shall obtain grab samples for spills, overflows or bypasses of any volume that reach receiving waters. The Discharger shall analyze the samples for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible and safe). This monitoring shall be done on a daily basis from time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or the County Department of Health Services authorizes cessation of monitoring.

(2). The Discharger shall obtain a grab sample for spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer, and all spills, overflows and bypasses of 1,000 gallons or more. The Discharger shall analyze the sample for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern depending on the area and nature of spills or overflows if feasible, accessible and safe.

c. **Reporting –** The Regional Water Board initial notification shall be followed by:

(1). A written preliminary report five working days after disclosure of the incident. Within 30 days after submitting the preliminary report, the Discharger shall submit the final written report to this Regional Water Board. (A copy of the final written report, for a given incident, already submitted pursuant to a Statewide General Waste Discharge Requirements for Wastewater Collection System Agencies, may be submitted to the Regional Water Board to satisfy this requirement.) The written report shall document the information required in paragraph D. below, monitoring results and any other information required in provisions of the Standard Provisions document including corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences. The Executive Officer for just cause can grant an extension for submittal of the final written report.

(2). The Discharger shall include a certification in the annual summary report (due according to the schedule in the Monitoring and Reporting Program) that states—the sewer system emergency

equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the Discharger's Preventative Maintenance Plan. Any deviations from or modifications to the Plan shall be discussed.

d. **Records –** The Discharger shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report. The records shall contain:

(1). the date and time of each spill, overflow or bypass;

(2). the location of each spill, overflow or bypass;

(3). the estimated volume of each spill, overflow or bypass including gross volume, amount recovered and amount not recovered, monitoring results;

(4). the cause of each spill, overflow or bypass;

(5). whether each spill, overflow or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;

(6). mitigation measures implemented; and,

(7). corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.

e. **Activities Coordination –** In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement: (i) this NPDES permit, including the Pretreatment Program, (ii) a MS4 NPDES permit that may contain spill prevention, sewer maintenance, reporting requirements and (iii) the SSO WDR will coordinate their compliance activities for consistency and efficiency.

f. **Consistency with Sanitary Sewer Overflows WDRs –** The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under a NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory approach to address Sanitary Sewer Overflows (SSOs). The SSOs WDR requires public agencies that own or operate sanitary sewer

systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Sections VI.C.3.b. (Spill Contingency Plan Section), VI.C.4. (Construction, Operation and Maintenance Specifications Section), and VI.C.6. (Spill Reporting Requirements) are intended to be consistent with the requirements of the SSO WDR. The Regional Board recognizes that there may be some overlap between the NPDES permit provisions and SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes, as satisfying the requirements in Sections VI.C.3.b., VI.C.4., and VI.C.6. provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

g. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

7. Compliance Schedules

The Discharger shall submit quarterly progress reports specified in the above-mentioned section to describe the progress of studies and/or actions undertaken to reduce copper, mercury, silver, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate, ammonia as nitrogen, nitrate as nitrogen, and nitrite plus nitrate as nitrogen in the effluent, and to achieve compliance by July 26, 2010. However, the compliance provisions for ammonia as nitrogen, nitrate as nitrogen, and nitrite plus nitrate as nitrogen are contained in the accompanying Time Schedule Order No. R4-2007-YYYY, because the final effluent limitations for these constituents are not CTR-based.

VII. COMPLIANCE DETERMINATION

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

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the 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).

B. Multiple Sample Data.

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

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

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

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

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Discharger will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Discharger shall collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" Section above, will be used for compliance determination.

In the event of noncompliance with an AMEL, the sampling frequency for that parameter shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated

D. Average Weekly Effluent Limitation (AWEL).

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

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, the Discharger may be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

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

G. Instantaneous Maximum Effluent Limitation.

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

H. Percent Removal.

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

Percent Removal (%) = [1-(CEfluent/CInfluent)] x 100 %

When preferred, the Discharger may substitute mass loadings and mass emissions for the concentrations.

I. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

J. Compliance with Single Constituent Effluent Limitations

Dischargers may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see Section B "Multiple Sample Data Reduction" above)in the monitoring sample is greater than the effluent limitation and greater than or equal to the Reporting Level (RL).

K. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

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

L. Mass Emission Rate.

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.34}{N} \sum_{i=1}^{N} QiC\,i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N} \sum_{i=1}^{N} QiC\,i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t} \sum_{i=1}^{N} QiC\,i$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

M. Bacterial Standards and Analysis.

1. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

   Geometric Mean = (C1 x C2 x … x Cn)1/n

   where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

2. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.

3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR 136 (revised March 12, 2007), unless alternate methods have been approved by USEPA pursuant to 40 CFR 136, or improved methods have been determined by the Executive Officer and/or USEPA.

4. Detection methods used for enterococcus shall be those presented in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure* or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

N. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

1. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision V.E.2(b) of Attachment D – Standard Provisions.

3. For purpose outside of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

4. For purpose of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC Section 13385 (f)(2).

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

Coefficient of Variation (*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 the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

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

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

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

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

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

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 included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are 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) means 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 is 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) 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, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (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 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) are those sample results less than the laboratory's MDL.

Ocean Waters are 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 are substances for which degradation or decomposition in the environment is nonexistent or very slow.

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

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 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) 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 is 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 is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) 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

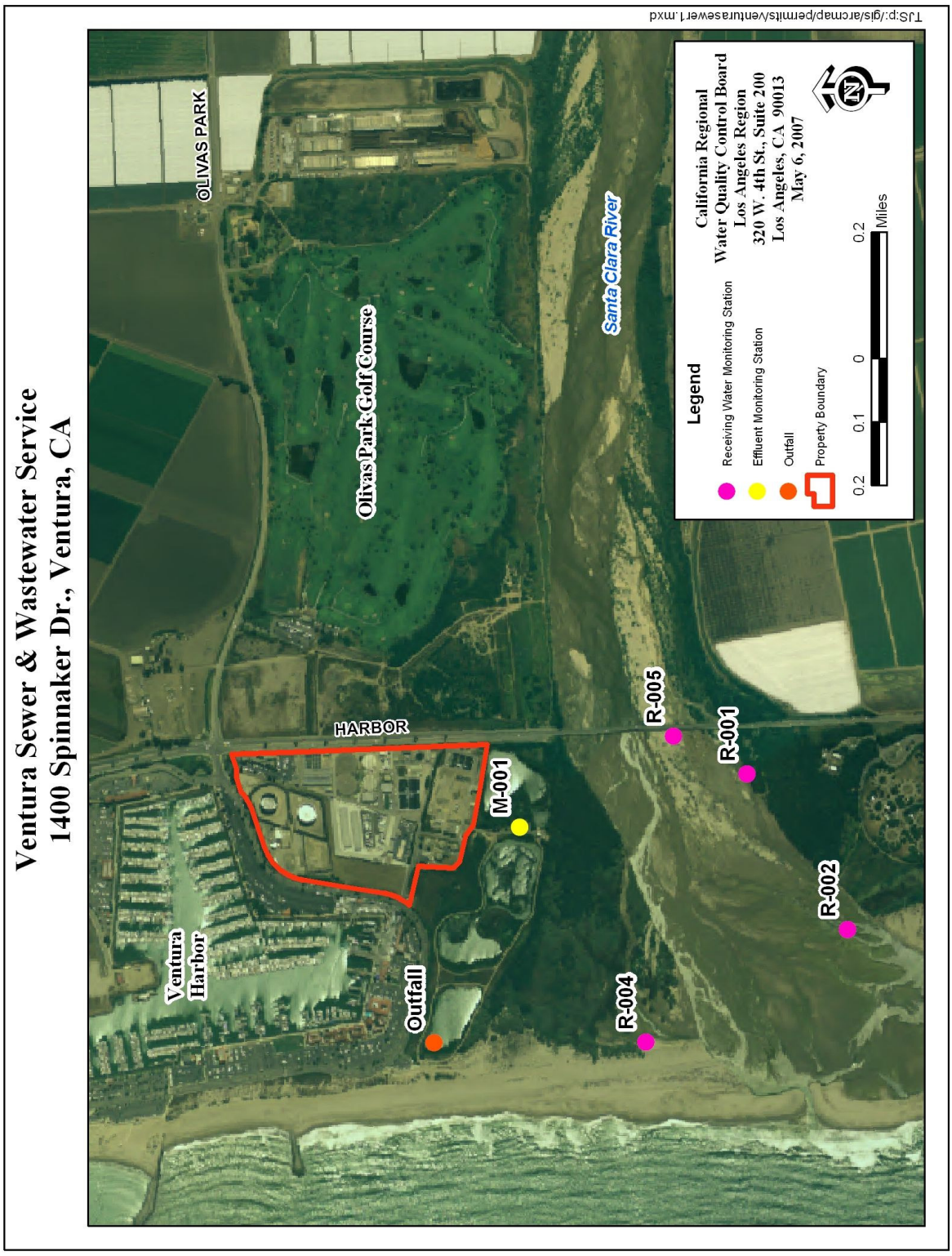
n is the number of samples.

Toxicity Reduction Evaluation (TRE) 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.)

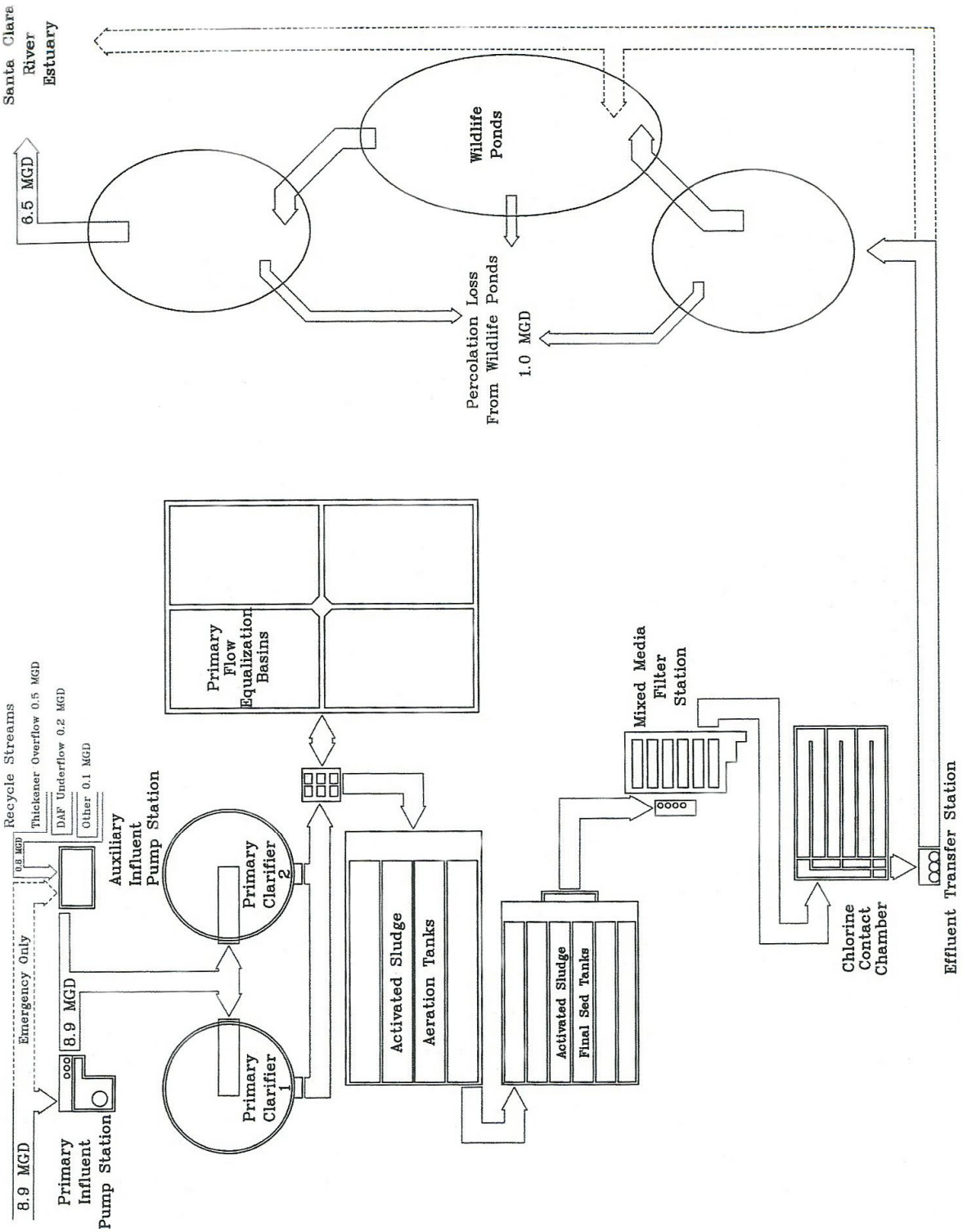
Water Effect Ratio (WER) is a criteria adjustment factor accounting for the effect of site-specific water characteristics for certain metals from national and state aquatic life criteria that

were originally developed using laboratory toxicity data. These aquatic life criteria for metals are intended to protect the aquatic life in most, but not all, surface waters. In some cases, such a criterion might not adequately protect the aquatic life at a given site. More commonly, though, these criteria are overprotective because most surface waters have greater hardness and often higher pH than the laboratory water which was used in toxicity tests which formed the basis for the standard.

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 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 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

    b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R.§ 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

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 C.F.R. § 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 C.F.R. § 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 the Order. (40 C.F.R. § 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 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

List of Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code 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, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. All samples shall be representative of the waste discharge under conditions of peak load. Quarterly effluent analyses shall be performed during the months of February, May, August, and November. Semiannual analyses shall be performed during the months of February and August. Annual analyses shall be performed during the month of August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual, and annual analyses shall be reported in the monthly monitoring report following the analysis.

B. Pollutants shall be analyzed using the analytical methods described in 40 CFR, Part 136.3, 136.4, and 136.5 (revised March 12, 2007); or where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.

C. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR, Part 136.3 (revised March 12, 2007). All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Discharger shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Water Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.

D. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.

E. For any analyses performed for which no procedure is specified in the USEPA guidelines, or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

F. Each monitoring report must affirm in writing that "all analyses were conducted at a laboratory certified for such analyses by the Department of Health Services or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP."

G. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and the reporting Level (RL) [the Minimum Level (ML) or the Reported Minimum Level (RML)] for each pollutant. The MLs are those published by the State Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California,* February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the reported minimum level.

H. The Discharger shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR, Part 136, and obtains approval for a higher ML from the Executive Officer, as provided for in section J. below. If the effluent limitation is lower than all the MLs in Appendix 4, SIP, the Discharge must select the method with the lowest ML for compliance purposes. The Discharger shall include in the Annual Summary Report a list of the analytical methods employed for each test.

I. The Discharger shall instruct its laboratories to establish calibration standards so that the ML (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. In accordance with section J. below, the Discharger's laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.

J. In accordance with Section 2.4.3 of the SIP, the Regional Water Board Executive Officer, in consultation with the State Water Board's Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the discharger's permit in any of the following situations:

   a. When the pollutant under consideration is not included in Appendix 4, SIP;

   b. When the discharger and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR, Part 136 (revised as of May 14, 1999);

c. When a discharger agrees to use an ML that is lower than those listed in Appendix 4;

d. When a discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,

e. When the discharger uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-approved method 1613 for dioxins, and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the discharger, the Regional Water Board, and the State Water Resources Control Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

If there is any conflict between foregoing provisions and the State Implementation Policy (SIP), the provisions stated in the SIP (Section 2.4) shall prevail.

K. If the Discharger samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this Program using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.

L. The Discharger shall develop and maintain a record of all spills or bypasses of raw or partially treated sewage from its collection system or treatment plant according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report.

M. For all bacteriological analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.

a. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007), unless alternate methods have been approved in advance by the United State Environmental Protection Agency (USEPA) pursuant to 40 CFR Part 136.

b. Detection methods used for enterococcus shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007) or in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By*

Membrane Filter Procedure, or any improved method determined by the Regional Water Board to be appropriate.

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 1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
Influent Monitoring Station		
Inf-001	Influent Pump Station	The sampling location (Lat. 34^0, 14'25.44" N; Long. 119^0, 15'25.53" W) is located in the main stream of the influent channel prior to the head work adjacent to Harbor Boulevard.
Effluent Monitoring Station		
M-001	Effluent Transfer Station (Point of Compliance)	The effluent sampling station (Lat. 34^0, 14'21.45" N; Long. 119^0, 15'31.26" W) is located downstream of all treated effluent passing through this station, including the final disinfection process.
Receiving Water Monitoring Station		
R-001	Receiving Water Sample Station	This sampling location (Lat. 34^0, 13'55.58" N; Long. 119^0, 15'27.59" W) is located at the upstream from the Santa Clara River Estuary.
R-002	Receiving Water Sample Station	This sampling location (Lat. 34^0, 13'47.37" N; Long. 119^0, 15'43.15" W) is located at the south shoreline of the Santa Clara River Estuary.
R-003	Receiving Water Sample Station	This sampling location (Variable at the mouth of the outlet) is located at the west shoreline of the Santa Clara River Estuary.
R-004	Receiving Water Sample Station	This sampling location (Lat. 34^0, 14'04.15" N; Long. 119^0, 15'54.19" W) is located at the northwest shoreline of the Santa Clara River Estuary.
R-005	Receiving Water Sample Station	This sampling location (Lat. 34^0, 14'01.63" N; Long. 119^0, 15'23.79" W) is located at the upstream from the Santa Clara River Estuary and at the Harbor Boulevard Bridge crossing. R-005 was labeled as Station L-5 in the previous permit.

III. INFLUENT MONITORING REQUIREMENTS

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program.

A. Monitoring Location – Influent Pump Station (Inf-001)

1. The Discharger shall monitor influent to the facility at Influent Pump Station as follows:

Table 2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	recorder/totalizer	continuous[1]	[1]
Total suspended solids	mg/L	24-hour composite	weekly	[2]
BOD_5 20°C	mg/L	24-hour composite	weekly	[2]
Nitrogen compounds	mg/L	grab	quarterly	[2]
Copper	µg/L	grab	quarterly	[2]
~~Lead~~	~~µg/L~~	~~grab~~	~~quarterly~~	~~[2]~~
Mercury	µg/L	grab	quarterly	[2]
Silver	µg/L	grab	quarterly	[2]
Zinc	µg/L	grab	quarterly	[2]
Cyanide	µg/L	grab	~~quarterly~~semiannually[3]	[2]
Chlorodibromomethane	µg/L	grab	~~Quarterly~~semiannually[3]	[2]
Dichlorobromomethane	µg/L	grab	~~Quarterly~~semiannually[3]	[2]
Bis(2-ethylhexyl)phthalate	µg/L	grab	~~Quarterly~~semiannually[3]	[2]
Remaining priority pollutants[4] excluding asbestos	µg/L	24-hour composite/grab for VOCs and Chromium VI	semiannually	[2]
Pesticides[5]	µg/L	24-hour composite	semiannually	[2]

IV. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to:

- Determine compliance with NPDES permit conditions and water quality standards.
- Assess plant performance, identify operational problems and improve plant performance.

A. Monitoring Location – Effluent Transfer Station (M-001)

[1] Total daily flow and instantaneous peak daily flow (24-hr basis). Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Resources Control Board.

[3] If any effluent result of this chemical exceeds the CTR-based criteria after the effective date (to be determined), the influent monitoring frequency of this chemical shall be increased from semiannually to quarterly.

[4] Priority pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment.

[5] Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (p) (methoxychlor, demeton, guthion, malathion, mirex, and parathion).

1. The Discharger shall monitor the discharge of tertiary-treated effluent at Effluent Transfer Station as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total waste flow	MGD	recorder	continuous[6,7]	[1]
Turbidity	NTU	recorder	continuous[6]	[5]
Total residual chlorine	mg/L	recorder	continuous[6,8,9]	[2]
Total residual chlorine	mg/L	grab[10]	daily[11]	[2]
Total and fecal coliform	MPN/100 mL	grab	daily	[2]
Settleable solids	ml/L	grab	daily	[2]
$BOD_5 20^oC$	mg/L	24-hr comp.	daily	[2]
Suspended solids	mg/L	24-hr comp.	daily	[2]
Dissolved oxygen	mg/L	grab	daily	[2]
Temperature	^0F	grab	weekly	[2]
pH	pH units	grab	weekly	[2]
Oil and grease	mg/L	grab	weekly	[2]
Total dissolved solids	mg/L	24-hr comp.	monthly	[2]
Fluoride	mg/L	24-hr comp.	monthly	[2]
Phosphate as P	mg/L	24-hr comp.	monthly	[2]
Phosphorous	mg/L	24-hr comp.	monthly	[2]
Ammonia nitrogen	mg/L	24-hr comp.	monthly	[2]
Nitrate nitrogen	mg/L	24-hr comp.	monthly	[2]
Nitrite nitrogen	mg/L	24-hr comp.	monthly	[2]
Organic nitrogen	mg/L	24-hr comp.	monthly	[2]

[6] Where continuous monitoring of a constituent is required, the following shall be reported:
Total waste flow – Total daily and peak daily flow (24-hr basis);
Total residual chlorine – Maximum daily value (24-hr basis);
Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value

[7] The City can temporarily use the existing total flow meter, located after tertiary filters and before chlorination, to monitor the total waste flow. By June 30, 2008, the total waste flow device must be installed and function properly at the Effluent Transfer Station.

[8] Total residual chlorine (TRC) shall be continuously recorded. The recorded charts shall be maintained by the Permittee for at least five years. The maximum daily peak, minimum daily peak, and daily average total residual chlorine shall be reported on the monthly monitoring reports.

[9] Continuous monitoring of TRC at the current location shall serve as an internal trigger for increased TRC end of pipe grab sampling if either of the following occur, except as noted in footnote 7.c:
a. TRC concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or
b. TRC concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.
c. Additional end of pipe grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.

[10] Grab samples shall be collected at end of pipe during peak flow.

[11] Daily grab samples shall be collected Monday through Friday only, except for holidays; and not on weekends.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total Kjeldahl nitrogen	mg/L	24-hr comp.	monthly	[2]
Detergents (as MBAS)	mg/L	24-hr comp.	monthly	[2]
Chlorophyll *a*	mg/L	grab	monthly	[2]
Cyanide	µg/L	grab	monthly[12]	[2]
Chronic toxicity	TUc	24-hr comp.	monthly	See Section V.B.2.a
Acute toxicity	TUa	24-hr comp.	annually	See Section V.A.2.a
Aluminum	µg/L	24-hr comp.	semiannually	[2]
Antimony	µg/L	24-hr comp.	semiannually	[2]
Arsenic	µg/L	24-hr comp.	semiannually	[2]
Barium	µg/L	24-hr comp.	semiannually	[2]
Beryllium	µg/L	24-hr comp.	semiannually	[2]
Cadmium	µg/L	24-hr comp.	semiannually	[2]
Chromium VI	µg/L	grab	semiannually	[2]
Cobalt	µg/L	24-hr comp.	semiannually	[2]
Copper	µg/L	24-hr comp.	monthly	[2]
Iron	µg/L	24-hr comp.	semiannually	[2]
Lead	µg/L	24-hr comp.	~~monthly~~ semiannually	[2]
Mercury	µg/L	24-hr comp.	monthly	[2]
Molybdenum	µg/L	24-hr comp.	semiannually	[2]
Nickel	µg/L	24-hr comp.	semiannually	[2]
Selenium	µg/L	24-hr comp.	semiannually	[2]
Silver	µg/L	24-hr comp.	monthly	[2]
Thallium	µg/L	24-hr comp.	semiannually	[2]
Vanadium	µg/L	24-hr comp.	semiannually	[2]
Zinc	µg/L	24-hr comp.	monthly	[2]
Chlorodibromomethane	µg/L	grab	monthly[12]	[2]
Dichlorobromomethane	µg/L	grab	monthly[12]	[2]
Bis(2-ethylhexyl)phthalate	µg/L	grab	monthly[12]	[2]
Acetone	µg/L	grab	semiannually	[2]
Total xylene	µg/L	24-hr comp.	semiannually	[2]
TCDD	µg/L	24-hr comp.	semiannually	[13]

[12] This chemical needs to be monthly monitored until the end of Year 2008. If the results are non-detected or less than the CTR-based criteria, then the monitoring frequency can be reduced from monthly to semiannually. If any result exceeds the CTR-based criteria after the effective date (to be determined), the monitoring frequency shall remain as monthly.

[13] In accordance with the SIP, the Discharger shall conduct effluent monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water Station RSW-002, located downstream of the discharge point. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result (C_i) and their corresponding Toxicity Equivalence Factor (TEF_i)., (i.e., $TEQ_i = C_i \times TEF_i$). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{1}^{17}(TEQ_i) = \sum_{1}^{17}(C_i)(TEF_i)$$

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Remaining priority pollutants (excluding asbestos)	µg/L	grab/24-hr comp. for VOC	semiannually	[2]
Pesticides[4]	µg/L	24-hr comp.	semiannually	[2]
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	µg/L	24-hr comp.	semiannually	[14]
Emerging chemicals[15]	µg/L	24-hr comp.	biannually	[15]
Endocrine disrupting chemicals[16]	µg/L	24-hr comp.	biannually	Approved by ~~DHS~~CDPH
Pharmaceuticals[17]	µg/L	24-hr comp.	biannually	Approved by ~~DHS~~CDPH

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Definition of Acute Toxicity

   Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

   a. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and

   b. No single test shall produce less than 70% survival.

2. Acute Toxicity Effluent Monitoring Program

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[14] Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium.
Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If Radium-226 & 228 exceeds the stipulated criteria, analyze for Tritium, Strontium-90 and uranium.

[15] Emerging chemicals include 1,4-dioxane (USEPA 8270c test method), perchlorate (USEPA 314 test method), 1,2,3-trichloropropane (USEPA 504.1 or 8260B test method), and methyl tert-butyl ether (USEPA 8260B test method). These chemicals need to be monitored in August.

[16] Endocrine disrupting chemicals include ethinyl estradiol, 17-B estradiol, estrone, bisphenol A, nonylphenol and nonylphenol polyethoxylate, octylphenol and octylphenol polyethoxylate, and polybrominated diphenyl ethers. These chemicals need to be monitored, only when ~~The~~the analytical methods for these chemicals ~~shall be~~are applicable and approved by the ~~DHS~~CDPH. These chemicals need to be monitored during August.

[17] Pharmaceuticals include acetaminopen, amoxicillin, azithromycin, caffeine, carbamazepine, ciprofloxacin, ethylenediamine tetra-acetic acid (EDTA), gemfibrozil, ibuprofen, iodinated contrast media, lipitor, methadone, morphine, salicylic acid, and triclosan. These chemicals need to be monitored, only when ~~The~~the analytical methods for these chemicals ~~shall be~~are applicable and approved by the ~~DHS~~CDPH. These chemicals need to be monitored in August.

a. **Method.** The Discharger shall conduct acute toxicity tests on 100% effluent and receiving water grab samples by methods specified in 40 CFR Part 136, which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October, 2002 (EPA-821-R-02-012) or a more recent edition to ensure compliance.

b. **Test Species.** The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish discharges. However, if the salinity of the receiving water is between 1 to 32 parts per thousand (ppt), the Discharger may have the option of using the inland silverslide, *Menidia beryllina*, instead of the topsmelt. The method for topsmelt is found in USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October, 2002 (EPA-821-R-02-012).

c. **Alternate Reporting.** In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, but only if the Discharger uses USEPA's August 2002 Method (EPA-821-R-02-013) to conduct the chronic toxicity test.

d. **Acute Toxicity Accelerated Monitoring.** If the effluent toxicity requirements in Section IV.A.1.h.i.(i) or IV.A.1.h.i.(ii) of this Order is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing.

However, if the extent of the acute toxicity of the receiving water upstream of the discharge is greater than the downstream and the results of the effluent acute toxicity test comply with acute toxicity limitation, the accelerated monitoring need not be implemented for the receiving water.

e. **Toxicity Identification Evaluation (TIE).**

(1). If the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

(2) If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately implement Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. Once the sources are identified the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.

B. Chronic Toxicity Testing

1. Definition of Chronic Toxicity

Chronic toxicity is a measure of adverse sub-lethal effects in plants, animals, or invertebrates in a long-term test. The effects measured may include lethality or decreases in fertilization, growth, and reproduction.

2. Chronic Toxicity Effluent Monitoring Program

a. **Test Methods**. The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite 100 % effluent samples or receiving water grab samples in accordance with EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, October 2002 (EPA-821-R-02-013) or EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, October 2002 (EPA-821-R-02-014), or current version.

b. **Frequency**

(1). **Screening and Monitoring**. - The Discharger shall conduct the first chronic toxicity test screening for three consecutive months in 2007. The Discharger shall conduct short-term tests with the cladoceran, water flea (*Ceriodaphnia dubia* - survival and reproduction test), the fathead minnow (*Pimephales promelas* - larval survival and growth test), and the green alga (*Selenastrum capricornutum* - growth test) as an initial screening process for a minimum of three, but not to exceed, five suites of tests to account for potential variability of the effluent / receiving water. After this screening period, monitoring shall be conducted using the most sensitive species.

(2). **Re-screening** is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

(3). Regular toxicity tests - After the screening period, monitoring shall be conducted monthly using the most sensitive species.

c. **Toxicity Units.** The chronic toxicity of the effluent shall be expressed and reported in Chronic Toxic Units, TUc, where,

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

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

3. Accelerated Monitoring

If the chronic toxicity of the effluent or the receiving water downstream the discharge exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The samples shall be collected and the tests initiated no less than 7 days apart. The Discharger shall ensure that they receive results of a failing chronic toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 5 business days of the receipt of the result. However, if the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TUc of the effluent chronic toxicity test is less than or equal to a monthly median of 1 TU_c trigger, then accelerated monitoring need not be implemented for the receiving water.

a. If any three out of the initial test and the six additional tests results exceed 1.0 TU_c the Discharger shall immediately implement the Initial Investigation of the TRE.

b. If implementation of the initial investigation TRE Workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in Table 3 and Table 4 of this MRP.

c. If all of the six additional tests required above do not exceed 1 TUc, then the Discharger may return to the normal sampling frequency.

d. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manual (EPA-821-R-02-012 and/or EPA-821-R-02-013), then the Discharger must re-sample and re-test within 14 days.

3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

D. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Workplan must contain the provisions in Attachment G. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

2. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,

3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor). See MRP Section V.E.3. for guidance manuals.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE. The detailed workplan shall include, but not be limited to:

    a. Further actions to investigate and identify the cause of toxicity;

    b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and,

c. A schedule for these actions.

2. The following section summarizes the stepwise approach used in conducting the TRE:

   a. Step 1 includes basic data collection.

   b. Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals.

   c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity.

   d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options.

   e. Step 5 evaluates in-plant treatment options.

   f. Step 6 consists of confirmation once a toxicity control method has been implemented.

      Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there are no longer toxicity violations.

3. The Discharger shall initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute manual, chronic manual, EPA/600/R-96-054 (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), as guidance.

4. If a TRE/TIE is initiated prior to completion of the accelerated testing required in Section V.D. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer .

5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance, if appropriate.

6. The Regional Water Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based, in part, on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

    a. If all the results of the six additional tests are in compliance with the chronic toxicity limitation, the Discharger may resume regular monthly testing.

    b. If the results of any of the six accelerated tests exceeds the limitation, the Discharger shall continue to monitor weekly until six consecutive weekly tests are in compliance. At that time, the Discharger may resume regular monthly testing.

    c. If the results of two of the six tests, or any two tests in a six-week period, exceed the limitation, the Discharger shall initiate a TRE.

    d. If implementation of the initial investigation TRE workplan (see item D.3, above) indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the regular testing frequency.

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia *because of increasing test pH* when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

    a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.

    b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.

    c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.

    d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board , and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

G. Reporting

The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month, as required by this permit. Test results shall be reported in Acute Toxicity Units (TUa) or Chronic Toxicity Units (TUc), as required, with the self-monitoring report (SMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section V.A.2.d. and V.B.3., then those results also shall be submitted with the SMR for the period in which the Investigation occurred.

1. The full report shall be received by the Regional Water Board by the 15th day of the second month following sampling.

2. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the toxicity limit; and, (4) printout of the toxicity program (ToxCalc or CETIS).

3. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the SMR. Routine reporting shall include, at a minimum, as applicable, for each test, as appropriate:

    a. sample date(s)

    b. test initiation date

    c. test species

    d. end point value(s) for each dilution (e.g. number of young, growth rate, percent survival)

    e. NOEC values in percent effluent

    f. TUc value(s), where $TU_c = \frac{100}{NOEC}$

    g. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable)

h. NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s)

i. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).

4. The Discharger shall provide a compliance summary that includes a summary table of toxicity data from at least eleven of the most recent samples.

5. The Discharger shall notify this Regional Water Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of an effluent limit. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Ventura Water Reclamation Facility is recycling wastewater under separate Water Recycling Requirements contained in Order No. 87-45.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Locations – R-003, R-004, and R-005 (See Attachment B)

1. The Discharger shall monitor receiving water at R003, R-004, and R-005 as follows:

Table 4a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper	µg/L	grab	monthly	[2]
~~Lead~~	~~µg/L~~	~~grab~~	~~monthly~~	~~2~~
Mercury	µg/L	grab	monthly	[2]
Silver	µg/L	grab	monthly	[2]
Zinc	µg/L	grab	monthly	[2]
Cyanide	µg/L	grab	~~monthly~~semiannually[18]	[2]
Chlorodibromomethane	µg/L	grab	~~Monthly~~semiannually[18]	[2]
Dichlorobromomethane	µg/L	grab	~~Monthly~~semiannually[18]	[2]
Bis(2-ethylhexyl)phthalate	µg/L	grab	~~Monthly~~semiannually[18]	[2]
Dioxin	pg/L	grab	semiannually	[13]

[18] If any result of this chemical exceeds the CTR-based criteria after the effective date to be determined, the receiving water monitoring frequency of this chemical shall be increased from semiannually to monthly.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Remaining priority pollutants excluding as asbestos	µg/L	grab	semiannually	[2]
Chronic toxicity	TUc	grab	~~monthly~~quarterly	See Section V.B.2.a
Acute toxicity[19]	TUa	grab	annually	See Section V.A.2.a

B. Monitoring Locations – R-001 to R-005 (See Attachment B)

1. The Discharger shall monitor receiving water at R-001 through R-005 as follows:

Table 4b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total and fecal coliform	MPN/100 mL	grab	weekly	[2]
Residual chlorine[20]	mg/L	grab	weekly	[2]
Hardness	mg/L	grab	weekly	[2]
Salinity	ppt	field	weekly	[2]
pH	pH units	grab	weekly	[2]
Temperature	^{0}F	field	weekly	[2]
Dissolved oxygen[21]	mg/L	field	weekly	[2]
Total phosphorous as P	mg/L	grab	monthly	[2]
Ammonia nitrogen	mg/L	grab	monthly	[2]
Nitrate nitrogen	mg/L	grab	monthly	[2]
Nitrite nitrogen	mg/L	grab	monthly	[2]
Organic nitrogen	mg/L	grab	monthly	[2]
Total Kjeldahl nitrogen	mg/L	grab	monthly	[2]
Chlorophyll a	mg/L	grab	monthly	[2]

C. Observation – R-001 to R-004 (See Attachment B)

Table 4c. Receiving Water Monitoring Requirements

Parameter	Minimum Sampling Frequency
Sludge banks or deposits	weekly
Oil, grease, or slicks	weekly
Foam	weekly
Solids of waste origin	weekly

IX. OTHER MONITORING REQUIREMENTS

[19] Acute toxicity test for the receiving water is conducted in Stations R-005 and R-003 only.
[20] Residual chlorine test for the receiving water is conducted in Stations R-001 to R-004.
[21] Measuring DO in the receiving water must be conducted in the pre-dawn in order to evaluate the possible impact of the low DO levels on the Estuary, because there is no photosynthesis to generate oxygen during the night and all aquatic life depletes DO during the night.

A. Reduced Flow Study Program

In order to detect any negative impacts from reduced maintenance flows to the Santa Clara Estuary, the Discharger has been required to provide a Work Plan (required by TSO No. R4-2006-0093), which will be used to determine the minimum sustenance flow in the Estuary needed, if any, to protect the habitat of endangered species in the Estuary. The monitoring aspects of this Work Plan should cover the following:

1. The level of impact on the tidewater goby's population as a result of an incremental decrease in the discharge from the Facility of 1 mgd per year;

2. The population and number trends from the "Fish Survey" and Macroinvertebrate (An Index of Biological Integrity score should be calculated from annual macroinvertebrate surveys);

3. The influences of groundwater on the Estuary; and,

4. Evaluations of different discharge volume scenarios, which may affect breaching frequency, groundwater influence, and water quality.

The monitoring frequency is based on that proposed in the Discharger's Work Plan. The results shall be reported with the regular annual reports.

B. Regional Monitoring Program

Pursuant of 40 CFR 122.41(j) and 122.48(b), the monitoring program for a Discharger receiving an NPDES Permit must determine compliance with NPDES permit terms and conditions, and demonstrate that water quality standards are met.

Compliance monitoring focuses only on the quality of the discharge, it is not designed to assess the impact of the discharge on the receiving water in combination with other point source discharges or with any other sources of pollution (e.g., non-point source runoff, aerial fallout). Likewise, it is not designed to evaluate the current status of important ecological resources on a regional basis. However, to support the Watershed Approach, a watershed-wide Regional Monitoring Program may be designed for the Santa Clara River Watershed, with input of stakeholders, to determine: compliance with receiving water objectives; trends in surface water quality; impacts to beneficial uses; and data needs for modeling contaminants of concern.

Once this Regional Monitoring Program has been designed, the Executive Officer may require the Discharger to participate in the Regional Program and/or revise the existing monitoring program.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. If there is no discharge during any reporting period, the report shall so state.

3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.

4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (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 hard copy SMRs in accordance with the requirements described in subsection B.5 below. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies (ex, the Work Plan specified in TSO R4-2006-0093), acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table 5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	By the 15th day of the second month after the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May15 August 15 November 15 February 15
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 15 February 15
Annually	January 1 following (or on) permit effective date	January 1 through December 31	April 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

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

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   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 ($\pm$ 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.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below: (Reference the reports to Compliance File No. 1822 to facilitate routing to the appropriate staff and file.)

      California Regional Water Quality Control Board
      320 West 4th Street, Suite 200
      Los Angeles, CA 90013
      Attention: Information Technology Unit

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.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. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address 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 or modified cannot be accepted.

D. Other Reports

1. Annual Summary Report

By April 1 of each year, the Discharger shall submit an annual report containing a discussion of the previous year's influent/effluent analytical results and receiving water bacterial monitoring data. The annual report shall contain graphical and tabular summaries of the monitoring analytical data. The annual report shall also contain an overview of any plans for upgrades to the treatment plant's collection system, the treatment processes, or the outfall system. The Discharger shall submit a hard copy annual report to the Regional Water Board in accordance with the requirements described in subsection B.5 above.

Each annual monitoring report shall contain a separate section titled "Reasonable Potential Analysis" which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement:" The analytical results for this sampling period did/ did not trigger reasonable potential." If reasonable potential was triggered, then the following information should also be provided:

a. A list of the pollutant(s) that triggered reasonable potential;

b. The Basin Plan or CTR criteria that was exceeded for each given pollutant;

c. The concentration of the pollutant(s);

d. The test method used to analyze the sample; and,

e. The date and time of sample collection.

2. The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

3. The Regional Water Board requires the Discharger to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

   a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.

   b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.

   c. Describe facilities and procedures needed for effective preventive and contingency plans.

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

ATTACHMENT F – FACT SHEET

Table of Contents

List of 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" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following Table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID	4A560107001
Discharger	City of San Buenaventura
Name of Facility	Ventura Water Reclamation Facility, Ventura
Facility Address	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
Facility Contact, Title and Phone	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Authorized Person to Sign and Submit Reports	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
Mailing Address	P.O. Box 99, Ventura, CA 93002-0099
Billing Address	P.O. Box 99, Ventura, CA 93002-0099
Type of Facility	Publicly Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	Producer
Facility Permitted Flow	14 million gallons per day
Facility Design Flow	14 million gallons per day
Watershed	Santa Clara River Watershed
Receiving Water	Santa Clara River Estuary via Wildlife Ponds
Receiving Water Type	Estuary

A. City of San Buenaventura (hereinafter Discharger) is the owner and operator of Ventura Water Reclamation Facility (hereinafter Facility), a Publicly Owned Treatment Works.

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.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that:

> *"It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*

Section I.A. of Order No. 00-143 states that "The running 30-day average volume of treated wastewater discharged to the Santa Clara River Shall not be less than 5.6 mgd." The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Estuary is beneficial and enhances the Estuary, or has adverse impacts to the Santa Clara River Estuary (Estuary). A Time Schedule Order (No. R4-2006-0093) adopted by the Regional Water Board on December 14, 2006, required the Discharger to evaluate the possible impact(s) on the Estuary through the studies of an increase in the reclamation program and an incremental decrease of discharge to the Estuary.

This NPDES renewal proposes to lift the requirement of maintenance flows of 5.6 mgd to the Estuary so that reclamation can be increased and discharges to the Estuary incrementally decreased by 1 mgd per year. Monitoring will ensure that endangered species residing in the Estuary are not adversely impacted by the incremental decrease in flow.

Results of a dry season water budget and salinity assessment of the Estuary were used by Kamman Hydrology & Engineering, Inc. (April 30, 2007), on behalf of the Discharger, to model/predict changes in water chemistry and water levels over time using different scenarios of flow when the Facility discharges to the Estuary at 7-MGD, 5-MGD, 3-MGD, and 0-MGD. Data from the spring event (04/08/2004 to 05/16/2004) were chosen to calibrate the model. The model was then validated using data from the summer (06/08/2004 to 07/15/2004) and autumn (11/08/2004 to 12/14/2004) fill/breach events.

Results of the modeling suggest that decreasing rates of wastewater discharges to the Estuary slightly increase the estuarine salinity levels and lengthens the duration

of time during which the barrier beach is closed. Even under the most extreme scenario of 0-MGD, cessation of flow, the model suggests that the depth of water and the salinity in the Estuary will remain relatively stable because of the inflow of relatively fresh groundwater. However, modeling is only a prediction, and actual conditions in the Estuary must be monitored to avoid any impact to endangered species habitat as the result in a decrease of flow to the Estuary.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study. This Study was performed by Nautilus Environmental hired~~conducted~~ by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, there was concern expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging and pharmaceutical chemicals. This monitoring effort could ~~in order to~~ determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

B. The Facility discharges wastewater to the Estuary, a water of the United States, and is currently regulated by Order No. 00-143, which was adopted on October 12, 2000.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on April 18, 2005. A site visit was conducted on February 1, 2007, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger owns and operates the Facility, a tertiary wastewater treatment facility located at 1400 Spinnaker Road, Ventura, California. Figure 1 shows the location of the Facility. Figure 1 shows the location of the Facility. The Facility currently receives wastewater generated from the City of San Buenaventura. The wastewater is a mixture of domestic, commercial, and industrial wastewater that is pre-treated pursuant to 40 CFR Part 403. The Facility has a design capacity of 14 mgd and serves an estimated population of 105,000 people.

A. Description of Wastewater and Biosolids Treatment or Controls

The treatment system consists of screenings and grit removal, primary sedimentation, flow equalization, ~~roughing filters,~~ activated sludge nitrification and partial denitrification[1], tertiary filters, ammonia addition[2], chlorination and

[1] For the nitrification process, there are two steps for ammonia being oxidized into nitrate.

Step 1: $2NH_4^+ + 3O_2 \rightarrow 4H^+ + 2NO_2^- + H_2O$
Step 2: $2NO_2^- + O_2 \rightarrow 2NO_3^-$

dechlorination, primary sludge thickener, dissolved air flotation (DAF) secondary sludge thickener, anaerobically digested, and dewatered (using plate and frame filter presses). ~~A portion of the dewatered sludge is composted (Class B), and hauled to various users in Ventura County. The remainder of the dewatered sludge is disposed of in the Simi Valley and Chiquita Canyon Landfills.~~ All of the Class B anaerobically digested sludge is dewatered and composted to Class A at Lost Hills, Kern County and then land applied to a cotton farm in Kings County. Screenings and grits are disposed of at the Toland Road landfill. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds with a combined capacity of 34 million gallons providing approximately 4 days of detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

B. Discharge Points and Receiving Waters

1. The treated wastewater is discharged into the Estuary through the Wildlife Ponds with approximately 4-day retention, a water of the United State, at latitude 34° 14' 22.46", and longitude 119° 15' 54.84" (Discharge Serial No. 001).

For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.

$2NO_3^- + 10e^- + 12H^+ \rightarrow N_2 + 6H_2O$

The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2007-XXXX and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

[2] Ammonia (NH_3) has been added into chlorine contact basin since April 2004. Ammonia reacts with hypochlorous acid (HOCl) to form chloramine (NH_2Cl). Here is the reaction below:

$NH_3 + HOCl \rightarrow NH_2Cl + H_2O$

Chloramine is used as a disinfectant in municipal water systems as an alternative to chlorination and also exhibits less tendency to convert organic materials into chlorocarbons such as chloroform, dichlorobromomethane, dibromochloromethane, and carbon tetrachloride.

2. The mouth of the Santa Clara River is sometimes closed off by a sand bar so that a shallow lagoon is created. However, at times when the sand bar is breached, either by floodwaters or by mechanical means, the lagoon empties directly into the Pacific Ocean.

3. The State of California Department of Parks and Recreation has declared McGrath State Beach and the surrounding 160 acres a natural preserve. The preserve includes the main channel of the Santa Clara River and adjacent natural lands of riparian shrub land and saltwater marsh. The purpose of the natural preserve is to protect and perpetuate the river ecosystem at the mouth of the Santa Clara River. Resource values of particular significance include: estuarine waters, which are used extensively by a wide variety of waterfowl and other water-associated birds; nesting habitat of the endangered California least tern; and riparian shrub land and saltwater marsh communities.

4. The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time. At locations where salinities fall between 1 and 10 ppt, the more stringent of either fresh or marine waters apply. The Santa Clara River Estuary typically experiences more tidal influence during winter and spring when the sand bar is open, while during the summer and fall the bar is closed and less tidal influence occurs. Data obtained from U.S. Fish and Wildlife Service demonstrate that the discharge point is classified as in-between freshwater and saltwater according to the definitions in the CTR. In this Order, the saltwater criteria were used to calculate the final effluent limits for CTR-based pollutants and ammonia.

5. A small portion of the treated wastewater is reused for turf and landscape irrigation. Approximately 1.0 MGD of the treated wastewater percolates into groundwater from three wildlife ponds on site at the treatment facility. The reuse of the treated wastewater and the percolation to groundwater are regulated under water reclamation requirements which are contained in a separate order (Order No. 87-45), adopted by this Board on April 27, 1987.

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

Effluent limitations contained in the existing Order for discharges from the Effluent Transfer Station and Outfall and representative monitoring data from the term of the previous Order are as follows:

Table 2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (~~February~~ January 2003 – ~~December 2006~~ August 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3]	Highest Daily Discharge
$BOD_5 20^oC$	mg/L	20	30	45	5.1	3.8	8.6
Suspended solids	mg/L	15	40	45	2.7	6.1	7.2
Oil and Grease	mg/L	10	--	15	2.7	--	2.77
Settleable solids	ml/L	01	--	0.3	<0.1	--	<0.1
Residual chlorine	mg/L	--	--	0.1	--	--	<0.1
Arsenic	µg/L	29.4	--	59	1.9	--	1.9
Cadmium	µg/L	9.3	--	43	0.3	--	0.3
Chromium (VI)	µg/L	3.7	--	11	8.05	--	8.05
Copper	µg/L	2.0	--	2.9	17	--	17
Lead	µg/L	7.0	--	14	63	--	63
Mercury	µg/L	0.025	--	0.12	0.7	--	0.7
Nickel	µg/L	5.3	--	15.2	8	--	8
Selenium	µg/L	2.9	--	8.8	6.7	--	6.7
Silver	µg/L	--	--	2.3	9.3	--	9.3
Thallium	µg/L	6.3	--	6.3	0.6	--	0.6
Zinc	µg/L	38	--	95	239	--	239
Cyanide	µg/L	0.41	--	0.99	~~8~~<5	--	~~8~~<5
Dioxin	µg/L	1.4×10^{-8}	--	2.8×10^{-8}	$<8.8\times10^{-6}$	--	$<8.8\times10^{-6}$
Benzene	µg/L	--	--	71	<0.23	--	<0.23
Bromoform	µg/L	360	--	778	4.9	--	4.9
Carbon Tetrachloride	µg/L	--	--	4.4	<0.12	--	<0.12
Chlorodibromomethane	µg/L	34	--	82	43.3	--	43.3
Chlorofom	µg/L	--	--	470	122	--	122
Dichlorobromomethane	µg/L	--	--	22	91.9	--	91.9
Ethylbenzene	µg/L	29,000	--	58,290	<0.34	--	<0.34
Methylene Chloride	µg/L	1,600	--	3,216	<0.25	--	<0.25
Tetrachloroethylene	µg/L	--	--	8.9	<0.03	--	<0.03
Toluene	µg/L	200,000	--	402,000	<0.2	--	<0.2
Pentachlorophenol	µg/L	7.9	--	13	<3.6	--	<3.6
Phenol	µg/L	4,600,000	--	9,246,000	8.04	--	8.04
2,4,6-Trichlorophenol	µg/L	--	--	6.5	<2.7	--	<2.7
Benzidine	µg/L	0.00054	--	0.0011	<4.4	--	<4.4
Benzo(a)Anthracene	µg/L	0.049	--	0.098	<7.8	--	<7.8
Benzo(a)Pyrene	µg/L	0.049	--	0.098	<2.5	--	<2.5
Benzo(b)Fluoranthene	µg/L	0.049	--	0.098	<4.8	--	<4.8
Benzo(k)Fluoranthene	µg/L	0.049	--	0.098	<2.5	--	<2.5

[3] The highest average weekly discharge concentration is reported for constituents that are monitored at weekly or more frequent intervals.

Parameter	Units	Effluent Limitation			Monitoring Data (~~February~~ January2003 – ~~December 2006~~August 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3]	Highest Daily Discharge
Bis(2-Chloroethyl)Ether	µg/L	1.4	--	2.8	<5.7	--	<5.7
Bis(2-Ethylhexyl)Phthalate	µg/L	--	--	5.9	~~36.7~~<2.5	--	~~36.7~~<2.5
Chrysene	µg/L	0.049	--	0.098	<2.0	--	<2.0
1,4-Dichlorobenzene	µg/L	2,600	--	5,226	<4.4	--	<4.4
3,3-Dichlorobenzidine	µg/L	0.077	--	0.15	<16.5	--	<16.5
Diethyl Phthalate	µg/L	120,000	--	241,000	<2.2	--	<2.2
Di-n-Butyl Phthalate	µg/L	12,000	--	24,120	<2.5	--	<2.5
1,2-Diphenylhydrazine	µg/L	0.54	--	1.09	<10	--	<10
Hexachlorobenzene	µg/L	0.00077	--	0.0015	<1.9	--	<1.9
Hexachloroethane	µg/L	8.9	--	18	<1.6	--	<1.6
Indeno(1,2,3-cd)Pyrene	µg/L	0.049	--	0.098	<3.7	--	<3.7
N-Nitrosodi-n-Propylamine	µg/L	1.4	--	2.8	<10	--	<10
Aldrin	µg/L	0.00014	--	0.00028	<0.004	--	<0.004
Alpha-BHC	µg/L	0.013	--	0.026	<0.003	--	<0.003
Beta-BHC	µg/L	0.046	--	0.092	<0.006	--	<0.006
Gamma-BHC	µg/L	0.063	--	0.13	<0.004	--	<0.004
Chlordane	µg/L	0.00059	--	0.0012	<0.014	--	<0.014
p,p'-DDT	µg/L	0.00059	--	0.0012	<4.7	--	<4.7
p,p'-DDE	µg/L	0.00059	--	0.0012	<5.6	--	<5.6
p,p'-DDD	µg/L	0.00084	--	0.0017	<2.8	--	<2.8
Dieldrin	µg/L	0.00014	--	0.00028	<0.002-<0.009	--	<0.002-<0.009
Endosulfan I	µg/L	0.007	--	0.014	0.009-<0.038	--	0.009-<0.038
Endosulfan II	µg/L	0.007	--	0.014	<0.004-<0.029	--	<0.004-<0.029
Endrin	µg/L	0.0019	--	0.0038	<0.006-<0.023	--	<0.006-<0.023
Heptachlor	µg/L	0.00021	--	0.00042	<0.003	--	<0.003
Heptachlor Epoxide	µg/L	0.00011	--	0.00022	<0.083	--	<0.083
PCB 1016	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398
PCB 1221	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398
PCB 1232	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398
PCB 1242	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398
PCB 1248	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398
PCB 1254	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398

Parameter	Units	Effluent Limitation			Monitoring Data (~~February~~ January2003 – ~~December 2006~~August 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3]	Highest Daily Discharge
PCB 1260	µg/L	0.00017	--	0.00034	<0.039-<0.398	--	<0.039-<0.398
Toxaphene	µg/L	0.00016	--	0.00033	<0.529-<10	--	<0.529-<10

D. Compliance Summary

Data submitted revealed the following effluent limitation violations during the permit term. These violations had been reviewed and taken proper action.

Table 3. Summary of Compliance History

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
11/8/2000	Nov-00	Monthly	Aldrin	0.168	0.00014	ug/L	119,900	NOV issued 2/2/04
11/8/2000	Nov-00	Daily	Aldrin	0.168	0.00028	ug/L	59,900	NOV issued 2/2/04
11/13/2000	Nov-00	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
12/12/2000	Dec-00	Maximum	Chronic Toxicity	3.13	1	TUc	NA	NOV issued 2/2/04
1/10/2001	Jan-01	Monthly	Zinc	92	38	ug/L	142	NOV issued 2/2/04
2/7/2001	Feb-01	Monthly	Cyanide	29	0.41	ug/L	6,973	NOV issued 2/2/04
2/7/2001	Feb-01	Daily	Cyanide	29	0.99	ug/L	2,829	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Chromium	27	11	ug/L	145	NOV issued 2/2/04
2/14/2001	Feb-01	Monthly	Dibromochloromethane	66	34	ug/L	94	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Nickel	25	15.2	ug/L	64	NOV issued 2/2/04
2/14/2001	Feb-01	Daily	Dichlorobromomethane	28.9	22	ug/L	31	NOV issued 2/2/04
2/28/2001	Feb-01	Monthly	Zinc	52.5**	38	ug/L	38	NOV issued 2/2/04
3/6/2001	Mar-01	5 NTU >72 min.	Turbidity	9.7	5*	NTU	NA	NOV issued 2/2/04
3/7/2001	Mar-01	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
5/4/2001	May-01	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
5/5/2001	May-01	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
5/9/2001	May-01	Monthly	Cyanide	10	0.41	ug/L	2,339	NOV issued 2/2/04
5/9/2001	May-01	Daily	Cyanide	10	0.99	ug/L	910	NOV issued 2/2/04
5/9/2001	May-01	Monthly	Mercury	0.2	0.025	ug/L	700	NOV issued 2/2/04
5/9/2001	May-01	Daily	Mercury	0.2	0.12	ug/L	67	NOV issued 2/2/04
6/6/2001	Jun-01	Monthly	Copper	22.3	18	ug/L	24	NOV issued 2/2/04
6/6/2001	Jun-01	Monthly	Nickel	5.6	5.3	ug/L	6	NOV issued 2/2/04
7/11/2001	Jul-01	Monthly	Zinc	116.4	38	ug/L	206	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
7/11/2001	Jul-01	Monthly	Copper	35.2	18	ug/L	96	NOV issued 2/2/04
7/11/2001	Jul-01	Daily	Zinc	116.4	95	ug/L	23	NOV issued 2/2/04
7/18/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/18/2001	Jul-01	Daily Ave.	Turbidity	4.7	2	NTU	NA	NOV issued 2/2/04
7/19/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/19/2001	Jul-01	Daily Ave.	Turbidity	5.2	2	NTU	NA	NOV issued 2/2/04
7/20/2001	Jul-01	30-day	Coliform	1600	23	MPN/100 mL	NA	NOV issued 2/2/04
7/20/2001	Jul-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
7/20/2001	Jul-01	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
8/1/2001	Aug-01	Monthly	Cyanide	52	0.41	ug/L	12,583	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Cyanide	52	0.99	ug/L	5,153	NOV issued 2/2/04
8/1/2001	Aug-01	Monthly	Aldrin	0.003	0.00014	ug/L	2,043	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Aldrin	0.003	0.00028	ug/L	971	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Mercury	0.2	0.12	ug/L	67	NOV issued 2/2/04
8/1/2001	Aug-01	Daily	Copper	66.2	52	ug/L	27	NOV issued 2/2/04
8/31/2001	Aug-01	Monthly	Zinc	52.6**	38	ug/L	38	NOV issued 2/2/04
10/15/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/15/2001	Oct-01	Daily Ave.	Turbidity	2.6	2	NTU	NA	NOV issued 2/2/04
10/16/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/16/2001	Oct-01	Daily Ave.	Turbidity	4	2	NTU	NA	NOV issued 2/2/04
10/17/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/17/2001	Oct-01	Daily Ave.	Turbidity	7.2	2	NTU	NA	NOV issued 2/2/04
10/18/2001	Oct-01	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
10/18/2001	Oct-01	Daily Ave.	Turbidity	8.7	2	NTU	NA	NOV issued 2/2/04
10/19/2001	Oct-01	5 NTU >72 min.	Turbidity	7.2	5*	NTU	NA	NOV issued 2/2/04
10/19/2001	Oct-01	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
10/25/2001	Oct-01	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
11/3/2001	Nov-01	7-day median	Coliform	4	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/4/2001	Nov-01	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/5/2001	Nov-01	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/6/2001	Nov-01	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/7/2001	Nov-01	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/7/2001	Nov-01	Monthly	Mercury	0.5	0.025	ug/L	1,900	NOV issued 2/2/04
11/7/2001	Nov-01	Monthly	Cyanide	6	0.41	ug/L	1,363	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Cyanide	6	0.99	ug/L	506	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Mercury	0.5	0.12	ug/L	317	NOV issued 2/2/04
11/7/2001	Nov-01	Daily	Dichlorobromomethane	46.7	22	ug/L	112	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
11/8/2001	Nov-01	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
11/9/2001	Nov-01	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Zinc	209.8	38	ug/L	452	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Nickel	24.7	5.3	ug/L	366	NOV issued 2/2/04
12/3/2001	Dec-01	Daily	Zinc	209.8	95	ug/L	121	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Copper	34.5	18	ug/L	92	NOV issued 2/2/04
12/3/2001	Dec-01	Daily	Nickel	24.7	15.2	ug/L	63	NOV issued 2/2/04
12/3/2001	Dec-01	Monthly	Lead	7.7	7	ug/L	10	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Zinc	61.2	38	ug/L	61	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Copper	26.5	18	ug/L	47	NOV issued 2/2/04
1/9/2002	Jan-02	Monthly	Nickel	7.7	5.3	ug/L	45	NOV issued 2/2/04
2/6/2002	Feb-02	Daily	Mercury	1	0.12	ug/L	733	NOV issued 2/2/04
2/13/2002	Feb-02	Monthly	Dibromochloromethane	40.6	34	ug/L	19	NOV issued 2/2/04
2/14/2002	Feb-02	Daily	Dichlorobromomethane	73.7	22	ug/L	235	NOV issued 2/2/04
2/28/2002	Feb-02	Monthly	Zinc	65.2**	38	ug/L	72	NOV issued 2/2/04
3/6/2002	Mar-02	Monthly	Zinc	110.2	38	ug/L	190	NOV issued 2/2/04
3/6/2002	Mar-02	Daily	Zinc	110.2	95	ug/L	16	NOV issued 2/2/04
3/6/2002	Mar-02	Monthly	Copper	19.6	18	ug/L	9	NOV issued 2/2/04
3/13/2002	Mar-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
3/13/2002	Mar-02	5 NTU >72 min.	Turbidity	10	5*	NTU	NA	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Mercury	0.9	0.025	ug/L	3,500	NOV issued 2/2/04
5/1/2002	May-02	Daily	Mercury	0.9	0.12	ug/L	650	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Zinc	55.3	38	ug/L	46	NOV issued 2/2/04
5/1/2002	May-02	Monthly	Copper	25.8	18	ug/L	43	NOV issued 2/2/04
5/8/2002	May-02	Daily	Dichlorobromomethane	45	22	ug/L	105	NOV issued 2/2/04
5/15/2002	May-02	7-day median	Coliform	4	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/16/2002	May-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/17/2002	May-02	30-day	Coliform	130	23	MPN/100 mL	NA	NOV issued 2/2/04
5/17/2002	May-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/18/2002	May-02	30-day	Coliform	49	23	MPN/100 mL	NA	NOV issued 2/2/04
5/18/2002	May-02	7-day median	Coliform	11	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/19/2002	May-02	30-day	Coliform	27	23	MPN/100 mL	NA	NOV issued 2/2/04
5/19/2002	May-02	7-day median	Coliform	13	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/20/2002	May-02	7-day median	Coliform	14	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/21/2002	May-02	7-day median	Coliform	14	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/22/2002	May-02	7-day median	Coliform	13	2.2	MPN/100 mL	NA	NOV issued 2/2/04
5/23/2002	May-02	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
6/12/2002	Jun-02	Monthly	Copper	56.1	18	ug/L	212	NOV issued 2/2/04
6/12/2002	Jun-02	Daily	Copper	56.1	52	ug/L	8	NOV issued 2/2/04
8/7/2002	Aug-02	Monthly	Cyanide	60	0.41	ug/L	14,534	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Cyanide	60	0.99	ug/L	5,961	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Mercury	0.5	0.12	ug/L	317	NOV issued 2/2/04
8/7/2002	Aug-02	Daily	Nickel	17.1	15.2	ug/L	13	NOV issued 2/2/04
8/12/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/14/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/14/2002	Aug-02	Daily	Dichlorobromomethane	23.1	22	ug/L	5	NOV issued 2/2/04
8/16/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/17/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/18/2002	Aug-02	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 11/30/04
8/31/2002	Aug-02	Monthly	Zinc	57.9**	38	ug/L	52	NOV issued 2/2/04
9/4/2002	Sep-02	Monthly	Nickel	7.6	5.3	ug/L	43	NOV issued 2/2/04
9/16/2002	Sep-02	Daily Ave.	Turbidity	2.7	2	NTU	NA	NOV issued 2/2/04
10/23/2002	Oct-02	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
10/28/2002	Oct-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
10/29/2002	Oct-02	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
10/30/2002	Oct-02	Daily Ave.	Turbidity	3.4	2	NTU	NA	NOV issued 2/2/04
10/31/2002	Oct-02	Daily Ave.	Turbidity	3	2	NTU	NA	NOV issued 2/2/04
11/1/2002	Nov-02	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
11/2/2002	Nov-02	Daily Ave.	Turbidity	3.1	2	NTU	NA	NOV issued 2/2/04
11/3/2002	Nov-02	Daily Ave.	Turbidity	2.6	2	NTU	NA	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Mercury	0.7	0.025	ug/L	2,700	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Nickel	77	5.3	ug/L	1,353	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Mercury	0.7	0.12	ug/L	483	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Nickel	77	15.2	ug/L	407	NOV issued 2/2/04
11/6/2002	Nov-02	Monthly	Zinc	161.9	38	ug/L	326	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Dichlorobromomethane	54.9	22	ug/L	150	NOV issued 2/2/04
11/6/2002	Nov-02	Daily	Zinc	161.9	95	ug/L	70	NOV issued 2/2/04
1/3/2003	Jan-03	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/4/2003	Jan-03	7-day median	Coliform	7	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/5/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/6/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/7/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/8/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/8/2003	Jan-03	Monthly	Zinc	44.7	38	ug/L	18	NOV issued 2/2/04

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
1/8/2003	Jan-03	Monthly	Nickel	5.8	5.3	ug/L	9	NOV issued 2/2/04
1/9/2003	Jan-03	7-day median	Coliform	8	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/10/2003	Jan-03	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 2/2/04
1/23/2003	Jan-03	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 2/2/04
2/5/2003	Feb-03	Monthly	Cyanide	8	0.41	ug/L	1,851	NOV issued 2/2/04
2/5/2003	Feb-03	Daily	Cyanide	8	0.99	ug/L	708	NOV issued 2/2/04
2/5/2003	Feb-03	Daily	Dichlorobromomethane	69.7	22	ug/L	217	NOV issued 2/2/04
2/28/2003	Feb-03	Monthly	Selenium	3.8**	2.9	ug/L	31	NOV issued 2/2/04
2/28/2003	Feb-03	Monthly	Zinc	49.1**	38	ug/L	29	NOV issued 2/2/04
3/4/2003	Mar-03	Monthly	Nickel	5.5	5.3	ug/L	4	NOV issued 2/2/04
3/16/2003	Mar-03	Daily Ave.	Turbidity	2.8	2	NTU	NA	NOV issued 2/2/04
3/17/2003	Mar-03	Maximum	Chronic Toxicity	2	1	TUc	NA	NOV issued 2/2/04
5/7/2003	May-03	Monthly	Mercury	0.3	0.025	ug/L	1,100	NOV issued 2/2/04
5/7/2003	May-03	Daily	Dichlorobromomethane	67	22	ug/L	205	NOV issued 2/2/04
5/7/2003	May-03	Daily	Mercury	0.3	0.12	ug/L	150	NOV issued 2/2/04
6/11/2003	Jun-03	Monthly	Zinc	41.8	38	ug/L	10	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Mercury	0.7	0.025	ug/L	2,700	NOV issued 2/2/04
8/13/2003	Aug-03	Daily	Mercury	0.7	0.12	ug/L	483	NOV issued 2/2/04
8/13/2003	Aug-03	Daily	Dichlorobromomethane	58.9	22	ug/L	168	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Selenium	6.6	2.9	ug/L	128	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Zinc	66.2	38	ug/L	74	NOV issued 2/2/04
8/13/2003	Aug-03	Monthly	Dibromochloromethane	35.2	34	ug/L	4	NOV issued 2/2/04
9/3/2003	Sep-03	Monthly	Zinc	45.5	38	ug/L	20	NOV issued 2/2/04
10/1/2003	Oct-03	Monthly	Zinc	51.6	38	ug/L	35	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Cyanide	8	0.41	ug/L	1,851	NOV issued 2/2/04
11/5/2003	Nov-03	Daily	Cyanide	8	0.99	ug/L	708	NOV issued 2/2/04
11/5/2003	Nov-03	Daily	Dichlorobromomethane	91.9	22	ug/L	318	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Selenium	3.8	2.9	ug/L	31	NOV issued 2/2/04
11/5/2003	Nov-03	Monthly	Dibromochloromethane	40.7	34	ug/L	20	NOV issued 2/2/04
12/3/2003	Dec-03	Monthly	Nickel	10.8	5.3	ug/L	104	NOV issued 11/30/04
2/4/2004	Feb-04	Daily	Bis(2-ethtlhexyl)phthalate	36.7	5.9	ug/L	522	NOV issued 11/30/04
2/4/2004	Feb-04	Daily	Dichlorobromomethane	76.3	22	ug/L	247	NOV issued 11/30/04
2/4/2004	Feb-04	Monthly	Dibromochloromethane	43.3	34	ug/L	27	NOV issued 11/30/04
7/29/2004	Jul-04	Maximum	Chronic Toxicity	1.79	1	TUc	NA	NOV issued 11/30/04
10/18/2004	Oct-04	Maximum	Chronic Toxicity	2	1	TUc	NA	NOV issued 06/21/05
1/10/2005	Jan-05	Daily Ave.	Turbidity	2.9	2	NTU	NA	NOV issued 06/21/05
1/14/2005	Jan-05	30-day	Coliform	110	23	MPN/100 mL	NA	NOV issued 06/21/05

Date	Monitoring Period	Violation Type	Parameter	Reported Value	Permit Limit	Units	% Exceeded	Action Taken
1/26/2005	Jan-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	NOV issued 06/21/05
2/20/2005	Feb-05	30-day	Coliform	33	23	MPN/100 mL	NA	NOV issued 06/21/05
2/22/2005	Feb-05	30-day	Coliform	540	23	MPN/100 mL	NA	NOV issued 06/21/05
3/17/2005	Mar-05	Maximum	Chronic Toxicity	1.8	1	TUc	NA	NOV issued 06/21/05
6/25/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/25/2005	Jun-05	30-day	Coliform	30	23	MPN/100 mL	NA	Verbal 11/28/05
6/26/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/27/2005	Jun-05	7-day median	Coliform	7	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/28/2005	Jun-05	7-day median	Coliform	5	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/29/2005	Jun-05	7-day median	Coliform	7	2.2	MPN/100 mL	NA	Verbal 11/28/05
6/30/2005	Jun-05	7-day median	Coliform	8	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/1/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/2/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/3/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/4/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/5/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05
7/6/2005	Jul-05	7-day median	Coliform	4	2.2	MPN/100 mL	NA	Verbal 11/28/05

E. Planned Changes to Treatment Systems

1. The most problematic metals were copper, nickel, and zinc. The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. Prior to the addition of iron salt between October 2000 and December 2002, the average effluent concentrations of copper, nickel, and zinc were 19, 9.7, and 69 µg/L, respectively. The addition of iron salt greatly improved removal of copper ~~(18.0 µg/L to 26.5 µg/L)~~, nickel ~~(9.7 µg/L to 7.1 µg/L)~~, and zinc ~~(69.0 µg/L to 57.1 µg/L) since November 2005~~. Between August 2003 and August 2007, the average effluent concentrations of copper, nickel, and zinc were 7.1, 4.0, and 38.7 µg/L, respectively. ~~The effluent concentration of zinc (57.1 µg/L to 18.5 µg/L) was further reduced between February 2006 and August 2006.~~ Neither antimony (reported detection limit: 1.0 µg/L), arsenic (reported detection limit: 2.0 µg/L), beryllium (reported detection limit: 0.2 µg/L), cadmium (reported detection limit: 4.0 µg/L), copper (reported detection limit: 6 µg/L), lead (reported detection limit: 5.0 µg/L), mercury (reported detection limit: 0.2 µg/L), silver (reported detection limit: 0.2 µg/L), nor thallium (reported detection limit: 1.0 µg/L), ~~nickel (detection limit: 10 µg/L)~~ was detected between February 2006 and August ~~2006~~2007. Chromium, nickel, and selenium were detected for one time during this period; however, they were all less than the CTR-based criteria. Zinc was all less than its CTR-based criteria since November 2004. Permanent facilities for iron salt addition ~~will be~~was completed in November 2007. The final effluent concentrations of ~~these three~~

~~metals~~copper, nickel, and zinc are expected to be further reduced or non-detected. Due to the major upgrade on the primary clarifier in 2003 and consideration of the representative effluent data, the effluent data collected after July 2003 were used to calculate the final effluent limitations for metals.

2. To date the City has invested $29.5 million for the Upgrades and a new Influent Headworks Projects (Phase I) and the Capacity Upgrades (Phase II) projected budget is currently $22 million. Phase II, which is expected to be completed in 2009, constructs an additional secondary treatment plant capacity up to 4 MGD in order to accommodate current and future flow to the Facility.

3. The City of Ventura conducted the "Chloramine Disinfection Investigation" at the Facility between April 2 and June 30, 2004. The results indicated that chloramine resulting from ammonia reacting with hypochlorous acid greatly reduces the effluent concentrations of dibromochloromethane and dichlorobromomethane. These compounds were all well bellowed the CTR-based criteria or non-detected Between May 2004 and August 2007. The maximum effluent concentration and CTR-based criterion for dibromochloromethane are 5.5 µg/L and 34 µg/L, respectively. The maximum effluent concentration and CTR-based criterion for dichlorobromomethane are 8.6 µg/L and 46 µg/L, respectively.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the Los

Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:

Table 4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	Existing: Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species[4] (RARE), migration of aquatic organisms[5] (MIGR), spawning, reproduction, and/or early development[5] (SPWN), and wet land[6] (WET).
Discharge Point	Receiving Water Name	Beneficial Use(s)
	Pacific Ocean, Nearshore[7]	Existing: IND, NAV, REC-1, REC-2, COMM, MAR, WILD, Preservation of Biological Habitats[8] (BIOL), RARE[4], MIGR[5], SPWN[5], and shellfish harvesting (SHELL).

Requirements of this Order implement the Basin Plan.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon fresh and saltwater criteria.

a. **Freshwater Ammonia Water Objective –** On April 25, 2002, the Regional Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on

[4] One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
[5] Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.
[6] Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.
[7] Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.
[8] Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Femin Marine Life Refuge.

April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.

b. **Saltwater Ammonia Water Objective –** On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Charatistic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Lif*e. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the saltwater ammonia water objective will be used to calculate the final ammonia effluent limitations for the Facility (See Section IV.C.2.i.(iii)(iv) in this Fact Sheet, and Attachment M).

The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan

on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

The 2006 303(d) listings for the Estuary are Chem A based on an unknown source and coliform bacteria and toxaphene based on nonpoint sources. The Total Daily Maximum Loads (TMDLs) for these pollutants in the Estuary have not been established.

2. **Enclosed Bay and Estuaries Policy.** The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Policy), adopted by the State Water Resources Control Board as Resolution No. 95-84 on November 16, 1995, states that *"It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*

3. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

4. **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 forty criteria in the NTR applied 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 were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

5. **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* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA 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.

6. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

7. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[9] section 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.

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

The 2006 303(d) list of impaired waters classifies the Santa Clara River Estuary as impaired by Chem A (unknown source), coliform bacteria and toxaphene (nonpoint source).

E. Other Plans, Polices and Regulations

1. **Secondary Treatment Regulations.** Section 133 of 40 CFR establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.

[9] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

2. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR, Section 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.* This permit was amended in September 1992 and reissued on April 17, 1997 in State Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity.

   The Discharger developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Water Board's (Order No. 97-03-DWQ).

3. **Sanitary Sewer Overflows.** The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

   The requirements contained in this Order in Sections VI.C.3.b, VI.C.4, and VI.C.6. are intended to be consistent with the requirements in the SSO WDR. The Regional Water Board recognizes that there are areas of overlapping interest between the NPDES permit conditions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order N0. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittee under the SSO WDR for compliance purposes, as satisfying the requirements in Sections .C.3.b, VI.C.4, and VI.C.6, provided for any more specific or stringent provisions enumerated in this Order, have also been addressed.

4. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA), to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about the Santa Clara River Watershed and other watersheds in the region can be obtained from the Regional Water Board's web site at

http://www.waterboards.ca.gov/losangeles and clicking on the word "Watersheds".

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

1. Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Board 's plans and policies, U. S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater through Discharge Point~~s~~ 001 ~~and 002~~ only. It does not authorize any other types of discharges.

2. Pursuant to Chapter I, Part A of the Enclosed Bays and Estuaries Policy, the discharge of treated wastewater to the Estuary is prohibited after December 31, 2018, unless there has been a determination from responsible resource agencies that sustenance flow is required to support endangered species habitat.

3. The discharge to the Estuary must be removed as early as practicable, and to facilitate this, it is required that an incremental decrease of 1 mgd occurs per year, beginning in ~~2008~~January 25, 2011[10].

4. Discharge of wastewater at a location different from that described in this Order is prohibited.

5. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.

6. The maximum daily flow of influent from the collection system to the headworks of the Reclamation Facility shall not exceed the design capacity of 14 MGD. This prohibition is not applicable during wet weather storm events.

[10] The City requests and needs three years to construct and install all pipelines and pump stations in order to deliver the recycled water to users. The date of January 25, 2011 is the three years from the effective date of this permit.

7. The Discharger shall not cause degradation of any water supply.

8. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133.

2. Applicable Technology-Based Effluent Limitations

This facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5 20^oC$, TSS, and pH as summarized in Table F-5. Previous Order No. 00-143 established technology-based effluent limits to meet applicable secondary treatment standards. These effluent limitations have been carried over from the previous Order to avoid backsliding. Furthermore, mass-based effluent limitations based on a design flow rate of 14 MGD are also included. The following table summarizes the technology-based effluent limitations for the discharge from the Facility:

Summary of Technology-based Effluent Limitations
Effluent Transfer Station

Table 5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$BOD_5 20ºC$	mg/L	20	30	45	--	--
	lbs/day[11]	2,300	3,500	5,300	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day[11]	1,800	4,700	5,300	--	--
pH	standard units	--	--	--	6.5	8.5

[11] The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (mg/L) x 8.37 (L·lbs/MG·mg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in the Section IV.C.2. of the Fact Sheet.

Section 122.44(d)(1)(i) mandates 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, water quality-based effluent limitations (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 section 122.44(d)(1)(vi).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles River (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Santa Clara River Estuary are summarized in Section III.C.1. of this Fact Sheet. The Basin Plan includes

both narrative and numeric water quality objectives applicable to the receiving water.

a. *Biochemical Oxygen Demand (BOD) and Suspended solids*

Biochemical oxygen demand (BOD) is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady supply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 CFR, Part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and suspended solids, as:

i. the 30-day average shall not exceed 30 mg/L; and,

ii. the 7-day average shall not exceed 45 mg/L.

The Ventura WRF provides tertiary treatment, as such, the limits in the permit being more stringent than secondary treatment requirements are based on Best Professional Judgment. The Facility achieves solids removal that are better than secondary-treated wastewater by adding chemical coagulants to enhance the precipitation of solids, and by filtering the effluent.

The monthly average, the weekly average, and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Those limits were all included in the previous permit (Order No. 00-143) and the Discharger has been able to meet all three limits (monthly average, the weekly average, and the daily maximum), for both BOD and suspended solids.

In addition to having mass-based and concentration-based effluent limitations for BOD and suspended solids, the Facility also has a percent removal requirement for these two constituents. In accordance with 40 CFR, Sections 133.102(a)(3) and 133.102(b)(3), the 30-day (monthly) average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day (monthly) average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day (monthly) average values of the effluent pollutant concentrations for a given time period

b. *Settleable solids*

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order No. 00-143) and the Discharger has been able to meet both limits.

c. *Oil and grease*

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could cause visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Both limits were included in the previous permit (Order No. 00-143) and the Discharger has been able to meet both limits.

d. *Residual chlorine*

Disinfection of wastewaters with chlorine produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations

that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day (monthly) average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills.

e. *Total Dissolved Solids, Chloride, Sulfate, and Boron*

The effluent discharge from the Facility flows into the Estuary. Page 3-12 of the Basin Plan indicates that there is no waterbody specific objectives for TDS, chloride, sulfate and boron.

f. *Methylene Blue Activated Substances (MBAS)*

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface and ground waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of both surface and ground waters.

Given the nature of the facility (a POTW) which accepts domestic washwater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for prohibition of floating material such as foams and scums. Therefore an effluent limitation is required based upon Best Professional Judgement.

g. *Total inorganic nitrogen (NO_2 + NO_3 as N)*

Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments, ex. algae[12]. Although there are no waterbody specific objectives for nitrogen in the Estuary, the discharge has reasonable potential to exceed the numeric Nitrate plus Nitrite as nitrogen 10 mg/L of water quality objective (WQO) specified in the Basin Plan page 3-11. An effluent limitation is required based upon Best Professional Judgement. Therefore, the

[12] Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

Discharger will have to meet the 10 mg/L WQO at the end-of-pipe, since no dilution credit is appropriate at this time.

h. *Nitrite as Nitrogen*

Chapter 3 of the Basin Plan (page 3-11) contains the following water quality objective, "Waters shall not exceed the 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen (NO_3-N + NO_2-N), 45 mg/L as nitrate (NO_3), 10 mg/L as nitrate-nitrogen (NO_3-N), or 1 mg/L as nitrite-nitrogen (NO_2-N) or as otherwise designated in Table 3-8." The Discharger will have to meet the 1 mg/L WQO at the end-of-pipe, since no dilution credit is appropriate at this time. See the detailed explanation available in Footnote 1 on Page F-5.

i. *Ammonia as Nitrogen*

Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. There is no groundwater recharge in this reach. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on March 4, 2004, by the Regional Water Board with the adoption of Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Chrematistic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Lif*e. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives."

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the proposed amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the proposed objectives. The proposed objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

(i). Freshwater Ammonia Criteria Maximum Concentration (CMC)

The Facility discharges into a receiving waterbody that has "MIGR" beneficial use designation. It is assumed that salmonids may be present in waters designated in the Basin Plan as "MIGR" and that salmonids cannot be absent in water not designated in the Basin Plan as "MIGR," in the absence of additional information to the contrary. Since the receiving water has "MIGR" designation, it will be assumed that salmonids are present in the water.

The one-hour average objective according to the Basin Plan amendment will be set as the CMC or equivalent to the Maximum Daily Effluent Limitation (MDEL) for ammonia nitrogen in mg/L. For waters not designated COLD and/or MIGR, the CMC or MDEL shall not exceed the values described in the equation below:

$$\text{One-hour Average Concentration} = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

(ii). Freshwater Ammonia Criteria Continuous Concentration (CCC)

The 30-day average objective according to the Basin Plan amendment Resolution No. 2002-011 will be set as the CCC or equivalent to the Average Monthly Effluent Limitation (AMEL) for ammonia nitrogen in mg/L. The Facility discharges into a receiving water that has a "SPWN" beneficial use designation. For freshwaters designated SPWN, the thirty-day average concentration of total

ammonia as nitrogen (in mg/L) shall not exceed the values described in the equation below:

$$\text{30-day Average Concentration} = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * MIN\left(2.85, 1.45*10^{0.028*(25-T)}\right)$$

Where T = temperature expressed in °C.

The 30-day average objective[13] is dependent on pH and temperature. At lower temperatures, the 30-day average objective also is dependent on the presence or absence of early life stages of fish (ELS). Water bodies with Basin Plan designation of "SPWN" support high quality aquatic habitats suitable for reproduction and early development of fish and, therefore waterbodies are designated as ELS present waters.

However, based on the beneficial uses of the Basin Plan, the freshwater ammonia water objective is not applicable in the Santa Clara River Estuary. Therefore, the freshwater ammonia water objective will not be used to calculate the final ammonia effluent limitations for the Facility.

(iii). Saltwater Ammonia Criteria Maximum Concentration (CMC)

$$\text{Total ammonia} = 0.233 + 0.233\times 10^{(pK_a^S + 0.0324\times(298-T) + 0.0415\times P/T - pH)}$$

Where: P = 1 atm
T= temperature (^{0}K)
pK_a^S = 0.116 * I +9.245, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, i = 19.9273*S(1000-1.005109S)$^{-1}$, the molal ionic strength of saltwater based on S, S= salinity

(iv). Saltwater Ammonia Criteria Continuous Concentration (CCC)

[13] This is the current Basin Plan definition of the 30-day average objective, according to the Ammonia Basin Plan Amendment, Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of "Aquatic Life*," adopted by the Los Angeles Regional Water Board on April 25, 2002. It will be superseded by Resolution No. 2005-014, adopted by the Regional Water Board on December 1, 2005, following State Water Board, and Office of Administrative Law approval of the Ammonia Basin Plan Amendment. This new Resolution will implement ELS Provision as described under "implementation", subparagraph 3. Currently, the Discharger's receiving waterbody is designated as ELS already. Whether the new Resolution No. 2005-014 would be approve or disapprove by EPA, the calculated effluent limitation based upon Resolution No. 2002-011 definition of the 30-day average objective will remain the same until the receiving water is reclassified as being "ELS Absent" condition.

Total ammonia = $0.035 + 0.035 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$

Where: P = 1 atm
T= temperature (^{0}K)
pK_a^S = 0.116 * I +9.245, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, i = 19.9273*S(1000-1.005109S)$^{-1}$, the molal ionic strength of saltwater based on S, S= salinity

Ammonia-N, other Nitrogen Species – Reasonable potential analysis (RPA) was conducted for Ammonia as nitrogen, Nitrate plus Nitrite as nitrogen, Nitrate as nitrogen, and Nitrite as nitrogen using the Discharger's effluent data from their self monitoring reports. The RPA compares the effluent data with the Basin Plan WQOs. The Discharger's effluent exceeded the Basin Plan WQOs for Ammonia as nitrogen, Nitrate as nitrogen, and Nitrate plus Nitrite as nitrogen during the last permit cycle. In addition, the Facility currently only has a full nitrification and a partial denitrification process. Once the full nitrification and denitrification process is on line, the effluent nitrate concentration shall be further reduced. However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2007-XXXX and the Discharger may request to have interim nitrite effluent limitations in the future.

Based on this information, the Regional Water Board has determined that there is a reasonable potential that the discharge will cause or contribute to an exceedance of the Basin Plan WQOs and, consistent with 40 CFR 122.44(d), the Order contains numeric effluent limitations for Ammonia as nitrogen, Nitrate as nitrogen, and Nitrate plus Nitrite as Nitrogen.

Ammonia saltwater criteria are salinity, pH, and temperature dependent. Because there is such a wide temperature fluctuation in the Estuary during summer and winter months (74.5^{o}F vs. 52.2^{o}F), seasonal ammonia effluent limitations have been placed into the Order. The summer and winter ammonia effluent limitations cover May to October and November to April, respectively. The lowest monthly average and daily maximum of total ammonia projected among receiving water quality monitoring stations (R-001 to R-005), based on three years of monthly receiving water data, were used as monthly average and daily maximum ammonia effluent concentrations in this Order. The calculations are available in Attachment M.

j. *Coliform/Bacteria*

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, a wastewater treatment plant, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

i. Effluent Limitations:

- The 7 day median number of coliform organisms at some point in the treatment process must not exceed 2.2 Most Probable Number (MPN) per 100 milliliters;

- The number of coliform organisms must not exceed 23 MPN per 100 milliliters in more than one sample within any 30-day period; and,

- No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements established by the Department of Health Services. These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

ii. Receiving Water Limitation

- Geometric Mean Limits
  - E.coli density shall not exceed 126/100 mL.
  - Fecal coliform density shall not exceed 200/100 mL.

- Single Sample Limits

  - E.coli density shall not exceed 235/100 mL.
  - Fecal coliform density shall not exceed 400/100 mL.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Water Board on October 25, 2001. The Resolution was approved by State Water Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

k. *pH*

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR section 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that: (1) Inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan (page 3-15) which reads "the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.

l. *Temperature*

The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff and comments previously received from staff of California Department of Fish and Game entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F (except as a result of external ambient temperature) is included in the tentative Order. The temperature limit is consistent with the limits in other POTW permits in the region. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature is not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective.

m. *Turbidity*

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period,"

is based on the Basin Plan (page 3-17) and Section 60301.320 of Title 22, Chapter 3, "Filtered Wastewater" of the California Code of Regulations.

n. *Radioactivity*

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The existing effluent limitation for radioactivity which reads, "Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life." is based on the *Radioactivity substances* specified in the Basin Plan in order to protect the surface water beneficial use and human health.

o. *Biostimulatory Substances*

Biostimulatory substances include excess nutrients (nitrogen, phosphorus) and other compounds that stimulate aquatic growth. In addition to being aesthetical unpleasant (causing taste, odor, or color problems), this excessive growth can also cause other water quality problems. The limits for biostimulatory substances are based on the Basin Plan (page 3-8) narrative, "Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses."

p. *CTR and SIP*

Priority pollutant water quality criteria in the CTR are applicable to the Estuary. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply in accordance with 40 CFR § 131.38(c)(3): freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this condition occurs 95 percent or more of the time; saltwater criteria apply at salinities of 10 ppt and above at locations where this occurs 95 percent or more of the time; and at salinities between 1 and 10 ppt the more stringent of the two apply. The CTR criteria for freshwater or human health for consumption of organisms, whichever is most stringent, are used to prescribe the effluent limitations in the tentative Order to protect the beneficial uses of the Estuary.

Some water quality criteria are hardness dependent. The Discharger provided hardness data collected from the Estuary. The receiving water hardness values ranged from 250 to ~~7500~~ 7700 mg/L. Since most of the receiving water hardness data (963 of 967) and their average hardness as

$CaCO_3$ (1848 mg/L) are greater than 400 mg/L as $CaCO_3$, in accordance with the SIP/CTR procedures, the 400 mg/L hardness cap will be used in calculating metals criteria for evaluation of reasonable potential.

The following Table summarizes the applicable water quality criteria for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis for the tentative Order.

Table 6. Applicable Water Quality Criteria

CTR No.	Constituent	Most Stringent Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
6	Copper	3.7	52	31	5.8	3.7	--	--
~~7~~	~~Lead~~	~~8.5~~	~~476~~	~~19~~	~~221~~	~~8.5~~	~~--~~	~~--~~
8	Mercury	0.051	--	--	--	--	--	0.051
11	Silver	2.2	44	--	2.2	--	--	--
13	Zinc	86	388	388	95	86	--	--
~~14~~	~~Cyanide~~	~~1~~	~~22~~	~~5.2~~	~~1~~	~~1~~	~~--~~	~~220000~~
~~23~~	~~Chlorodibromomethane~~	~~34~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~34~~
~~27~~	~~Dichlorobromomethane~~	~~46~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~46~~
~~68~~	~~Bis(2-Ethylhexyl) Phthalate~~	~~5.9~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~5.9~~

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identified the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

In accordance with section 13267 of the CWC, the Regional Water Board required the Discharger to conduct an interim monitoring program of the effluent and the receiving water from January 2001 to April 2003 on a quarterly basis. At least nine data sets for effluent and receiving water monitoring for the period from January 2001 though April 2003 were available. In addition, samples for certain priority pollutants were collected as required by the existing MRP; these data were also used to complete the RPA.

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Based on the RPA, pollutants that demonstrate reasonable potential are copper, leadnickel, mercury, silver, and bis(2-ethylhexyl)phthalatezinc. Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations.

Table 7. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
1	Antimony	4300	58.2	8.55	No	C>B, C>MEC
2	Arsenic	150	1.9	24.9	No	C>B, C>MEC
3	Beryllium	Narrative	0.04	0.82	No	No criteria
4	Cadmium	3.75	0.3	<4.0	No	C>B, C>MEC
5a	Chromium III	321	ND<10	--	No	C>MEC
5b	Chromium VI	11.4	8.05	--	No	C>MEC
6	Copper	3.7	17	14.8	Yes	MEC>C
7	Lead	8.5	63	<5.0	YesNo	MEC>CC>MEC
8	Mercury	0.051	0.7	--	Yes	MEC>C
9	Nickel	82.13	8	21.4	No	C>B, C>MEC

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
10	Selenium	71	6.7	12.7	No[14]	C>B, C>MEC
11	Silver	2.2	9.3	15.8	Yes	MEC>C
12	Thallium	6.3	0.6	<1.0	No	C>B, C>MEC
13	Zinc	188.77	239	117	Yes	MEC>C
14	Cyanide[15]	5.2	~~8~~<5	100	~~Yes~~No	~~MEC>~~C>MEC
15	Asbestos	$7x10^6$ fibers/L	No sample	--	No	N/A
16	2,3,7,8-TCDD (Dioxin)	$1.4x10^{-08}$	$<8.8x10^{-06}$	<0.00062-<0.00089	No	All ND in Effluent
17	Acrolein	780	<0.6	<0.60	No	C>B, C>MEC
18	Acrylonitrile	0.66	<0.5	<0.50	No	C>B, C>MEC
19	Benzene	71	0.23	<0.20	No	C>B, C>MEC
20	Bromoform	360	4.9	0.70	No	C>B, C>MEC
21	Carbon Tetrachloride	4.4	<0.12	<0.12	No	C>B, C>MEC
22	Chlorobenzene	21,000	<0.2	<0.20	No	C>B, C>MEC
23	Dibromochloromethane[15]	34	~~43.3~~5.4	40.7	~~Yes~~No	~~MEC>~~C>MEC
24	Chloroethane	No criteria	<0.52	<0.52	No	No criteria
25	2-chloroethyl vinyl ether	No criteria	<0.13	<0.13	No	No criteria
26	Chloroform	No criteria	122	10.6	No	No criteria
27	Dichlorobromomethane[15]	46	~~91.9~~8.6	2.9	~~Yes~~No	~~MEC>~~C>MEC
28	1,1-dichloroethane	No criteria	<0.07	<0.07	No	No criteria
29	1,2-dichloroethane	99	<0.03	<0.03	No	C>B, C>MEC
30	1,1-dichloroethylene	3.2	<0.13	<0.13	No	C>B, C>MEC
31	1,2-dichloropropane	39	<0.04	<0.34	No	C>B, C>MEC
32	1,3-dichloropropylene	1,700	<0.34	<0.34	No	C>B, C>MEC
33	Ethylbenzene	29,000	<0.34	<0.34	No	C>B, C>MEC
34	Methyl bromide	4,000	<0.5	<0.50	No	C>B, C>MEC
35	Methyl chloride	No criteria	<0.08	<0.08	No	No criteria
36	Methylene chloride	1,600	<0.25	<0.25	No	C>B, C>MEC
37	1,1,2,2-tetrachloroethane	11	<0.03	<0.03	No	C>B, C>MEC
38	Tetrachloroethylene	8.85	<0.03	<0.03	No	C>B, C>MEC
39	Toluene	200,000	<0.2	1.3	No	C>B, C>MEC
40	Trans 1,2-Dichloroethylene	140,000	<0.1	<0.1	No	C>B, C>MEC
41	1,1,1-Trichloroethane	200	<0.03	<0.03	No	C>B, C>MEC
42	1,1,2-Trichloroethane	42	<0.02	<0.02	No	C>B, C>MEC
43	Trichloroethylene	81	<0.12	<0.12	No	C>B, C>MEC
44	Vinyl Chloride	525	<0.18	<0.18	No	C>B, C>MEC

[14] Step 6 of SIP, page 4, states that if B is greater that C and the pollutant was not detected in any of the effluent samples, effluent limitation is not required.

[15] The effluent data between April 2004 and December 2006 were used due to the City modifying the treatment processes through an installation of an ammonia addition device since April 2004.

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
45	2-chlorophenol	400	<3.3	<3.3	No	C>B, C>MEC
46	2,4-dichlorophenol	790	<2.7	<2.7	No	C>B, C>MEC
47	2,4-dimethylphenol	2,300	<2.7	<2.7	No	C>B, C>MEC
48	2-methyl-4,6-dinitrophenol	765	<10	<10	No	C>B, C>MEC
49	2,4-dinitrophenol	14,000	<42	<42	No	C>B, C>MEC
50	2-nitrophenol	No criteria	<3.6	<3.6	No	No criteria
51	4-nitrophenol	No criteria	<2.4	<2.4	No	No criteria
52	3-Methyl-4-Chlorophenol	No criteria	<3	<3.0	No	No criteria
53	Pentachlorophenol	8.2	<3.6	<3.6	No	C>B, C>MEC
54	Phenol	4,600,000	<1.5	<1.5	No	C>B, C>MEC
55	2,4,6-trichlorophenol	6.5	<2.7	<2.7	No	C>B, C>MEC
56	Acenaphthene	2,700	<2	<2.0	No	C>B, C>MEC
57	Acenaphthylene	No criteria	<1.9	<1.9	No	No criteria
58	Anthracene	110,000	<1.9	<1.9	No	C>B, C>MEC
59	Benzidine	0.00054	<4.4	<4.4	No	All ND in Effluent
60	Benzo(a)Anthracene	0.049	<7.8	<7.8	No	All ND in Effluent
61	Benzo(a)Pyrene	0.049	<2.5	<2.5	No	All ND in Effluent
62	Benzo(b)Fluoranthene	0.049	<4.8	<4.8	No	All ND in Effluent
63	Benzo(ghi)Perylene	No criteria	<4.1	<4.1	No	No criteria
64	Benzo(k)Fluoranthene	0.049	<2.5	<2.5	No	All ND in Effluent
65	Bis(2-Chloroethoxy) methane	No criteria	<5.3	<5.3	No	No criteria
66	Bis(2-Chloroethyl)Ether	1.4	<5.7	<5.7	No	All ND in Effluent
67	Bis(2-Chloroisopropyl) Ether	170,000	<5.7	<5.7	No	C>B, C>MEC
68	Bis(2-Ethylhexyl)Phthalate[15]	5.9	~~36.7~~<2.5	2.92	~~Yes~~No	~~MEC>~~C>MEC
69	4-Bromophenyl Phenyl Ether	No criteria	<1.9	<1.9	No	No criteria
70	Butylbenzyl Phthalate	5,200	<2.5	<2.5	No	C>B, C>MEC
71	2-Chloronaphthalene	4,300	<1.9	<1.9	No	C>B, C>MEC
72	4-Chlorophenyl Phenyl Ether	No criteria	<4.2	<4.2	No	No criteria
73	Chrysene	0.049	<2.0	<2.0	No	All ND in Effluent
74	Dibenzo(a,h) Anthracene	0.049	<2.5	<2.5	No	All ND in Effluent
75	1,2-Dichlorobenzene	17,000	<1.9	<1.9	No	C>B, C>MEC
76	1,3-Dichlorobenzene	2,600	<1.9	<1.9	No	C>B, C>MEC
77	1,4-Dichlorobenzene	2,600	<4.4	<4.4	No	C>B, C>MEC
78	3-3'-Dichlorobenzidine	0.077	<16.5	<16.5	No	All ND in Effluent
79	Diethyl Phthalate	120,000	<2.2	<2.2	No	C>B, C>MEC
80	Dimethyl Phthalate	2,900,000	<1.6	<1.6	No	C>B, C>MEC
81	Di-n-Butyl Phthalate	12,000	<2.5	<2.5	No	C>B, C>MEC
82	2-4-Dinitrotoluene	9.1	<5.7	<5.7	No	C>B, C>MEC
83	2-6-Dinitrotoluene	No criteria	<1.9	<1.9	No	No criteria
84	Di-n-Octyl Phthalate	No criteria	<2.5	<2.5	No	No criteria
85	1,2-Diphenylhydrazine	0.54	<10	<10	No	All ND in Effluent

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
86	Fluoranthene	370	<2.2	<2.2	No	C>B, C>MEC
87	Fluorene	14,000	<1.9	<1.9	No	C>B, C>MEC
88	Hexachlorobenzene	50	<1.9	<1.9	No	C>B, C>MEC
89	Hexachlorobutadiene	50	<0.9	<0.9	No	C>B, C>MEC
90	Hexachlorocyclopentadiene	17,000	<1.9	<1.9	No	C>B, C>MEC
91	Hexachloroethane	8.9	<1.6	<1.6	No	C>B, C>MEC
92	Indeno(1,2,3-cd)Pyrene	0.049	<3.7	<3.7	No	All ND in Effluent
93	Isophorone	600	<2.2	<2.2	No	C>B, C>MEC
94	Naphthalene	No criteria	<10	<10	No	No criteria
95	Nitrobenzene	1,900	<1.9	<1.9	No	C>B, C>MEC
96	N-Nitrosodimethylamine	8.1	<1.5	<1.5	No	C>B, C>MEC
97	N-Nitrosodi-n-Propylamine	1.4	<10	<10	No	All ND in Effluent
98	N-Nitrosodiphenylamine	16	<10	<10	No	C>B, C>MEC
99	Phenanthrene	No criteria	<5.4	<5.4	No	No criteria
100	Pyrene	11,000	<1.9	<1.9	No	C>B, C>MEC
101	1,2,4-Trichlorobenzene	No criteria	<1.9	<1.9	No	No criteria
102	Aldrin	0.00014	<0.004	<0.004	No	All ND in Effluent
103	Alpha-BHC	0.013	<0.011	<0.003	No	C>B, C>MEC
104	Beta-BHC	0.046	<0.007	<0.006	No	C>B, C>MEC
105	Gamma-BHC (Lindane)	0.063	<0.007	<0.004	No	C>B, C>MEC
106	delta-BHC	No criteria	<0.039	<0.009	No	No criteria
107	Chlordane	0.00059	<0.360	<0.014	No	All ND
108	4,4'-DDT	0.00059	<4.7	<4.7	No	C>B, C>MEC
109	4,4'-DDE	0.00059	<5.6	<5.6	No	All ND in Effluent
110	4,4'-DDD	0.00084	<2.8	<2.8	No	All ND in Effluent
111	Dieldrin	0.00014	<0.009	0.007	No	All ND in Effluent
112	Alpha-Endosulfan	0.056	<0.038	<0.014	No	C>B, C>MEC
113	Beta-Endosulfan	0.056	<0.029	<0.014	No	C>B, C>MEC
114	Endosulfan Sulfate	240	<0.066	<0.066	No	C>B, C>MEC
115	Endrin	0.036	<0.014	<0.006	No	C>B, C>MEC
116	Endrin Aldehyde	0.81	<0.023	<0.023	No	C>B, C>MEC
117	Heptachlor	0.00021	<0.014	<0.003	No	All ND in Effluent
118	Heptachlor Epoxide	0.00011	<0.083	<0.083	No	All ND in Effluent
119	PCB 1016	0.00017	<0.39	<0.39	No	All ND in Effluent
120	PCB 1221	0.00017	<0.39	<0.65	No	All ND in Effluent
121	PCB 1232	0.00017	<0.39	<0.65	No	All ND in Effluent
122	PCB 1242	0.00017	<0.39	<0.65	No	All ND in Effluent
123	PCB 1248	0.00017	<0.39	<0.65	No	All ND in Effluent
124	PCB 1254	0.00017	<0.39	<0.65	No	All ND in Effluent
125	PCB 1260	0.00017	<0.39	<0.65	No	All ND in Effluent
126	Toxaphene	0.00075	<0.05	<10	No	All ND in Effluent

4. WQBEL Calculations

a. Water quality-based effluent limits (final) are based on monitoring results and following the calculation process outlined in Section 1.4 of the California Toxics Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California. A table providing the calculation for all applicable WQBELs for this Order is provided in Attachment J of this Order.

b. WQBELs Calculation Example

Using copper as an example, the following demonstrates how WQBELs based on human health criterion were established for this Order. The process for developing these limits is in accordance with Section 1.4 of the SIP. Attachment I summarizes the development and calculation of all WQBELs for this Order using the process described below.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:

the effluent concentration allowance (ECA) using the following steady state equation:

ECA = C + D(C-B) when C>B, and
ECA = C when C≤B,

where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 400 mg/L (as $CaCO_3$) was used for development of hardness-dependent criteria.
D = The dilution credit, and
B = The ambient background concentration

For this Order, dilution was not allowed due to nature of the receiving water and quantity of the effluent, however, Water Effect Ration, 1.77 is applicable for copper, therefore:

ECA = C x 1.77
For copper, the applicable saltwater quality criteria are:

ECA_{acute} = ~~5.78~~5.58 µg/L x 1.77= 9.88 µg/L
$ECA_{chronic}$ = ~~3.73~~3.60 µg/L x 1.77= 6.38 µg/L

5.58 and 3.60 result from 4.8(Acute Saltwater Dissolved Fraction Limit)/0.86 and 3.1(Chronic Saltwater Dissolved Fraction Limit)/0.86, respectively. 0.86 is Copper Translator Factor.

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section1.4, Step 3 of the SIP and will not be repeated here.

$LTA_{acute} = ECA_{acute} \times Multiplier_{acute}$

$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic}$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

No. of Samples	CV	$Multiplier_{acute}$	$Multiplier_{chronic}$
25	0.64	0.3026	0.5064

LTA_{acute} = ~~5.78~~9.88 µg/L x 0.3026 = ~~1.75~~2.99 µg/L

$LTA_{chronic}$ = ~~3.73~~6.38 µg/L x 0.5064 = ~~1.89~~3.23 µg/L

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or $LTA_{chronic}$
For copper, the most limiting LTA was the LTA_{acute}

LTA = ~~1.75~~2.99 µg/L

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitation (MDEL). The multiplier is statistically based factor that adjusts the LTA for the averaging

periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides the pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier}$

$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier}$

AMEL multipliers are based on 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).
For copper, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP.

No. of Samples	CV	$Multiplier_{MDEL}$	$Multiplier_{AMEL}$
25	0.64	3.3044	1.5948

$AMEL_{aquatic\ life}$ = ~~1.75~~6.25 x 1.5948 = ~~2.79~~4.77 µg/L

$MDEL_{aquatic\ life}$ = ~~1.75~~6.25 x 3.3044 = ~~5.78~~9.88 µg/L

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$AMEL_{human\ health} = ECA_{human\ health}$

For copper:

$AMEL_{human\ health}$ = NONE

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the $Multiplier_{MDEL}$ to $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

A copper $MDEL_{human\ health}$ could not be calculated because a copper $AMEL_{human\ health}$ was not available. However, for illustrative purposes, if a $AMEL_{human\ health}$ was available, the following data and equation would have been used to develop the $MDEL_{human\ health}$:

No. of Samples Per Month	CV	$Multiplier_{MDEL}$	$Multiplier_{AMEL}$	Ratio
25	0.64	3.3044	1.5948	2.0720

$MDEL_{human\ health} = AMEL_{human\ health} \times Multiplier_{MDEL} / Multiplier_{AMEL}$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health water quality based effluent limit for this Order.

For copper:

$AMEL_{aquatic\ life}$	$MDEL_{aquatic\ life}$	$AMEL_{human\ health}$	$MDEL_{human\ health}$
~~2.79~~4.77 µg/L	~~5.78~~9.88 µg/L	Not available	Not available

The lowest (most restrictive) effluent limits, those based on aquatic life criteria, were incorporated into this Order. Due to rounding of digits in the abovementioned calculation, the final limit for copper in this exercise is slightly different than the limit derived using the SIP spreadsheet, in which the numbers are not rounded off.

c. **Mass based limits**

40 CFR section 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR section 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

d. **Final WQBELs**

Summaries of the WQBELs required by this Order are described in Table 8 below. Mass-based effluent limitations are based on a design capacity of 14 MGD.

Summary of Water Quality-based Effluent Limitations
Effluent Transfer Station

Table 8. Summary of Water Quality-based Effluent Limitations

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	0.30
	lbs/day[11]	5.3	35
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	0.53
	lbs/day[11]	9.3	62
Nitrite + Nitrate as Nitrogen	mg/L	10	--
	lbs/day[11]	1,200	--
Nitrite as Nitrogen	mg/L	1	--
	lbs/day[11]	120	--
Nitrate as Nitrogen	mg/L	10	--
	lbs/day[11]	1,200	--
Copper	µg/L	~~2.8~~4.7[16]	~~5.8~~9.9[16]
	lbs/day[17]	~~0.33~~0.55	~~0.68~~1.2
~~Lead~~	~~µg/L~~	~~4.3~~	~~14~~
	~~lbs/day~~	~~0.50~~	~~1.6~~
Mercury	µg/L	0.051	0.10
	lbs/day[17]	0.0060	0.012
Silver	µg/L	0.~~74~~71	2.2
	lbs/day[17]	0.~~087~~083	0.26
Zinc	µg/L	~~37~~45[18]	~~95~~107[18]
	lbs/day[17]	~~4.3~~5.3	~~11~~13
~~Cyanide~~	~~µg/L~~	~~0.50~~	~~1.0~~
	~~lbs/day~~	~~0.059~~	~~0.12~~
~~Chlorodibromomethane~~	~~µg/L~~	~~34~~	~~93~~
	~~lbs/day~~	~~4.0~~	~~11~~
~~Dichlorobromomethane~~	~~µg/L~~	~~46~~	~~128~~
	~~lbs/day~~	~~5.4~~	~~15~~
~~Bis(2-Ethylhexyl)Phthalate~~	~~µg/L~~	~~5.9~~	~~12~~

[16] Based on the results of Copper Water Effect Ratio (WER) Study in the Updated Enhancement Study conducted by Nautilus Environmental and Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, WER of 1.77 and MTF of 0.86 were applied for copper final effluent limitations.

[17] The mass emission rates are based on the plant design flow rate of 14 mgd, and are calculated as follows: Flow(MGD) x Concentration (µg/L) x 0.00837 (L·lbs/MG·µg) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[18] Based on the result of Metal Translator Factor (MTF) in the Metal Translator Study conducted by Entrix, MTF of 0.84 was applied for zinc final effluent limitations.

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
	~~lbs/day~~	~~0.69~~	~~1.4~~

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the Facility's effluent, or could have synergistic or additive effects. Also, because numeric limits for certain toxic constituents that did not show RP have been removed, the acute toxicity limit may provide a backstop to preventing the discharge of toxic pollutants in toxic amounts. In addition, 12 out of the 85 chronic toxicity tests conducted from January 2003 through December 2006 exceeded the monthly median chronic toxicity trigger of 1.0 TUc. Although all 4 acute toxicity testing results reported during the term of the previous Order exhibited 100% survival rates and thus did not exceed any acute toxicity requirements, Regional Water Board staff determined that, pursuant to the SIP, reasonable potential exists for chronic toxicity. As such, the permit contains effluent trigger limitations for chronic toxicity.

The toxicity numeric effluent limitations are based on:

a. 40 CFR 122.44(d)(v) – limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality standards;

b. 40 CFR 122.44(d)(vi)(A) – where a State has not developed a water quality criterion for a specific pollutant that is present in the effluent and has reasonable potential, the permitting authority can establish effluent limits using numeric water quality criterion;

c. Basin Plan objectives and implementation provisions for toxicity;

d. Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996;

e. Whole Effluent Toxicity (WET) Control Policy July 1994; and,

f. Technical Support Document (several chapters and Appendix B).

However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Water Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar chronic toxicity effluent limitation. This Order also contains a reopener to allow the Regional Water Board to modify the permit, if necessary, consistent with any new policy, law, or regulation.

a. Acute Toxicity Limitation:

The Dischargers may test for acute toxicity by using USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October 2002 (EPA-821-R-02-012). Acute toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

b. Chronic Toxicity Limitation and Requirements:

Chronic toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity. The monthly median trigger of 1.0 TUc for chronic toxicity is based on *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). In cases where effluent receives no dilution or where mixing zones are not allowed, the I.0 TU_c chronic criterion should be expressed as a monthly median. The "median" is defined as the middle value in a distribution, above which and below which lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TU_c, the median would be 1.0 TU_c.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives for setting up maximum daily limit: using 2.0 TUc as the maximum daily limit; or using a statistical approach outlined in the TSD to develop a maximum daily effluent

limitation. In this permit , neither maximum daily limitation nor trigger for chronic toxicity is prescribed.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. The effluent limitations for 117 priority pollutants are deleted because they did not show reasonable potential to cause or contribute to an excursion above the respective water quality standards. The new average monthly effluent limitations for copper, mercury, and cyanide that are less stringent than those in the previous permit are derived from the calculation in the SIP. The new daily maximum effluent limitations for copper, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate that are less stringent than those in the previous permit are derived from the calculation in the SIP. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

2. Satisfaction of Antidegradation Policy

On October 28, 1968, the State Board adopted Resolution No. 68-16*, Maintaining High Quality Water*, which established an antidegradation policy for State and Regional Water Boards. The State Board has, in State Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 CFR, Section 131.12) require that all permitting actions be consistent with the federal antidegradation policy. Together, the State and Federal policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. The provisions of this Order are consistent with the antidegradation policies.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS, pH are discussed in Section IV.B. of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived

from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives 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 CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and the applicable water quality standards for purposes of the CWA.

Summary of Final Effluent Limitations
Effluent Transfer Station

Table 9. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
$BOD_5$20ºC	mg/L	20	30	45	--	--	Existing
	lbs/day[11]	2,300	3,500	5,300	--	--	
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--	Existing
	lbs/day[11]	1,800	4,700	5,300	--	--	
pH	standard units	--	--	--	6.5	8.5	Existing
Oil and Grease	mg/L	10	--	15	--	--	Existing
	lbs/day[11]	1,200	--	1,800	--	--	
Settleable Solids	ml/L	0.1	--	0.3	--	--	Existing
Total Residual Chlorine	mg/L	0.1	--	--	--	--	Existing
	lbs/day[11]	12	--	--	--	--	
MBAS	mg/L	0.5	--	--	--	--	Basin Plan, RPA
	lbs/day[11]	59	--	--	--	--	
Summer Ammonia Nitrogen (May – October)	mg/L	0.045	--	0.30	--	--	Basin Plan
	lbs/day[11]	5.3	--	35	--	--	
Winter Ammonia Nitrogen (November to April)	mg/L	0.079	--	0.53	--	--	Basin Plan
	lbs/day[11]	9.3	--	62	--	--	
Nitrate + Nitrite as Nitrogen	mg/L	10	--	--	--	--	Basin Plan
	lbs/day[11]	1,200	--	--	--	--	
Nitrite as Nitrogen	mg/L	10	--	--	--	--	Basin Plan, BPJ
	lbs/day[11]	1,200	--	--	--	--	
Nitrate as Nitrogen	mg/L	10	--	--	--	--	Basin Plan
	lbs/day[11]	1,200	--	--	--	--	

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Copper	µg/L	~~2.8~~4.7[16]	--	~~5.8~~9.9[16]	--	--	CTR, SIP
	lbs/day[17]	~~0.330~~0.55	--	~~0.681~~1.2	--	--	
~~Lead~~	~~µg/L~~	~~4.3~~	~~--~~	~~14~~	~~--~~	~~--~~	~~CTR, SIP~~
	~~lbs/day~~	~~0.50~~	~~--~~	~~1.6~~	~~--~~	~~--~~	
Mercury	µg/L	0.051	--	0.10	--	--	CTR, SIP
	lbs/day[17]	0.0060	--	0.012	--	--	
Silver	µg/L	0.~~74~~71	--	2.2	--	--	CTR, SIP
	lbs/day[17]	0.~~087~~083	--	0.26	--	--	
Zinc	µg/L	~~37~~45[18]	--	~~95~~107[18]	--	--	CTR, SIP
	lbs/day[17]	~~4.3~~5.3	--	~~11~~12	--	--	
~~Cyanide~~	~~µg/L~~	~~0.50~~	~~--~~	~~1.0~~	~~--~~	~~--~~	~~CTR, SIP~~
	~~lbs/day~~	~~0.059~~	~~--~~	~~0.12~~	~~--~~	~~--~~	
~~Chlorodibromomethane~~	~~µg/L~~	~~34~~	~~--~~	~~93~~	~~--~~	~~--~~	~~CTR, SIP~~
	~~lbs/day~~	~~4.0~~	~~--~~	~~11~~	~~--~~	~~--~~	
~~Dichlorobromomethane~~	~~µg/L~~	~~46~~	~~--~~	~~128~~	~~--~~	~~--~~	~~CTR, SIP~~
	~~lbs/day~~	~~5.4~~	~~--~~	~~15~~	~~--~~	~~--~~	
~~Bis(2-ethylhexyl)phthalate~~	~~µg/L~~	~~5.9~~	~~--~~	~~12~~	~~--~~	~~--~~	~~CTR, SIP~~
	~~lbs/day~~	~~0.69~~	~~--~~	~~1.4~~	~~--~~	~~--~~	

E. Interim Effluent Limitations

Interim limits have been set as follows:

1. Copper, ~~lead,~~ mercury, silver, and zinc, ~~cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate~~ have reasonable potential to exceed water quality criteria of these constituents. Therefore, final WQBELs are required. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated AMEL values shows that the Discharger may be unable to consistently comply with the AMEL established in this Order for copper~~, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate~~. As a result, the tentative Order contains an interim limitation~~s~~ for copper~~, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate~~.

2. Section 131.38(e) of 40 CFR provides conditions under which interim effluent limitations and compliance schedules may be issued. The SIP allows inclusion of an interim limitation with a specific compliance schedule included in an NPDES permit for priority pollutants if the limitation for the priority pollutant is CTR-based. Because the CTR-based effluent limitations for copper~~, mercury,~~

~~silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate~~ appear infeasible for the Discharger to achieve at this time, an interim limitation~~s are~~is contained in the tentative Order.

3. The SIP requires that the Regional Water Board establish ~~other~~ interim requirements such as requiring the discharger to develop a pollutant minimization plan and/or source control measures and participate in the activities necessary to achieve the final effluent limitations.

4. The Discharger may not be able to achieve immediate compliance with the new non-CTR-based limits for ammonia nitrogen prescribed in this Order. Based on effluent and receiving monitoring data submitted by the Discharger, a comparison between the MEC (3.6 mg/L) and calculated AMEL (0.045 mg/L for summer and 0.079 for winter) and MDEL (0.30 mg/L for summer and 0.53 for winter) values shows that the Discharger may not be able to consistently comply with the AMEL and MDEL established in this Order for ammonia nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2007-YYYY.

5. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC (18.6 mg/L) and the Basin Plan WQO for nitrate as nitrogen (10 mg/L), shows that the Discharger may be unable to comply with the Basin Plan WQO established in this Order for nitrate as nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2007-YYYY.

6. Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC (18.8 mg/L) and the Basin Plan WQO for nitrate + nitrite as nitrogen (10 mg/L), shows that the Discharger may be unable to consistently comply with the Basin Plan WQO established in this Order for nitrate + nitrite as nitrogen. For non-CTR-based limits based on Basin Plans WQO, for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in the accompanying Time Schedule Order R4-2007-YYYY.

7. The Discharger shall comply immediately with the following interim effluent limits until~~ August 31, 2010~~the date to be determined. Thereafter, the Discharger shall comply with the final limitations specified in Section IV.A.1.a. of this Order. The interim effluent limits were based upon effluent performance data, provided by the Discharger, collected between ~~February~~ August 2003 and ~~December 2006~~August 2007, and calculated by the *Minitab* program.

Table 10. Summary of Interim Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper[19]	µg/L	--	17[20]	--	--
	lbs/day	--		--	--
~~Silver~~	~~µg/L~~	~~5.1~~	~~9.3~~	~~--~~	~~--~~
	~~lbs/day~~			~~--~~	~~--~~
~~Zinc~~	~~µg/L~~	~~145~~	~~183~~	~~--~~	~~--~~
	~~lbs/day~~			~~--~~	~~--~~
~~Cyanide~~	~~µg/L~~	~~--~~	~~8~~	~~--~~	~~--~~
	~~lbs/day~~			~~--~~	~~--~~
~~Chlorodibromomethane~~	~~µg/L~~	~~--~~	~~43.3~~	~~--~~	~~--~~
	~~lbs/day~~			~~--~~	~~--~~
~~Dichlorobromomethane~~	~~µg/L~~	~~--~~	~~92~~	~~--~~	~~--~~
	~~lbs/day~~			~~--~~	~~--~~
~~Bis(2-ethylhexyl)phthalate~~	~~µg/L~~	~~--~~	~~37~~	~~--~~	~~--~~
	~~lbs/day~~			~~--~~	~~--~~

F. Land Discharge Specifications

Not Applicable.

G. Reclamation Specifications

The reuse of the reclaimed water is regulated under a separate Waste Discharge Requirements and Water Recycling Requirements for City of San Buenaventura, Order No. 87-45, CI No. 6190.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 CFR § 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in the tentative Order are included to ensure protection of beneficial uses of the receiving water.

[19] Effluent values are assumed to be lognormally distributed for data sets containing all detects and non-detects.

[20] Interim effluent limits of 27 and 55 µg/L were derived statistically at 95% percentile for monthly average and at the 99% percentile for the daily maximum (See Attachment O). However, the MEC, 17 µg/L, is chosen as the interim daily maximum, which helps improve the situation of violation. No interim monthly average is available.

B. Groundwater

Not Applicable.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program

Influent monitoring in this Order follows the influent monitoring requirements in the previous Order with minor modification. The monitoring frequencies for parameters have been increased due to RP with those parameters.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed Monitoring and Reporting Program (Attachment E). This provision requires compliance with the Monitoring and Reporting Program, and is based on 40 CFR 122.44(i), 122.62,122.63, and 124.5. The Monitoring and Reporting Program is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board policies. The Monitoring and Reporting Program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate

reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the facility, will be required as shown on the proposed Monitoring and Reporting Program (Attachment E) and as required in the SIP.

The effluent monitoring in this Order follows the effluent monitoring requirements in the existing Order. The changes are summarized in the following table.

Table 11. Effluent Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Total residual chlorine	continuous	continuous[21]
Total residual chlorine	--	5 days/week[22]
Total waste flow	continuous	continuous[23]
Turbidity	continuous	continuous[23]
Total and fecal coliform	daily	daily
Settleable solids	daily	daily
$BOD_5 20^oC$	daily	daily
Suspended solids	daily	daily
Dissolved oxygen	daily	daily
Temperature	weekly	weekly
pH	weekly	weekly
Oil and grease	weekly	weekly
Total dissolved solids	monthly	monthly
Fluoride	monthly	monthly
Phosphate as P	monthly	monthly
Phosphorous	monthly	monthly
Ammonia nitrogen	monthly	monthly
Nitrate nitrogen	monthly	monthly
Nitrite nitrogen	monthly	monthly
Organic nitrogen	monthly	monthly
Total Kjeldahl nitrogen	monthly	monthly
Detergents (as MBAS)	monthly	monthly
Chlorophyll *a*	monthly	monthly

[21] Total residual chlorine shall be continuously recorded. The recorded data shall be maintained by the Permittee for at least five years. The Permittee shall extract the maximum daily peak, minimum daily peak, and daily average from the recorded data and shall make available upon request of the Regional Water Board. The continuous monitoring data are not intended to be used for the compliance determination purposes.

[22] Daily grab samples shall be collected at monitoring location M-001, Monday through Friday only, except for holidays. Analytical results of daily grab samples will be used to determine compliance with total residual chlorine effluent limitation. Furthermore, additional monitoring requirements as specified in section IV.A.2. shall be followed.

[23] Where continuous monitoring of a constituent is required, the following shall be reported:
Total waste flow – Total daily and peak daily flow (24-hr basis);
Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Cyanide	quarterly	monthly[24]
Chronic toxicity	monthly	monthly
Acute toxicity	annually	annually
Aluminum	quarterly	semiannually
Antimony	quarterly	semiannually
Arsenic	quarterly	semiannually
Barium	quarterly	semiannually
Beryllium	quarterly	semiannually
Cadmium	quarterly	semiannually
Chromium VI	quarterly	semiannually
Cobalt	quarterly	semiannually
Copper	quarterly	monthly
Iron	quarterly	semiannually
Lead	quarterly	~~monthly~~ semiannually
Mercury	quarterly	monthly
Molybdenum	quarterly	semiannually
Nickel	quarterly	semiannually
Selenium	quarterly	semiannually
Silver	quarterly	monthly
Thallium	quarterly	semiannually
Vanadium	quarterly	semiannually
Zinc	quarterly	monthly
Chlorodibromomethane	quarterly	monthly[24]
Dichlorobromomethane	quarterly	monthly[24]
Bis(2-ethylhexyl)phthalate	quarterly	monthly[24]
Acetone	quarterly	semiannually
TCDD	semiannually	semiannually
Benzene	quarterly	semiannually
Bromoform	quarterly	semiannually
Carbon tetrachloride	quarterly	semiannually
Chloroform	quarterly	semiannually
Dichloromethane	quarterly	semiannually
Tetrachloroethylene	quarterly	semiannually
Phenols (chlorinated & non chlorinated)	quarterly	semiannually
PCBs	quarterly	semiannually
Aldrin	quarterly	semiannually
Dieldrin	quarterly	semiannually
Chlordane	quarterly	semiannually
Endrin	quarterly	semiannually
Heptachlor	quarterly	semiannually

[24] This chemical needs to be monthly monitored until the end of Year 2008. If the results are non-detected or less than the CTR-based criteria, then the monitoring frequency can be reduced from monthly to semiannually. If any result exceeds the CTR-based criteria before or/and after Year 2008, the monitoring frequency shall remain as monthly.

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Heptachlor epoxide	quarterly	semiannually
Endosulfan	quarterly	semiannually
Toxaphene	quarterly	semiannually
DDT	quarterly	semiannually
Total xylene	quarterly	semiannually
Remaining priority pollutants (excluding asbestos)	semiannually	semiannually
Pesticides[25]	semiannually	semiannually
Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	semiannually	semiannually
Emerging chemicals[26]	--	biannually
Endocrine disrupting chemicals[27]	--	biannually
Pharmaceuticals[28]	-	biannually

The reduction of monitoring frequencies for priority pollutants listed in the above table is based on the fact that previous monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards. However, monitoring frequency for priority pollutants with RP to exceed the WQOs is increased.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and

[25] Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (p) (methoxychlor, demeton, guthion, malathion, mirex, and parathion).

[26] Emerging chemicals include 1,4-dioxane (USEPA 8270c test method), perchlorate (USEPA 314 test method), 1,2,3-trichloropropane (USEPA 504.1 or 8260B test method), and methyl tert-butyl ether (USEPA 8260B test method). These chemicals need to be monitored in August.

[27] Endocrine disrupting chemicals include ethinyl estradiol, 17-B estradiol, estrone, bisphenol A, nonylphenol and nonylphenol polyethoxylate, octylphenol and octylphenol polyethoxylate, and polybrominated diphenyl ethers. These chemicals need to be monitored, only when ~~The~~the analytical methods for these chemicals ~~shall be~~ are applicable and approved by the ~~DHS~~CDPH. These chemicals need to be monitored during August.

[28] Pharmaceuticals include acetaminopen, amoxicillin, azithromycin, caffeine, carbamazepine, ciprofloxacin, ethylenediamine tetra-acetic acid (EDTA), gemfibrozil, ibuprofen, iodinated contrast media, lipitor, methadone, morphine, salicylic acid, and triclosan. These chemicals need to be monitored, only when the analytical methods for these chemicals are applicable and approved by the CDPH. These chemicals need to be monitored during August.

evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan. The receiving water monitoring program in this Order includes the following modifications to the existing receiving water monitoring program:

a. Monitoring for priority pollutants and chronic toxicity in the previous Order No. 00-143 was at Stations R-001, R-003, and R-005. Monitoring for these constituents in the renewal MRP are Stations R-003, R-005, and Station R-004 replacing Station R-001.

b. The reduction of monitoring frequencies for priority pollutants listed in Table 12 is based on the fact that previous effluent monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards. However, monitoring frequency for priority pollutants and chronic toxicity with RP to exceed the WQOs is increased.

Table 12. Receiving Water Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2000 Permit)	Monitoring Frequency (2007 Permit)
Copper	quarterly	monthly
~~Lead~~	~~quarterly~~	~~monthly~~
Mercury	quarterly	monthly
Silver	quarterly	monthly
Zinc	quarterly	monthly
Cyanide	quarterly	monthly[29]
Chlorodibromomethane	quarterly	Monthly[29]
Dichlorobromomethane	quarterly	Monthly[29]
Bis(2-ethylhexyl)phthalate	quarterly	Monthly[29]
Remaining priority pollutants (excluding asbestos)	quarterly	semiannually
Chronic toxicity	quarterly	monthly

c. Annual acute toxicity test is added at Stations R-005 and R-003 to fulfill Section V.A.14.d of Order.

[29] If any result of this chemical exceeds the CTR-based criteria after the effective date to be determined, the receiving water monitoring frequency of this chemical shall be increased from semiannually to monthly.

2. Groundwater

Not Applicable.

E. Other Monitoring Requirements

1. Biosolids/Sludge Monitoring

This section establishes monitoring and reporting requirements for the storage, handling and disposal practices of sludge generated from the operation of this Facility.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

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

B. Special Provisions

1. Reopener Provisions

This provision is based on 40 CFR Part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the discharge consistently exceed an effluent limitation for toxicity, the Discharger needs to conduct TIE/TRE detailed in Section V of the MRP (Attachment E). The TRE will help the Discharger identify the possible source(s) of toxicity. Once the source(s) of toxicity is identified, the Discharger shall take all reasonable steps to reduce toxicity to the required level.

3. Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR 122.26 that established requirements for storm water discharges under an NPDES permit. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.* This permit was amended in September 1992 and reissued on April 17, 1997 as State Board Order No. 97-03-DWQ. JWPCP is covered under this general permit and an updated SWPPP is required.

b. Spill Contingency Plan (SCP)

Since spill or overflow is a common event in the treatment plant service areas, this Order requires the Discharger to review and update, if necessary, SCP after each incident. The Discharger shall ensure that the up-to-date SPC is readily available to the sewage system personnel at all times and that the sewage personnel are familiar with it.

c. **Pollutant Minimization Program.**

This provision is based on the requirements of Section 2.4.5 of the SIP.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of 40 CFR 122.41(e) and the previous Order.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Biosolids Requirements.** To implement CWA Section 405(d), on February 19, 1993, USEPA promulgated 40 CFR 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is

the responsibility of the Discharger to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Discharger is also responsible for compliance with WDRs and NPDES permits for the generation, transport and application of biosolids issued by the State Board, other Regional Water Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied.

b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403; and/or Section 2233, Title 23, California Code of Regulations.

c. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. 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 (SSMPs) and report all sanitary sewer overflows (SSOs), 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 system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section 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 that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order.

7. Compliance Schedules

a. This Order establishes final effluent limitations for ammonia, nitrate plus nitrite as nitrogen, nitrite as nitrogen, copper, lead, mercury, silver, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate. Interim limit for nickel is not necessary because the monitoring data indicate that discharger can consistently comply with the final effluent limitation. This Order contains interim effluent limitations and a compliance schedule for copper, mercury, silver, zinc, cyanide, chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl) phthalate that provides the Discharger time to bring their facility into compliance with the final effluent limit.

The provision for compliance schedule is based on Section 2.1 (Compliance Schedules) of the SIP. The proposed permit allows the Discharger until July 17, 2010, to be in compliance with the final effluent limitations for bis(2-ethylhexyl) phthalate. Based on Regional Water Board's best professional judgment, this schedule is sufficient for the Discharger to achieve the final effluent limitations for the pollutants. The Discharger is required to develop and submit a Compliance Plan. The Discharger is also required to develop and implement a pollution minimization plan to ensure the Discharger achieves compliance with the final limitations within a time specified in Section IV.A.1.a. of this Order. Annual status report is required to inform the Regional Water Board about the progress made by the Discharger to achieve compliance with the final effluent limitations within specified time. During the interim period the Discharger is required to meet the interim limitations.

b. This Order established final effluent limitations for ammonia nitrogen and nitrate + nitrite as nitrogen that are new limits for the Facility. For the aforementioned non-CTR-based pollutants, the interim limits and compliance dates are provided in the accompanying Time Schedule Order No. R4-2007-YYYY.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Ventura Water Reclamation Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and

has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following newspapers: (Ventura County Star and date).

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on May 30, 2007.

C. Public Hearing

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

Date: ~~July 12~~December 6, 2007
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California Board Room
700 North Alameda Street
Los Angeles, California

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

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/losangeles/ where you 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 (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

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 Don Tsai at (213) 576-6665.