CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER NO. R5-2009-XXXX
NPDES NO. CA0079464

WASTE DISCHARGE REQUIREMENTS FOR THE SAN ANDREAS SANITARY DISTRICT WASTEWATER TREATMENT PLANT CALAVERAS COUNTY

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

Table 1. Discharger Information

Discharger	San Andreas Sanitary District
Name of Facility	Wastewater Treatment Plant
Facility Address	675 Gold Oak Road
	San Andreas, CA 95249
	Calaveras County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the San Andreas Sanitary District from the discharge points 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	Treated Municipal Wastewater	38º 12’ 39” N	120º 42’ 20” W	North Fork Calaveras River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**5 February 2009**
This Order shall become effective on:	**50 days after date of adoption**
This Order shall expire on:	**1 February 2014**
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**

I, PAMELA C. CREEDON, 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, Central Valley Region, on **5 February 2009**.

PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	San Andreas Sanitary District
Name of Facility	Wastewater Treatment Plant
Facility Address	675 Gold Oak Road
	San Andreas, CA 95249
	Calaveras County
Facility Contact, Title, and Phone	Steve Schimp, District Manager, 209-754-3281
Mailing Address	P.O. Box 1630
	San Andreas, CA 95249
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	0.4 MGD (average dry weather flow); 0.9 MGD (peak wet weather flow)

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. Background. The San Andreas Sanitary District (hereinafter Discharger) is currently discharging pursuant to Order No. R5-2003-0151 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079464. The Discharger submitted a Report of Waste Discharge, dated 18 April 2008, and applied for a NPDES permit renewal to discharge up to 1.5 MGD of treated wastewater from the Wastewater Treatment Plant, hereinafter Facility. The application was deemed complete on 6 May 2008.

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

B. Facility Description. The Discharger owns and operates a domestic wastewater collection, treatment, and disposal system, and provides sewerage service to the community of San Andreas, in Calaveras County. The treatment system consists of a grit removal chamber, mechanical screen (for solids removal), Parshall flume, flow metering, storm flow by-pass device for diverting excessive storm inflow to the high flow treatment system and storage reservoir, pre-aeration basin, primary clarifier, recirculating trickling filter, secondary clarifier, sodium hypochlorite contact chamber, sodium bisulfite dechlorination unit, heated unmixed anaerobic digester, sludge drying beds, three post-secondary effluent polishing ponds, and a 6 million gallon storage reservoir. A diesel power generator is on-site for use in the event of electrical power loss. Secondary treated wastewater is discharged from Discharge Point No. 001 (see

table on cover page) to the North Fork Calaveras River, a water of the United States, and a tributary to the New Hogan Reservoir, from 1 November through 30 April each year. Secondary treated wastewater is discharged to the Discharger's Designated Land Disposal Area (DLDA) from 1 May through 31 October. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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 a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260).

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G 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 Title 40 of the Code of Federal Regulations (CFR)[1], Part 122.44 (40 CFR 122.44) require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, that are necessary to achieve water quality standards. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

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

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have 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 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Table II-1 of the Basin Plan identifies the following existing beneficial uses for the Calaveras River from the source to New Hogan Reservoir: water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; warm and cold spawning, reproduction, and/or early development; and wildlife habitat.

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. Ambient receiving water data collected by the Discharger indicates that the North Fork Calaveras River from the source to New Hogan Reservoir is suitable for municipal and domestic supply and the State Water Board maintains an active water rights permit for domestic and irrigation supply use from New Hogan Reservoir downstream of the discharge. Additionally, although agricultural supply including both irrigation and stock watering is not identified in Table II-1 of the Basin Plan as an existing use of the Calaveras River, active water rights permits for stock watering have been identified downstream of the discharge point along the North Fork Calaveras River.

Therefore, the beneficial uses applicable to the North Fork Calaveras River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	North Fork Calaveras River	Existing: Municipal and domestic supply (MUN); agricultural supply, including irrigation and stock watering (AGR); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm migration of aquatic organisms (MIGR); warm and cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD).

The Basin Plan includes a list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to WQLSs. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" The North Fork Calaveras River is not specifically listed in the 303(d) list of impaired waters. The Lower Calaveras River is listed as a WQLS for diazinon, organic enrichment/ low dissolved oxygen, and pathogens in the 303(d) list of impaired water bodies.

Requirements of this Order implement the Basin Plan.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 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 13 February 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On 2 March 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 28 April 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 18 May 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 24 February 2005 that became effective on 13 July 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.** In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board's Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See In the Matter of Waste Discharge Requirements for Avon Refinery (State Water Board Order WQ 2001-06 at pp. 53-55). See also Communities for a Better Environment et al. v. State Water Resources Control Board, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan for the Sacramento and San Joaquin Rivers includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 25 September 1995 (see Basin Plan at page IV-16). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental Protection Agency policies and administrative decisions. See, e.g., Whole Effluent Toxicity (WET) Control Policy. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

For CTR constituents, 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 18 May 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 includes compliance schedules and interim effluent limitations and discharge specifications. A detailed discussion of the basis for the compliance schedules, interim effluent limitations, and discharge specifications is included in the Fact Sheet.

L. **Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR §131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised

regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 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 30 May 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 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and flow. The WQBELs consist of restrictions on ammonia, bis (2-ethylhexyl) phthalate, chlordane, chlorine residual, copper, cyanide, diazinon, dichlorobromomethane, electrical conductivity, iron, pH, settleable solids, total coliform organisms, and zinc. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs 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 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. 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 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the [Clean Water] Act*" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

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 is consistent with 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 is provided in Attachment E.

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, VI.C.2.b, VI.C.2.c, and VI.C.4.a 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.

IT IS HEREBY ORDERED, that Order Nos. R5-2003-0151 and R5-2003-0152 are 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.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

D. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

E. The discharge of effluent to the North Fork Calaveras River is prohibited from 1 May through 31 October of each year.

F. The discharge of treated secondary effluent to the Calaveras River in quantities which do not receive a minimum of 20:1 dilution as a daily average (receiving water flow : effluent flow) is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 6:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical Oxygen Demand (5-day @ 20 C)	mg/L	30	45	60	--	--
	lbs/day[1]	375	563	751	--	--
pH	standard units	--	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	30	45	60	--	--
	lbs/day[1]	375	563	751	--	--
Priority Pollutants						
Bis (2-ethylhexyl) phthalate	µg/L	34	--	95	--	--
Chlordane	µg/L	--	--	--	--	ND[2]
Copper, Total Recoverable	µg/L	5.4	--	7.9	--	--
Cyanide, Total (as CN)	µg/L	4.3	--	8.5	--	--
Dichlorobromomethane	µg/L	9.7	--	22	--	--
Zinc, Total Recoverable	µg/L	48	--	77	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)	mg/L	1.2	--	2.1	--	--
	lbs/day[1]	15	--	26	--	--
Diazinon	µg/L	0.03	--	0.08	--	--
	lbs/day[1]	0.0004	--	0.001	--	--
Settleable Solids	ml/L	0.1	--	0.2	--	--

[1] Based on permitted flow of 1.5 MGD.
[2] ND indicates non-detect. See section VII.D for the protocol for evaluating compliance with the ND effluent limitation.

b. **Percent Removal:** The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

   i. 70%, minimum for any one bioassay; and
   ii. 90%, median for any three consecutive bioassays.

d. **Chronic Whole Effluent Toxicity.** There shall be no chronic toxicity in the effluent discharge.

e. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:

   i. 0.011 mg/L, as a 4-day average; and
   ii. 0.019 mg/L, as a 1-hour average.

f. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:

   i. 23 most probable number (MPN) per 100 mL, as a 7-day median; and
   ii. 240 MPN/100 mL, more than once in any 30-day period.

g. **Flow.** The average daily discharge flow to the North Fork Calaveras River shall not exceed 1.5 MGD.

h. **Iron, Total Recoverable.** For a calendar year, the annual average effluent concentration shall not exceed 300 µg/L.

i. **Electrical Conductivity.** For a calendar year, the annual average effluent electrical conductivity shall not exceed the municipal water supply electrical conductivity plus an increment of 500 µmhos/cm, or 700 µmhos/cm, whichever is less.

2. Interim Effluent Limitations

a. **Effective immediately and ending 31 January 2014**, the Discharger shall maintain compliance with the following limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 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	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia Nitrogen, Total (as N)	mg/L	--	--	18	--	--
Diazinon	µg/L	--	--	2.8	--	--

B. Land Discharge Specifications

1. Treated wastewater discharged to the DLDA shall not exceed the following limitations, with compliance measured at Monitoring Location LND-001 as described in the attached MRP.

Table 8. Land Discharge Specifications

Parameter	Units	Discharge Specifications		
		Average Monthly	Monthly Median	Maximum Daily
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	40	--	80
Settleable Solids	ml/L	0.2	--	0.5
Total Coliform Organisms	MPN/100 mL	--	23	230

C. Reclamation Specifications

[Not Applicable]

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 North Fork Calaveras River:

1. **Bacteria**. The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.

2. **Biostimulatory Substances**. Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

3. **Chemical Constituents**. Chemical constituents to be present in concentrations that adversely affect beneficial uses.

4. **Color**. Discoloration that causes nuisance or adversely affects beneficial uses.

5. **Dissolved Oxygen**:

   a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
   b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor

c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.

6. **Floating Material**. Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.

7. **Oil and Grease**. Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.

8. **pH**. The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5 units.

9. **Pesticides**:

   a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
   b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
   c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;
   d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR §131.12.); nor
   e. Pesticide concentrations to exceed the lowest levels technically and economically achievable.

10. **Radioactivity**:

   a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
   b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments**. The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

12. **Settleable Substances**. Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

13. **Suspended Material**. Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

14. **Taste and Odors**. Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

15. **Temperature**. The natural temperature to be increased by more than 5°F.

16. **Toxicity**. Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **Turbidity**. The turbidity to increase as follows:

    a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
    b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
    c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
    d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. The release of waste constituents from any storage, treatment, or disposal component of the wastewater treatment plant or DLDA shall not, in combination with other sources, cause the following in groundwater:

    a. Beneficial uses to be adversely impacted or water quality objectives to be exceeded;

    b. Any constituent concentration, when compared with background, to be incrementally increased beyond the current concentration; nor

    c. Total coliform organisms to equal or exceed 2.2 MPN/100 mL over any 7-day period.

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 following provisions:

   a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.

   b. After notice and opportunity for a hearing, this Order may be terminated or modified 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 failing to disclose fully all relevant facts;

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

      iv. a material change in the character, location, or volume of discharge.

      The causes for modification include:

      - *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

      - *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

      - *Change in sludge use or disposal practice.* Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

      The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

   The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

   i. contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

   ii. controls any pollutant limited in the Order.

   The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. 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.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

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

i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

j. Safeguard to electric power failure:

i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.

iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

k. The Discharger, upon written request of the Regional Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under Regional Water Board Standard Provision VI.A.2.m.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

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

The Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Regional Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.

m. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.

o. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.

p. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

q. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.

r. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.

s. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

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

u. For POTWs, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (CWC section 1211).

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, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within 5 days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR section 122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

1. 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 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.

b. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this

permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

d. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for inorganic constituents. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Dilution/Mixing Zone Study.** In order to allow dilution credits for the calculation of WQBELs for the protection of aquatic life, the Discharger must submit an approved Dilution/Mixing Zone Study which meets all of the requirements of Section 1.4.2.2 of the SIP. Should the Discharger submit an approved Dilution/Mixing Zone Study that meets the requirements of Section 1.4.2.2 of the SIP, including defining the boundaries of the acute and chronic mixing zones, the Regional Water Board may reopen this Order to include effluent limitations based on an appropriate dilution factor for the protection of aquatic life.

f. **Extension of Surface Water Discharge Season.** This Order prohibits discharges to the North Fork Calaveras River from 1 May through 31 October. Upon submission of an evaluation demonstrating that utilization of additional land disposal does not mitigate the need for extension of the surface water discharge season, this Order may be reopened to extend the permitted period of surface water discharge.

g. **Flow Ratio Prohibition.** This Order includes a prohibition of discharges of secondary treated wastewater to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. Upon upgrades to the Facility to provide tertiary treatment, this Order may be reopened to revise the discharge prohibition to allow discharges that do not receive 20:1 dilution and include tertiary treatment requirements consistent with DPH recommendations.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Toxicity Reduction Evaluation (TRE) Work Plan. Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with USEPA guidance[1] and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.

ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger during accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.

iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is > **1 TUc** (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.

iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14 days of notification by the laboratory of the test results, the Discharger shall initiate accelerated

[1] See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of EPA guidance documents that must be considered in development of the TRE Workplan.

monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a 6-week period (i.e., one test every 2 weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

b) If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;

2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

3) A schedule for these actions.

b. Groundwater Monitoring. To determine compliance with Groundwater Limitations V.B., the groundwater monitoring network shall include one or more background monitoring wells and a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater. All monitoring wells shall comply with the appropriate standards as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981), and any more stringent standards adopted by the Discharger or County pursuant to CWC section 13801.

c. **BPTC Evaluation Tasks.** The Discharger shall propose a work plan and schedule for providing BPTC as required by Resolution 68-16 for total coliform organisms in the groundwater underlying the DLDA. The technical report describing the work plan and schedule shall contain a preliminary evaluation of

each component and propose a time schedule for completing the comprehensive technical evaluation.

Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed 4 years past the Executive Officer's determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this provision:

Task	Compliance Date
i. Submit technical report: work plan and schedule for comprehensive evaluation	**Within 6 months** following Order adoption
ii. Commence comprehensive evaluation	**30 days** following Executive Officer approval of Task i.
iii. Complete comprehensive evaluation	As established by Task i and/or 2 years following Task ii, whichever is sooner
iv. Submit technical report: comprehensive evaluation results	**60 days** following completion of Task iii.
v. Submit annual report describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year	To be submitted in accordance with the MRP (Attachment E, Section X.D.1.)

d. **Alternative Disposal Options.** The Discharger shall submit a report demonstrating the following factors have been considered:

i. Optimization of waste water recycling and reclamation;
ii. Optimization of conservation measures;
iii. Consideration of regional solutions (i.e., regionalization); and
iv. Evaluation of reuse and land disposal options as alternative disposal methods

The report shall be submitted as part of the Report of Waste Discharge (as required on the Cover Page for the Order).

e. **Effluent and Receiving Water Characterization Study.** An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal. The Discharger shall conduct monitoring of the effluent at EFF-001 and of the receiving water at RSW-001 for all priority pollutants and other constituents of concern as listed in Attachment H four times during the third surface water discharge season of this permit term (e.g., December, January, February, and March). Dioxin and furan sampling shall be performed once during the third surface water discharge season of the permit term, as described in Attachment H. Monitoring shall be conducted regardless of whether a discharge to surface waters is occurring. The report shall be completed in conformance with the following schedule:

Task	Compliance Date
i. Submit Work Plan and Time Schedule	No later than 2 years 6 months from adoption of this Order
ii. Conduct monitoring	During third surface water discharge season of permit term
iii. Submit Final Report	6 months following completion of final monitoring event

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to address sources of salinity from the Facility. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the effective date of this Order** for the approval by the Executive Officer.

4. Construction, Operation, and Maintenance Specifications

a. **DLDA Operating Requirements.**

i. The average dry weather flow shall not exceed 0.4 MGD.

ii. The maximum daily discharge to the DLDA shall not exceed 1.8 MGD.

iii. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas or property owned by the Discharger.

iv. As a means of discerning compliance with the operating specification contained in section IV.C.4.a.iii, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L.

v. The effluent polishing ponds shall not have a pH less than 6.5 or greater than 8.5 averaged over any 24-hour period. The effluent storage reservoir shall not

have a pH less than 6.5 or greater than 9.0 averaged over any 24-hour period.

vi. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
b) Weeds shall be minimized.
c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

vii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

viii. Ponds and disposal trenches shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the irrigation season (May through October). Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than 2 feet (measured vertically to the lowest point of overflow), except if lesser freeboard does not threaten the integrity of the pond, no overflow of the pond occurs, and lesser freeboard is due to direct precipitation or storm water runoff occurring as a result of annual precipitation with greater than a 100-year recurrence interval, or a storm event with an intensity greater than a 25-year, 24-hour storm event.

ix. There shall be no runoff or overflow of effluent outside the DLDA. The ponds and disposal trenches shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

b. **Trickling Filter Operating Requirements.** The peak wet weather flow through the trickling filter treatment facility shall not exceed 0.9 MGD.

c. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Sludge/Biosolids Discharge Specifications**

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste,* as set forth in Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites,

soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

ii. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

iii. The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B.

iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into this Order.

b. **Biosolids Disposal Requirements**

i. The Discharger shall comply with the Monitoring and Reporting Program for biosolids disposal contained in Attachment E.

ii. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

iii. The Discharger is encouraged to comply with the “Manual of Good Practice for Agricultural Land Application of Biosolids” developed by the California Water Environment Association.

c. **Biosolids Storage Requirements**

i. Facilities for the storage of Class B biosolids shall be located, designed and maintained to restrict public access to biosolids.

ii. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.

iii. Biosolids storage facilities, which contain biosolids, shall be designed and maintained to contain all storm water falling on the biosolids storage area during a rainfall year with a return frequency of 100 years.

iv. Biosolids storage facilities shall be designed, maintained and operated to minimize the generation of leachate.

d. **Collection System.** On 2 May 2006, the State Water Board adopted Order No. 2006-0003-DWQ, a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order No. 2006-0003-DWQ and any future revisions thereto. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR. The Discharger has applied for and has been approved for coverage under State Water Board Order 2006-0003-DWQ for operation of its wastewater collection system.

Regardless of the coverage obtained under Order No. 2006-0003-DWQ, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR section 122.41(e)], report any non-compliance [40 CFR section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR section 122.41(d)].

6. Other Special Provisions

a. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory and certification requirements in the Federal Standard Provisions (Attachment D, Section V.B.) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

7. Compliance Schedules

a. **Compliance Schedules for Final Effluent Limitations for Ammonia and Diazinon**. This Order requires compliance with the final effluent limitation for ammonia and diazinon by **1 February 2014**. The Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitation:

Task	Compliance Date
i. Submit Method of Compliance Workplan/Schedule	**Within 6 months** after adoption of this Order
ii. Submit and Implement Pollution Prevention Plan (PPP)[1] for Ammonia and Diazinon	**Within 1 year** after adoption of this Order
iii. Progress Reports[2]	**1 June**, annually, after approval of work plan until final compliance
iv. Full Compliance	**1 February 2014**

[1] The PPP for ammonia and diazinon shall be prepared and implemented in accordance with CWC section 13263.3(d)(3).

[2] The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including development and implementation of local discharge limits, as well as other additional measures as necessary to achieve full compliance by the final compliance date.

VII. COMPLIANCE DETERMINATION

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

A. **BOD_5 and TSS Effluent Limitations**. Compliance with the final effluent limitations for BOD_5 and TSS required in section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in section IV.A.1.b for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. **Total Coliform Organisms Effluent Limitations.** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days for which analyses have been completed. If the 7-day median of total coliform organisms exceeds 23 MPN/100 mL, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

C. **Chlordane Instantaneous Maximum Effluent Limitation.** Chlordane shall not be present in the discharge at detectable concentrations. The Discharger shall use USEPA standard analytical techniques with the lowest possible detectable level for chlordane with a maximum acceptable detection level of 0.05 µg/L. If the analytical result of a single effluent grab sample is detected for chlordane, a violation will be flagged and the Discharger will be considered out of compliance 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).

D. **Total Residual Chlorine Effluent Limitations.** Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

   Any excursion above the 1-hour average or 4-day average total residual chlorine effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due

to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive.

E. **Chronic Whole Effluent Toxicity Effluent Limitation.** Compliance with the accelerated monitoring and TRE/TIE provisions contained at section VI.C.2.a shall constitute compliance with effluent limitation IV.A.1.d for chronic whole effluent toxicity.

F. **Electrical Conductivity.** “Municipal water supply electrical conductivity” shall be determined annually for purposes of Effluent Limitation IV.A.1.i for electrical conductivity. “Municipal water supply electrical conductivity” for each calendar year shall equal the maximum municipal water supply electrical conductivity reported by the Discharger during the prior calendar year. The municipal water supply electrical conductivity shall be monitored and reported in accordance with the Monitoring Reporting Program (Attachment E).

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.

Best Practicable Treatment or Control (BPTC): BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to assure that, *"(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."* Pollution is defined in CWC Section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".

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 include~~d~~, 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 3 July 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:

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

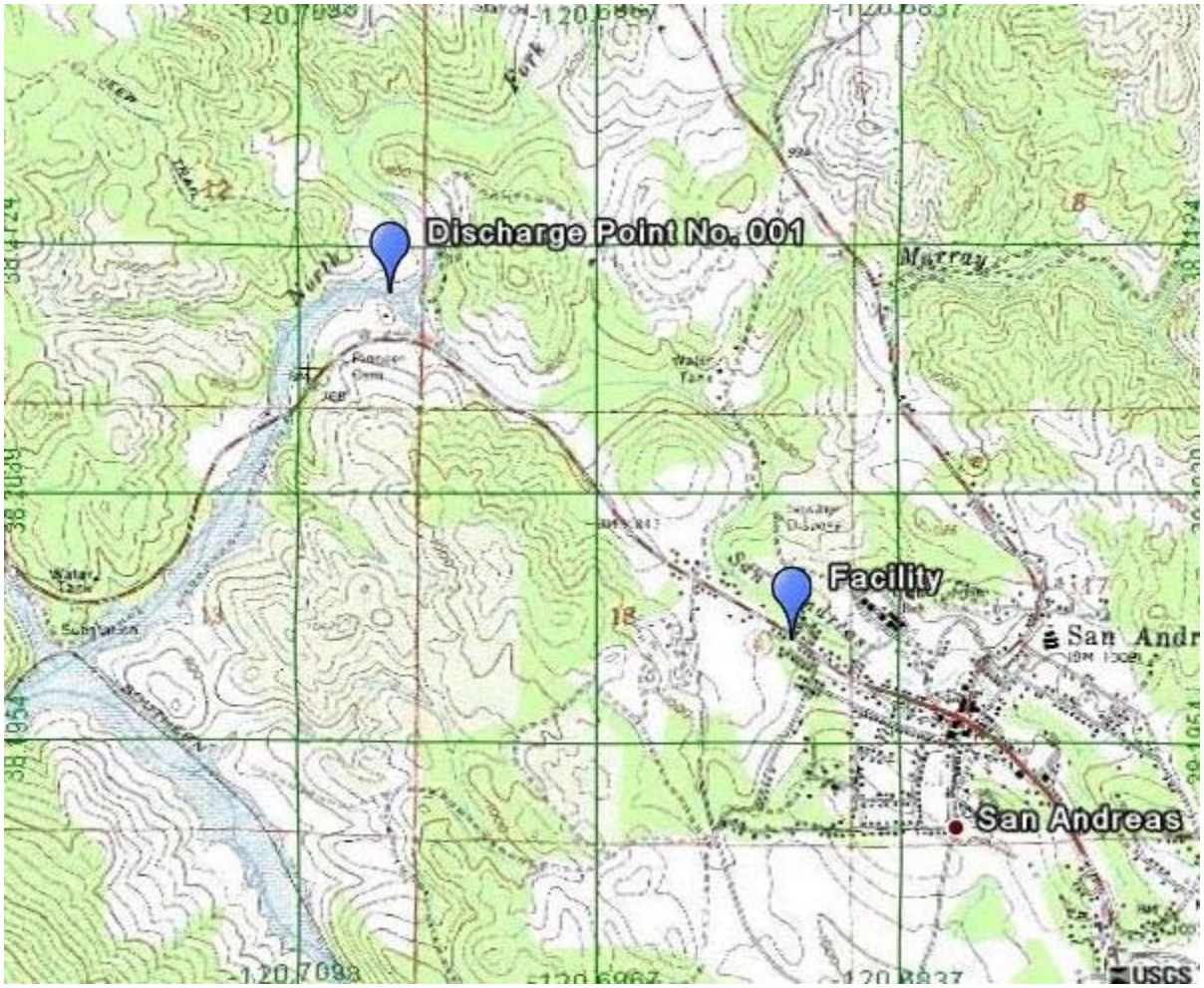
where:

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.)

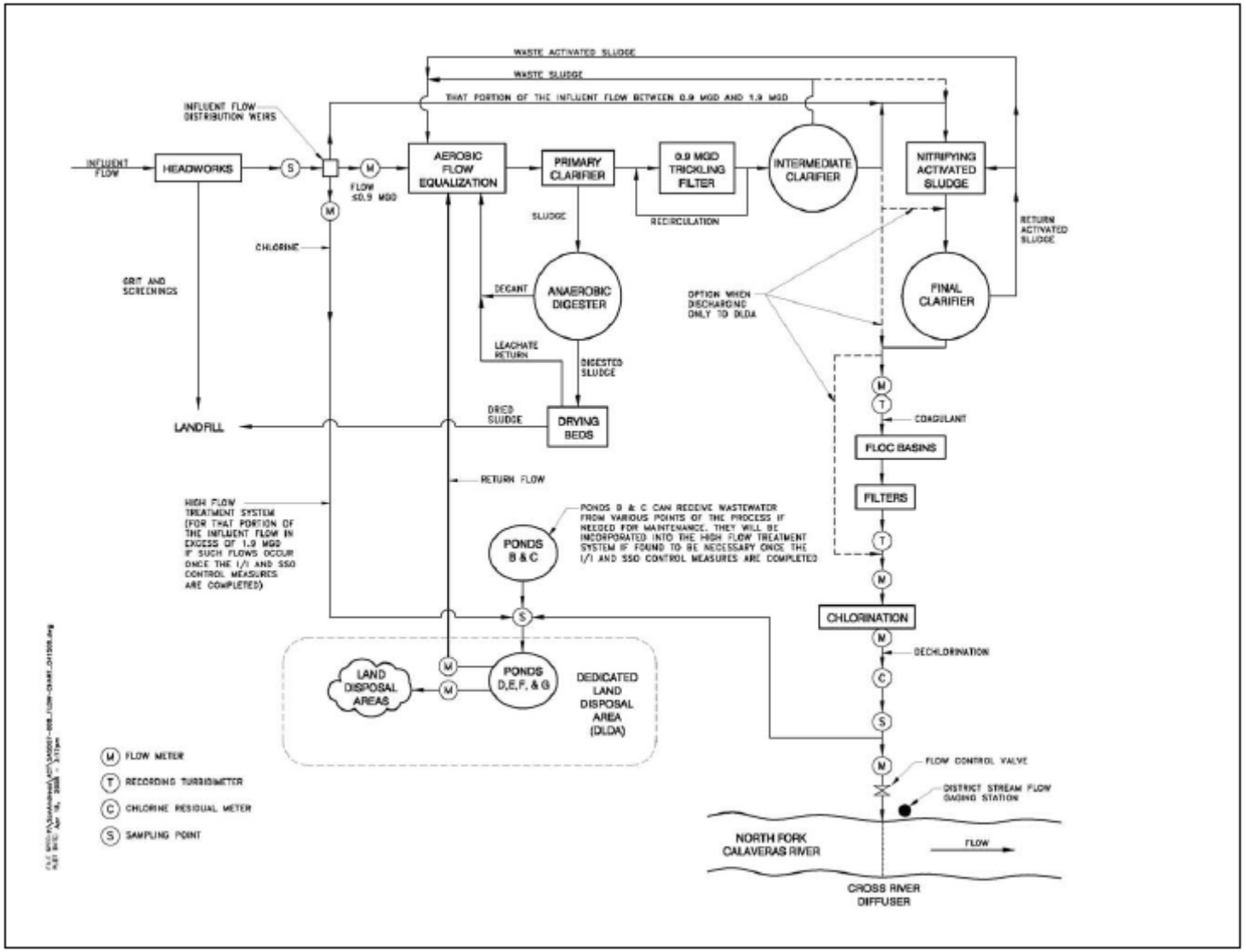
ATTACHMENT B – MAP



SITE LOCATION MAP

SAN ANDREAS SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
CALAVERAS COUNTY

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 CFR §122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR §122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR §122.41(c).)

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR §122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR §122.41(g).)

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR §122.41(i); Wat. Code, §13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR §122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR §122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR §122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR §122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR §122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR §122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR §122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR §122.41(m)(4)(i)):

    a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR §122.41(m)(4)(i)(A));

    b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR §122.41(m)(4)(i)(B)); and

    c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR §122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR §122.41(m)(4)(ii).)

5. Notice

    a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR §122.41(m)(3)(i).)

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

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR §122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was

caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR §122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR §122.41(n)(3)):

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

   b. The permitted facility was, at the time, being properly operated (40 CFR §122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR §122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR §122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR §122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of 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 CFR §122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR §122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR §122.41(j)(4); §122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR §122.41(j)(2).)

B. Records of monitoring information shall include:

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

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

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

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

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

6. The results of such analyses. (40 CFR §122.41(j)(3)(vi).)

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

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

2. Permit applications and attachments, permits and effluent data. (40 CFR §122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR §122.41(h); Wat. Code, §13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR §122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR §122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR §122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR §122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR §122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall

operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR §122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR §122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR §122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR §122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR §122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR §122.41(l)(6)(i).)

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

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

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR §122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR §122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR §122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR §122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR §122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR §122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR §122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this 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 CFR §122.42(b)):

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

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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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 state regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected.
001	EFF-001	Downstream from the last connection through which wastes can be admitted into the outfall to the North Fork Calaveras River.
--	LND-001	A location where a representative sample of the effluent to the Designated Land Disposal Area (DLDA) can be collected.
--	RSW-001	100 feet upstream from the point of discharge in the North Fork Calaveras River.
--	RSW-002	250 feet downstream from the point of discharge in the North Fork Calaveras River.
--	GW-001	Groundwater monitoring well (identified as MW-1 in the Discharger's Groundwater Monitoring Reports).
--	GW-002	Groundwater monitoring well (identified as MW-2 in the Discharger's Groundwater Monitoring Reports).
--	GW-003	Groundwater monitoring well (identified as MW-3 in the Discharger's Groundwater Monitoring Reports).
--	BIO-001	A location where a representative sample of biosolids can be obtained.
--	SPL-001	A location where a representative sample of the municipal water supply can be obtained.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-Hour Composite	1/Week	[2]
Total Suspended Solids	mg/L	24-Hour Composite	1/Week	[2]
Non-Conventional Pollutants				
Electrical Conductivity @	µmhos/cm	Grab[3]	1/Quarter	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
25°C				
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]

[1] When discharging to the North Fork Calaveras River, influent samples shall be collected at approximately the same time as effluent samples. Influent monitoring shall be conducted regardless of whether the discharge is to land or surface waters.

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

[3] A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater at EFF-001 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 E-3. Effluent Monitoring

Parameter	Units	Sample Type[1]	Minimum Sampling Frequency[2]	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-Hour Composite	1/Week	[3]
	lbs/day	Calculate	1/Week	[3]
pH	standard units	Grab[4]	1/Day	[3]
Total Suspended Solids	mg/L	24-Hour Composite	1/Week	[3]
	lbs/day	Calculate	1/Week	[3]
Priority Pollutants				
Bis (2-ethylhexyl) Phthalate	µg/L	Grab[5]	1/Month	[3,6]
Chlordane	µg/L	Grab	1/Month	[3,6]
Copper, Total Recoverable	µg/L	Grab	1/Month	[3,6]
Cyanide, Total (as CN)	µg/L	Grab	1/Month	[3,6]
Dichlorobromomethane	µg/L	Grab	1/Month	[3,6]
Zinc, Total Recoverable	µg/L	Grab	1/Month	[3,6]
Non-Conventional Pollutants				
Aluminum, Total Recoverable	µg/L	Grab	1/Quarter	[3,7]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week[8,9]	[3]
	lbs/day	Calculate	1/Week	[3]
Chlorine, Total Residual	mg/L	Meter	Continuous[10]	[3]
Diazinon	µg/L	Grab	1/Month	[3]
	lbs/day	Calculate	1/Month	[3]
Dissolved Oxygen	mg/L	Grab[3]	1/Day	[3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[3]	1/Week	[3]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month[11]	[3]

Parameter	Units	Sample Type[1]	Minimum Sampling Frequency[2]	Required Analytical Test Method
Iron, Total Recoverable	µg/L	Grab	1/Month	[3]
Manganese, Total Recoverable	µg/L	Grab	1/Quarter	[3]
Methylene Blue Active Substances	µg/L	Grab	1/Quarter	[3]
Nitrate, Total (as N)	mg/L	Grab	1/Month	[3]
Nitrite, Total (as N)	mg/L	Grab	1/Month	[3]
Settleable Solids	ml/L	Grab	1/Week	[3]
Temperature	°C	Grab[4]	1/Day	[3]
Total Coliform Organisms	MPN/100 mL	Grab	1/Week	[3]
Total Dissolved Solids	mg/L	Grab	1/Month	[3]
Turbidity	NTU	Grab	1/Month	[3]

1 Monitoring required only when discharging to surface water.

2 Time of collection of samples shall be recorded. Samples collected from the outfall having passed through the polishing ponds shall be considered adequately composited.

3 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

4 A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

5 In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected pollutant.

6 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

7 The analyses for aluminum can be evaluated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

8 Concurrent with whole effluent toxicity monitoring.

9 pH and temperature shall be recorded at the time of ammonia sample collection.

10 Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.

11 Concurrent with monitoring for copper and zinc.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – The Discharger shall perform acute toxicity testing twice per surface water discharge season (1 November through 30 April), concurrent with effluent ammonia sampling.

2. *Sample Types* – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the

discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.

3. *Test Species* – Test species shall be fathead minnows (*Pimephales promelas*).

4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* –The Discharger shall perform annual three species chronic toxicity testing.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 sampling location, as identified in the Monitoring and Reporting Program.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity 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).

5. *Methods* – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition,* EPA/821-R-02-013, October 2002.

6. *Reference Toxicant* – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – For regular and accelerated chronic toxicity testing it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	50	25	12.5	6.25	Receiving Water	Laboratory Water
% Effluent	100	50	25	12.5	6.25	0	0
% Receiving Water	0	50	75	87.5	93.75	100	0
% Laboratory Water	0	0	0	0	0	0	100

8. *Test Failure* –The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI.C.2.a.iii.)

C. WET Testing Notification Requirements. The Discharger shall notify the Regional Water Board within 24-hrs after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as $100/LC_{50}$, $100/EC_{25}$, $100/IC_{25}$, and $100/IC_{50}$, as appropriate.

b. The statistical methods used to calculate endpoints;

c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

d. The dates of sample collection and initiation of each toxicity test; and

e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE. (Note: items a through c, above, are only required when testing is performed using the full dilution series.)

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes (if applicable):

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

   c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location LND-001

1. The Discharger shall monitor effluent discharged to the DLDA at LND-001 as follows:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow to Storage Ponds	MGD	Meter	Continuous	--
Flow to Disposal Trenches	MGD	Meter	1/Day	--

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 25°C)	mg/L	24-Hour Composite	1/Week	[1]
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[1]
Settleable Solids	ml/L	Grab	1/Week	[1]
Total Coliform Organisms	MPN/100 mL	Grab	1/Week	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

VII. RECLAMATION MONITORING REQUIREMENTS

[Not Applicable]

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor the North Fork Calaveras River at RSW-001 and RSW-002 as follows:

Table E-6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow[2]	MGD	Meter	1/Day	--
Dilution Factor	River Flow/ Effluent Flow	Calculate	1/Day	--
Conventional Pollutants				
pH	standard units	Grab[3]	1/Week[4]	[5]
Non-Conventional Pollutants				
Ammonia Nitrogen, Total (as N)	µg/L	Grab	1/Month	[5]
Dissolved Oxygen	mg/L	Grab[3]	1/Week	[5]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[3]	1/Week	[5]
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Month	[5]
Hardness (as $CaCO_3$)	mg/L	Grab	2/Month	[5]
Temperature	°C	Grab[3]	1/Week[3]	[5]
Turbidity	NTU	Grab	2/Month	[5]

[1] Monitoring required only when discharging to surface water.
[2] Monitoring required at Monitoring Location RSW-001 only.
[3] A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
[4] Monitoring for pH and temperature shall be conducted concurrently with ammonia sampling.
[5] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the North Fork Calaveras River. Attention shall be given to the presence of:

   a. Floating or suspended matter;
   b. Discoloration;
   c. Bottom deposits;
   d. Aquatic life;
   e. Visible films, sheens, or coatings;
   f. Fungi, slimes, or objectionable growths; and
   g. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in the monitoring report.

B. Monitoring Locations GW-001, GW-002, and GW-003

1. The Discharger shall monitor the groundwater at GW-001, GW-002, and GW-003 as follows:

Table E-7. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Groundwater Elevation[1]	feet	Measure	1/Quarter	--
Conventional Pollutants				
pH	standard units	Grab	1/Quarter	[2]
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[2]
Standard Minerals[2]	mg/L	Grab	1/Year	[2]
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter	[2]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]

[1] The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
[3] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's *POTW Sludge Sampling and Analysis*

Guidance Document, August 1989, and tested for metals listed in 40 CFR Part 122, Appendix D, Table III (excluding total phenols).

b. Sampling records shall be retained for a minimum of **5 years**. A log shall be maintained of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for part of the annual report.

c. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and the most recent quantitative results of chemical analysis for the metals listed in 40 CFR Part 122, Appendix D, Table III (excluding total phenols). In addition to USEPA's POTW *Sludge Sampling and Analysis Guidance Document*, August 1989, suggested methods for analysis of sludge are provided in USEPA publications titled "*Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*" and "*Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e).

B. Municipal Water Supply

1. Monitoring Location SPL-001

The Discharger shall monitor the Municipal Water Supply at SPL-001 as follows. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

Table E-8. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter[1]	[2]
Standard Minerals[3]	mg/L	Grab	1/Year	[2]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]

[1] If the water supply is from more than one source, electrical conductivity shall be reported as a weighted average and include copies of supporting calculations.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
[3] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

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. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

4. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

5. **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 (± 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.

6. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL 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:

   a. 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.

   b. 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.

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. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.

3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.

4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be

included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.

7. 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:

   Regional Water Quality Control Board
   Central Valley Region
   NPDES Compliance and Enforcement Unit
   11020 Sun Center Dr., Suite #200
   Rancho Cordova, CA 95670-6114

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

Table E-9. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	First day of calendar month following permit effective date	All	First day of second calendar month following month of sampling.
1/Day	First day of calendar month following permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling.
1/Week	First Sunday following first day of calendar month following permit effective date	Sunday through Saturday	First day of second calendar month following month of sampling.
2/Month	First day of calendar month following permit effective date	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Month	First day of calendar month following permit effective date	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Quarter	Closest of 1 January, 1 April, 1 July, or 1 October following permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February
2/Year	Closest of 1 January or 1 July following permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February
1/Year	1 January following permit effective date	1 January through 31 December	1 February

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 Discharger 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 cannot be accepted unless they follow the exact same format as EPA form 3320-1.

D. Other Reports

1. **Progress Reports.** As specified in the Special Provisions, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

Table E-10. Reporting Requirements for Special Provisions Progress Reports

Special Provision	Reporting Requirements
Annual report describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year (section VI.C.2.c)	**30 January**, annually
Compliance Schedules for Final Effluent Limitations for Ammonia and Diazinon, compliance with final effluent limitations.	**1 June,** annually, until final compliance

2. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of*

California, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.

3. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in Standard Provisions. Facilities (such as wet wells, regulated impoundments, tanks, highlines, *etc*.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.

4. **Annual Operations Report**. By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

   b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

   c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

   d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

   e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

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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 F-1. Facility Information

WDID	5B050103001
Discharger	San Andreas Sanitary District
Name of Facility	Wastewater Treatment Plant
Facility Address	675 Gold Oak Road
	San Andreas, CA 95249
	Calaveras County
Facility Contact, Title and Phone	Steve Schimp, District Manager, 209-754-3281
Authorized Person to Sign and Submit Reports	Steve Schimp, District Manager, 209-754-3281
Mailing Address	P.O. Box 1630
	San Andreas, CA 95249
Billing Address	Same as mailing address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facility Permitted Flow	1.5 million gallons per day (MGD)
Facility Design Flow	0.4 MGD (average dry weather flow); 0.9 MGD (peak wet weather flow)
Watershed	Upper Calaveras Watershed
Receiving Water	North Fork Calaveras River
Receiving Water Type	Inland surface water

A. The San Andreas Sanitary District (hereinafter Discharger) is the owner and operator of the San Andreas Sanitary District Wastewater Treatment Plant (hereinafter Facility), a POTW.

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

B. The Facility discharges wastewater to the North Fork Calaveras River, a water of the United States, and is currently regulated by Order No. R5-2003-0151 which was adopted on 17 October 2003 and expired on 15 October 2008. The terms and conditions of Order No. R5-2003-0151 have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 18 April 2008.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the community of San Andreas in Calaveras County and serves a population of approximately 2,200 residents with approximately 1,840 service connections. The design average dry weather flow capacity is 0.4 MGD and the peak wet weather flow capacity is 0.9 MGD. The Facility does not have any significant industrial users. San Andreas is the county seat of Calaveras County and experiences a substantial influx in population during the day because of the high school, government centers, and tourism.

Order No. R5-2003-0151 authorized the discharge of wastewater to San Andreas Creek and the North Fork Calaveras River. Order No. R5-2003-0151 required that discharges to San Andreas Creek that do no receive 20:1 dilution as a daily average after 1 April 2006 receive tertiary treatment. Order No. R5-2003-0151 also prohibited the discharge of secondary treated wastewater to the North Fork Calaveras River in quantities which do not receive a minimum of 20:1 dilution as a daily average. During the term of Order No. R5-2003-0151, the Discharger completed construction of an outfall pipeline to the North Fork Calaveras River and discontinued the discharge of secondary treated wastewater to San Andreas Creek as of 30 April 2008.

A. Description of Wastewater and Biosolids Treatment or Controls

The treatment system at the Facility consists of a grit removal chamber, mechanical screen (for solids removal), Parshall flume, flow metering, storm flow by-pass device for diverting excessive storm inflow to the high flow treatment system and storage reservoir, pre-aeration basin, primary clarifier, re-circulating trickling filter, secondary clarifier, sodium hypochlorite contact chamber, sodium bisulfite dechlorination unit, heated unmixed anaerobic digester, sludge drying beds, three post-secondary effluent polishing ponds, and a 6 million gallon storage reservoir (Pond D). The treatment train is

designed for 0.4 MGD average dry weather flows and 0.9 MGD peak wet weather flows. The Discharger's high flow treatment system allows them to divert effluent to Pond D and return wastewater for retreatment and discharge when conditions permit. A diesel power generator is on-site for use in the event of electrical power loss.

The Discharger owns approximately 180 acres of land for disposal which is known as the Dedicated Land Disposal Area (DLDA). The currently developed portions of the DLDA consists of 70 acres on which are located Pond D and about 32 acres of effective land disposal area. In addition to these 70 acres, the DLDA also includes 110 acres of undeveloped land adjacent to the Facility referred to as the Nielson Property, which the Discharger purchased in 1992. Of the 110 acres, it is estimated that slightly less than 38 acres is useable disposal area with some provisions for storage on the site. A portion of the piping for transport of effluent to the Nielson Property has been installed; however, the Discharger does not plan to develop this portion of the DLDA further until effluent storage and disposal facilities are found to be needed and the parties needing the expanded effluent storage and disposal facilities have funded the design and construction of the facilities.

Disposal of treated wastewater is accomplished exclusively to land from 1 May through 31 October of each year. Treated wastewater is first held in the effluent storage reservoir, and then pumped to on-site evaporation, transpiration, and percolation ditches. The disposal ditches have a total length of approximately 2 miles, and vary in depth from about 1.5 to 3 feet and in width from about 2 to 4 feet. Excess effluent from the trenches is returned to the storage reservoir via a return ditch. Storm water runoff from the effluent disposal area is returned to storage when the DLDA is in use. During the remainder of the year, storm water runoff is not contained. Vegetation control in the DLDA is accomplished through prescribed burns by the local public fire agency.

From 1 November through 30 April, treated effluent is discharged to the DLDA to the extent feasible. Treated effluent that cannot be discharged to land is discharged to the North Fork Calaveras River via a cross river diffuser. Effluent that cannot be applied to land or discharged to the river is stored in Pond D for subsequent disposal when conditions permit. If the subsequent discharge is to the North Fork Calaveras River, the stored effluent is returned to the treatment process for complete retreatment prior to river discharge. Discharge to surface waters is prohibited during the period of 1 May through 31 October of each year.

The Discharger treats all primary and secondary sludge in a heated unmixed anaerobic digester. Drying of digested sludge is accomplished using sand drying beds. Dried sludge is disposed of at the Calaveras County Landfill.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 18, T4N, R12E, MDB&M, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point No. 001 to the North Fork Calaveras River, a water of the United States, and a tributary to New Hogan Reservoir at a point Latitude 38° 12' 39" N and longitude 120° 42' 20" W.

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

1. Effluent limitations contained in Order No. R5-2003-0151 for discharges to San Andreas Creek and representative monitoring data from the term of Order No. R5-2003-0151 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data for Discharges to San Andreas Creek

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008)		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30[1]	45[1]	60[1]	36	71	71
	mg/L	10[2]	15[2]	20[2]			
	lbs/day[3]	375[1]	563[1]	751[1]	124	405	405
	lbs/day[3]	125[2]	188[2]	250[2]			
	% Removal	85	--	--	78[4]	--	--
Total Suspended Solids	mg/L	30[1]	45[1]	60[1]	42	142	142
	mg/L	10[2]	15[2]	20[2]			
	lbs/day[3]	375[1]	563[1]	751[1]	194	627	627
	lbs/day[3]	125[2]	188[2]	250[2]			
	% Removal	85	--	--	77[4]	--	--
Settleable Solids	ml/L	0.1	--	0.2	0.31	--	1.2
Total Coliform	MPN/100 mL	--	23[1,5]	230[1]	--	--	900
	MPN/100 mL	--	2.2[2,6]	23[2]			
Turbidity[2]	NTU	--	2[2,7]	5[2]	--	--	49.9
Chlorine Residual	µg/L	--	11[8]	19[9]	--	130[10]	230
	lbs/day[3]	--	0.14[8]	0.24[9]	--	0.366[10]	0.653
Copper (Total)	µg/L	[11,12]	--	[11,12]	39	--	50
	µg/L	105[13]	--	--			
	lbs/day[3]	[11,14]	--	[11,14]	0.12	--	0.192
	lbs/day[3]	1.3[13]	--	--			
Zinc (Total)	µg/L	[11,15]	--	[11,15]	248	--	270
	µg/L	510[13]	--	--			
	lbs/day[3]	[11,16]	--	[11,16]	0.754	--	0.981
	lbs/day[3]	6.4[13]	--	--			
Dichlorobromomethane	µg/L	0.56[11]	--	1.1[11]	0.85	--	1.6
	µg/L	2.1[13]	--	--			
	lbs/day[3]	0.007[11]	--	0.014[11]	0.009	--	0.017
	lbs/day[3]	0.026[13]	--	--			
Bis (2-ethylhexyl) phthalate	µg/L	1.8	--	3.6	28	--	55
	lbs/day[3]	0.023	--	0.045	0.08	--	0.16
Aluminum (Total)	µg/L	83	--	143	1,015	--	1,390
	lbs/day[3]	1.04	--	1.8	3.42	--	6.15
Ammonia (Total)	mg/L	[17]	--	[18]	12.2	--	14
	lbs/day[3]	[19]	--	[20]	31.5	--	86.8

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008)		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Nitrate + Nitrite (as Nitrogen)	mg/L	10	--	--	9.5	--	--
	lbs/day[3]	125	--	--	27.3	--	--
Iron	µg/L	300	--	--	1,115	--	--
	lbs/day[3]	3.8	--	--	6.7	--	--
Manganese	µg/L	50	--	--	300	--	--
	lbs/day[3]	0.63	--	--	1.45	--	--
Methylene Blue Active Substances	µg/L	500	--	--	3350	--	--
	lbs/day[3]	6.3	--	--	7.76	--	--
Diazinon	µg/L	0.04	--	0.08	0.42	--	0.42
	lbs/day[3]	0.0005	--	0.001	0.00043	--	0.00043
pH	standard units	--	--	[21]	--	--	[22]
Flow	MGD	--	--	[23]	--	--	1.534
Acute Toxicity	% Survival	--	--	[24]	--	--	80

[1] Applicable to secondary treated effluent discharged to San Andreas Creek when the effluent receives 20:1 dilution.
[2] Applicable to tertiary treated effluent discharged to San Andreas Creek when the effluent does not receive 20:1 dilution as of 1 April 2006.
[3] Based upon a wet weather design discharge capacity of 1.5 MGD.
[4] Represents the minimum observed reported average monthly percent removal.
[5] Applied as a monthly median effluent limitation.
[6] Applied as a 7-day median effluent limitation.
[7] Applied as a daily average effluent limitation.
[8] Applied as a maximum 4-day average effluent limitation.
[9] Applied as a maximum 1-hour average effluent limitation.
[10] Represents the maximum observed 4-day average value.
[11] Final effluent limitation effective 1 October 2008.
[12] Floating effluent limitations calculated in accordance with Attachment C of Order No. R5-2003-0151.
[13] Interim limitation effective until 30 September 2008.
[14] Using the value, in mg/L, determined from Attachment C of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[15] Floating effluent limitations calculated in accordance with Attachment E of Order No. R5-2003-0151.
[16] Using the value, in mg/L, determined from Attachment E of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[17] Floating effluent limitations calculated in accordance with Attachment G of Order No. R5-2003-0151.
[18] Floating effluent limitations calculated in accordance with Attachment H of Order No. R5-2003-0151.
[19] Using the value, in mg/L, determined from Attachment G of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[20] Using the value, in mg/L, determined from Attachment H of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[21] The discharge shall not have a pH less than 6.5 nor greater than 8.5.
[22] Daily pH values ranged from 6.0 to 9.82.
[23] The peak wet weather flow through the trickling filter treatment facility shall not exceed 0.9 MGD. The discharge flow shall not exceed 1.5 MGD.
[24] Survival of aquatic organisms in 96-hour acute bioassays of undiluted waste shall be no less than:
Minimum for any one bioassay ---------- 70%
Median for any three or more consecutive bioassays---------- 90%

2. Effluent limitations contained in Order No. R5-2003-0151 for discharges to the North Fork Calaveras River and representative monitoring data from the term of Order No. R5-2003-0151 are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data for Discharges to the North Fork Calaveras River

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008)[1]		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	36	71	71
	lbs/day[2]	375	563	751	124	405	405
	% Removal	85	--	--	78[3]	--	--
Total Suspended Solids	mg/L	30	45	60	42	142	142
	lbs/day[2]	375	563	751	194	627	627
	% Removal	85	--	--	77[3]	--	--
Settleable Solids	ml/L	0.1	--	0.2	0.31	--	1.2
Total Coliform	MPN/100 mL	--	23[4]	230	--	--	900
Chlorine Residual	µg/L	--	11[5]	19[6]	--	130[7]	230
	lbs/day[2]	--	0.14[5]	0.24[6]	--	0.366[7]	0.653
Copper (Total)	µg/L	[8,9]	--	[8,9]	39	--	50
	µg/L	105[10]	--	--			
	lbs/day[2]	[9,11]	--	[9,11]	0.12	--	0.192
	lbs/day[2]	1.3[10]	--	--			
Zinc (Total)	µg/L	[9,12]	--	[9,12]	248	--	270
	µg/L	510[10]	--	--			
	lbs/day[3]	[9,13]	--	[9,13]	0.754	--	0.981
	lbs/day[3]	6.4[13]	--	--			
Dichlorobromomethane	µg/L	2.1[10]	--	--	0.85	--	1.6
	lbs/day[2]	0.026[10]	--	--	0.009	--	0.017
Bis (2-ethylhexyl) phthalate	µg/L	13.7[10]	--	--	28	--	55
	lbs/day[2]	0.17[10]	--	--	0.08	--	0.16
Aluminum (Total)	µg/L	216	--	373	1,015	--	1,390
	lbs/day[2]	2.7	--	4.7	3.42	--	6.15
Ammonia (Total)	mg/L	--	--	[14]	12.2	--	14.0
	lbs/day[3]	--	--	[15]	39.32	--	86.80
pH	standard units	--	--	[16]	--	--	[17]
Flow	MGD	--	--	[18]	--	--	1.534
Acute Toxicity	% Survival	--	--	[19]	--	--	80

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008)[1]		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge

[1] Note that the Discharger has not previously discharged to the North Fork Calaveras River. Reported values represent secondary treated effluent discharged to San Andreas Creek.
[2] Based upon a wet weather design discharge capacity of 1.5 MGD.
[3] Represents the minimum observed reported average monthly percent removal.
[4] Applied as a monthly median effluent limitation.
[5] Applied as a maximum 4-day average effluent limitation.
[6] Applied as a maximum 1-hour average effluent limitation.
[7] Represents the maximum observed 4-day average value.
[8] Floating effluent limitations calculated in accordance with Attachment D of Order No. R5-2003-0151.
[9] Final effluent limitation effective 1 October 2008.
[10] Interim limitation effective until 30 September 2008.
[11] Using the value, in mg/L, determined from Attachment D of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[12] Floating effluent limitations calculated in accordance with Attachment F of Order No. R5-2003-0151.
[13] Using the value, in mg/L, determined from Attachment F of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[14] Floating effluent limitations calculated in accordance with Attachment H of Order No. R5-2003-0151.
[15] Using the value, in mg/L, determined from Attachment H of Order No. R5-2003-0151, calculate lbs/day using the formula: z mg/L x 8.345 x 1.5 MGD = y lbs/day.
[16] The discharge shall not have a pH less than 6.5 nor greater than 8.5.
[17] Daily pH values ranged from 6.0 to 9.82.
[18] The peak wet weather flow through the trickling filter treatment facility shall not exceed 0.9 MGD. The discharge flow shall not exceed 1.5 MGD.
[19] Survival of aquatic organisms in 96-hour acute bioassays of undiluted waste shall be no less than:
Minimum for any one bioassay ---------- 70%
Median for any three or more consecutive bioassays---------- 90%

D. Compliance Summary

1. An inspection of the Facility was conducted on 7 May 2008. The following is a summary of the major findings from the inspection report:

   a. Records and reports were maintained according to requirements in Regional Board Order No. R5-2003-0151, Regional Board NPDES Standard Provisions, and 40 CFR Part 122.

   b. According to the Facility representative, the Facility had not experienced a wastewater spill or bypass in recent years.

   c. The following effluent limitation exceedances for discharges to San Andreas Creek were identified during the inspection:

      i. Total aluminum monthly average, diazinon monthly average, diazinon daily maximum, bis (2-ethylhexyl) phthalate monthly average, bis (2-ethylhexyl) phthalate daily maximum, methylene blue active substances (MBAS) monthly average, and total manganese monthly average.

2. The Regional Water Board adopted Administrative Civil Liability (ACL) Complaint No. R5-2008-0581 on 22 September 2008. The Regional Water Board found in ACL Complaint No. R5-2008-0581 that the Discharger committed three serious violations and 18 non-serious violations of effluent limitations contained in Order Nos. 95-033, 5-01-118, and R5-2003-0151. The Regional Water Board issued Mandatory Minimum Penalties (MMPs) of $33,000 for these violations of effluent limitations.

E. Planned Changes

Order No. R5-2003-0151 included a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that, at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. Therefore, the Discharger requested in the permit application the authorization to discharge when the effluent receives 10:1 dilution. In order for the Regional Water Board to authorize discharges to the North Fork Calaveras River when the effluent does not receive 20:1 dilution, additional treatment will be required to protect the beneficial uses of the receiving water. In anticipation of the requirements to be imposed upon authorization to discharge effluent that receives less than 20:1 dilution, the Discharger is currently planning for several improvements to the existing treatment facilities. These improvements include:

1. Addition of a post-trickling filter extended aeration activated sludge process to reduce effluent ammonia concentrations and increase the treatment facility peak flow capacity from 0.9 MGD to 1.5 MGD to eliminate the need for the existing high flow treatment system (although the high flow treatment system will remain in place);

2. Addition of effluent filters to produce an equivalent tertiary effluent quality of less than or equal to 10 mg/L for BOD_5 and TSS and less than or equal to 2 NTU for turbidity; and

3. Modification of the existing chlorination system to facilitate compliance with a 7-day median total coliform concentration of less than or equal to 2.2 MPN/100 mL.

The Discharger plans to have these improvements completed and operable by the winter 2009/2010 surface water discharge season; however funding for these improvements has not yet been secured. Effluent limitations for secondary treatment are included in this Order. Upon upgrades to the Facility, this Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on BOD_5, TSS, total coliform organisms, and turbidity.

As discussed in section II.A of this Fact Sheet, the Discharger previously purchased the Nielson Property for the purpose of additional effluent storage and disposal. In the Discharger's December 2007 Initial Study/Mitigated Negative Declaration, the Discharger proposed the installation of three new storage ponds, installation of a spray irrigation system and an emergency run-off ditch berm system for water collection, and the installation of several groundwater monitoring wells. As discussed further in section

IV.D.4 of this Fact Sheet, the Discharger must submit a complete antidegradation analysis in order for the Regional Water Board to authorize additional discharges to land which may result in an increase of pollutants in the underlying groundwater.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authority

See Limitations and Discharge Requirements - Findings, Section II.C.

B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans**. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Ambient receiving water data collected by the Discharger indicates that the North Fork Calaveras River from the source to New Hogan Reservoir is suitable for municipal and domestic supply and the State Water Board maintains an active water rights permit for domestic and irrigation supply use from New Hogan Reservoir downstream of the discharge. Additionally, although agricultural supply including both irrigation and stock watering is not identified in Table II-1 of the Basin Plan as an existing use of the Calaveras River, active water rights permits for stock watering have been identified downstream of the discharge point along the North Fork Calaveras River. Therefore, the beneficial uses of the North Fork Calaveras River downstream of the discharge are municipal and domestic supply; agricultural supply, including irrigation and stock watering; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; warm and cold spawning, reproduction, and/or early development; and wildlife habitat.

   The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a*

prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

2. **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. As discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.) the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.

3. **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 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. Compliance with the anti-backsliding requirements is discussed in Section IV.D.3.

4. **Emergency Planning and Community Right to Know Act**. Section 13263.6(a), California Water Code, requires that "*the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause,*

have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective".

The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to CWC section 13263.6(a).

However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

5. **Storm Water Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the Federal Regulations.

6. **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.

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

1. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 Section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" The North Fork Calaveras River is not specifically listed in the 303(d) list of impaired waters. The Lower Calaveras River is listed as a WQLS for diazinon,

organic enrichment/ low dissolved oxygen, and pathogens in the 303(d) list of impaired water bodies.

2. **Total Maximum Daily Loads.** The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. TMDLs have not been developed for the North Fork Calaveras River.

E. Other Plans, Polices and Regulations

1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq*. (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

   a. The waste consists primarily of domestic sewage and treated effluent;

   b. The waste discharge requirements are consistent with water quality objectives; and

   c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The Federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 CFR, §122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 CFR §122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality*." Federal Regulations, 40 CFR, §122.44(d)(1)(vi), further provide that "[w]*here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.*"

The CWA requires point source discharges 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: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-17.00, contains an implementation policy ("Policy for Application of Water Quality Objectives") that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR §122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) USEPA's published water quality criteria, (2) a proposed state criterion (*i.e*., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e*., the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR §§122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

1. As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

2. Order No. R5-2003-0151 contained a prohibition of discharges to the North Fork Calaveras River from 1 May through 31 October. This prohibition is retained in this

Order. Due to limited effluent storage facilities, recent wet weather events observed during the months of May and October, increased hydraulic capacity of the collection system to prevent sanitary sewer overflows (SSOs), and levels of infiltration and inflow (I/I), the Discharger requested in the ROWD to extend the permitted period of surface water discharge from 1 November through 30 April to 16 October through 31 May. However, the ROWD also indicates that the Discharger is planning the development of additional effluent storage and disposal facilities on the Nielson Property. In order to authorize an extension of the surface water discharge season, the Discharger must submit a report evaluating the use of the additional land disposal area as an alternative to extension of the surface water discharge season. Should the Discharger submit an evaluation demonstrating that utilizing the additional land disposal does not mitigate the need for extension of the surface water discharge season, this Order may be reopened to modify the prohibition to extend the permitted period of surface water discharge.

3. Order No. R5-2003-0151 contained a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. The California Department of Public Health (DPH; formerly the Department of Health Services) has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median. Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "…*an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities*." Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by DPH's reclamation criteria for receiving waters used for irrigation of agricultural land and for contact recreation purposes. The Discharger cannot currently provide an equivalent level of treatment required by DPH's reclamation criteria for discharges that do not receive 20:1 dilution. Therefore, this Order retains the prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. Upon upgrades to the Facility to provide tertiary level of treatment or equivalent, this Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on BOD_5, TSS, total coliform organisms, and turbidity.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Regulations promulgated in section 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month.

   The Discharger has requested the ability to discharge when 20:1 dilution is not available; however this request will not be authorized until the Discharger upgrades the Facility to provide tertiary treatment. Upon upgrades to the Facility, the Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on BOD_5 and TSS.

b. **pH.** Regulations at 40 CFR Part 133 also establish technology-based effluent limitations for pH. The secondary treatment standards require the pH of the effluent to be no lower than 6.0 and no greater than 9.0 standard units.

c. **Flow.** The Facility was designed to treat an average dry weather flow of 0.4 MGD and a peak flow capacity of 0.9 MGD. The Discharger also has three effluent polishing ponds that allow the Discharger to store treated effluent until receiving

water levels permit, resulting in a hydraulic capacity of 1.5 MGD for the Facility. Order No. R5-2003-0151 contained effluent limitations for flow, specifying that the discharge flow shall not exceed 1.5 MGD. Because this Order authorizes discharges during the wet-weather season (1 November through 30 April), effluent flow limitations based on the design peak wet weather flow capacity and the hydraulic capacity of the Facility are appropriate. Therefore, flow limitations have been retained from Order No. R5-2003-0151.

As part of the proposed upgrades to the Facility to provide tertiary treatment, the Discharger is planning to increase the peak flow capacity to 1.9 MGD. The Discharger must submit to the Regional Water Board a complete antidegradation analysis in order for an increase in discharge flow to be authorized. Upon upgrades to the Facility and submission of a complete antidegradation analysis, this Order may be reopened to allow for an increase in discharge flow.

Summary of Technology-based Effluent Limitations
Discharge Point No. 001

Table F-4. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	--	--
	lbs/day[1]	375	563	751	--	--
	% Removal	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day[1]	375	563	751	--	--
	% Removal	85	--	--	--	--
pH	standard units	--	--	--	6.0	9.0
Flow	MGD	--	--	[2]	--	--

[1] Based on permitted flow of 1.5 MGD.
[2] The average daily discharge flow to the North Fork Calaveras River shall not exceed 1.5 MGD.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in section 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. 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

a. **Receiving Water.** Treated municipal wastewater is discharged from Discharge Point No. 001 to the North Fork Calaveras River, which is tributary to New Hogan Reservoir, from 1 November through 30 April. The beneficial uses of the North Fork Calaveras River are listed in Section III.C of this Fact Sheet.

b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness, the lower the hardness the lower the water quality criteria. The hardness-dependent metal criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual hardness conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.[1] The CTR does not define whether the term “ambient,” as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions.

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria. Recent studies indicate that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective of the receiving water under various mixing conditions (e.g. when the effluent hardness is less than the receiving water hardness). The studies evaluated the relationships between hardness and the CTR metals criterion that is calculated

[1] See 40 CFR 131.38(c)(4)(i)

using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

$$\text{CTR Criterion} = e^{m[\ln(H)]+b} \qquad \text{(Equation 1)}$$

Where:

H = Design Hardness
b = metal- and criterion-specific constant
m = metal- and criterion-specific constant

The constants “m” and “b” are specific to both the metal under consideration, and the type of total recoverable criterion (i.e. acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The relationship between the Design Hardness and the resulting criterion in Equation 1 can exhibit either a downward-facing (i.e., concave downward) or an upward-facing (i.e., concave upward) curve depending on the values of the criterion-specific constants. The curve shapes for acute and chronic criteria for the metals are as follows:

Concave Downward: cadmium (chronic), chromium (III), copper, nickel, and zinc

Concave Upward: cadmium (acute), lead, and silver (acute)

For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness, use of the lowest recorded effluent hardness as a representation of the downstream receiving water hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. Use of the lowest recorded effluent hardness is also protective under all possible mixing conditions between the effluent and the receiving water (i.e., from high dilution to no dilution). Therefore, for cadmium (chronic), chromium (III), copper, nickel, and zinc, the reasonable worst-case ambient hardness can be estimated by using the lowest effluent hardness. The water quality criteria for these metals were calculated for this Order using Equation 1 and a reported minimum effluent hardness of 59 mg/L as $CaCO_3$, based on 31 samples obtained by the Discharger between1 November 2005 and 30 April 2008.

For those metals where the regulatory criteria exhibit a concave upward relationship as a function of hardness, water quality objectives based on either the effluent hardness or the receiving water hardness alone, would not be protective under all mixing scenarios. Instead, both the use of the hardness of the upstream receiving water and the effluent is used to represent the reasonable worst-case ambient hardness. In this case, using the lowest upstream receiving water hardness in Equation 2, below, is protective if the effluent hardness is ALWAYS higher than the receiving water hardness. Under circumstances where

the effluent hardness is not ALWAYS higher than the receiving water hardness, it may be appropriate to use the highest reported upstream receiving water hardness in Equation 2. The following equation provides fully protective water quality criteria for those metals that exhibit a concave upward relationship.

$$\text{CTR Criterion} = \left[\frac{m}{H_{rw}} \cdot \left(H_{eff} - H_{rw} \right) + 1 \right] \cdot e^{m \cdot \ln(H_{rw}) + b} \quad \text{(Equation 2)}$$

Where:

H_{eff} = effluent hardness
H_{rw} = upstream receiving water hardness
b = metal- and criterion-specific constant
m = metal- and criterion-specific constant

Therefore, for cadmium (acute), lead, and silver (acute) water quality criteria were calculated using Equation 2 with a lowest reported effluent hardness of 59 mg/L as $CaCO_3$ and a lowest reported upstream receiving water hardness of 40 mg/L as $CaCO_3$, which was reported in the Discharger's application.

c. **Assimilative Capacity/Mixing Zone.** Provision G.6 of Order No. R5-2003-0151 required the Discharger to conduct a Dilution/Mixing Zone Study to address the requirements of SIP Section 1.4.2, including, but not limited to, whether the discharge to the Calaveras River is completely or incompletely mixed and if mixing zone conditions are in accordance with Section 1.4.2.2 of the SIP. The study was also required specifically to address dilution and mixing zone issues as they pertained to final effluent limitations for copper, zinc, dichlorobromomethane, bis (2-ethylhexyl) phthalate, aluminum, ammonia, nitrate plus nitrite, iron, manganese, diazinon, and MBAS. The Discharger conducted the required Dilution/Mixing Zone Study in April 2004 and results of the study were provided to the Regional Water Board on 11 June 2004. On 29 July 2008, the Regional Water Board requested the Discharger to evaluate mixing in the North Fork Calaveras River using the USGS mixing model equation and the data provided in the Dilution/Mixing Zone Study. The Discharger submitted an evaluation of the Dilution/Mixing Zone Study on 25 August 2008.

Order No. R5-2003-0151 included a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that, at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. Therefore, the Discharger has proposed to install tertiary treatment by the winter 2009/2010 surface water discharge season to adequately protect beneficial uses when 20:1 dilution is not achieved; however funding has not yet been secured. The Discharger requested that this Order require interim effluent limitations based on the protection of aquatic life and human health criteria be calculated using a dilution factor of 19 based on 20:1 dilution until upgrades to

the Facility can be completed. The Discharger also requested that final effluent limitations be calculated using a dilution factor of 9 based on 10:1 dilution effective upon upgrades to the Facility.

, Based on the data collected during the April 2004 study and using the USGS mixing equation, it appears that the discharge is not completely mixed within two stream widths downstream of the diffuser. Furthermore, the study does not adequately address all of the conditions required by section 1.4.2.2. of the SIP, which requires, in part, that a mixing zone shall not cause acutely toxic conditions to aquatic life passing through the mixing zone or restrict the passage of aquatic life and that the point in the receiving water where the applicable criteria/objectives must be met must be identified. The boundaries of the acute and chronic mixing zones have not been identified. Therefore, it is not appropriate to grant dilution credits for the protection of aquatic life at this time. Should the Discharger submit an approved Dilution/Mixing Zone Study that meets the requirements of Section 1.4.2.2 of the SIP, including defining the boundaries of the acute and chronic mixing zones, the Regional Water Board may reopen this Order to include effluent limitations based on an appropriate dilution factor for the protection of aquatic life.

This Order allows for a dilution credit for human health related objectives. Effluent limitations based on the protection human health criteria have been calculated using a dilution factor of 19 based on 20:1 dilution. This approach is appropriate for long-term human health criteria where critical environmental effects are expected to occur several thousand feet downstream from the discharge where complete mixing has occurred. Just over 1 mile downstream of the mixing zone is New Hogan Reservoir, which is wider and significantly higher in flows than the upstream section of the discharge. There are no known municipal water supply intakes within the vicinity of the mixing zone.

This Order includes Discharge Prohibition III.F. that requires at least a 20:1 flow ratio (North Fork Calaveras River : effluent) at all times. Therefore, a dilution credit of 20:1 is allowed for compliance with long-term human health criteria. The dilution study predicted that after two stream widths (i.e., approximately 120 feet for the 60-foot wide reach of the river) the discharge was approximately 80 percent mixed. The Regional Water Board conservatively estimates that complete mixing will occur 250 feet downstream of the discharge, which will serve as the boundary for the human health mixing zone.

Consistency with Mixing Zone Requirements. This Order only allows a mixing zone for human health criteria. This Order does not allow mixing zones for compliance with aquatic toxicity criteria. The mixing zone is as small as practicable, will not compromise the integrity of the entire water body, restrict the passage of aquatic life, dominate the waterbody or overlap existing mixing zones from different outfalls. The discharge enters the North Fork Calaveras River just over 1 mile upstream of New Hogan Reservoir, which is a source of drinking water. The human health criteria mixing zone extends 250 feet downstream of

the discharge. There is significant dilution, much more than the allowed 20:1 in this Order, prior to any drinking water intake at New Hogan Reservoir. There are no drinking water intakes on North Fork Calaveras and the mixing zone does not overlap a mixing zone from another outfall.

The discharge will not cause acutely toxic conditions to aquatic life passing through the mixing zone, because this Order does not allow an acute aquatic life mixing zone and requires compliance with an acute toxicity effluent limitation that requires acute bioassays using 100% effluent (i.e., no dilution). Compliance with the acute toxicity effluent limitation assures the effluent is not acutely toxic.

The discharge will not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws, because this Order does not allow mixing zones for compliance with aquatic toxicity criteria. The Discharger must meet stringent end-of-pipe effluent limitations for constituents that demonstrated reasonable potential to exceed aquatic toxicity criteria (i.e., ammonia, copper, chlordane, cyanide, diazinon, zinc and total residual chlorine).

The discharge will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum, produce objectionable color, odor, taste, or turbidity, cause objectionable bottom deposits, or cause nuisance, because this Order requires end-of-pipe effluent limitations (e.g. for biochemical oxygen demand and total suspended solids) and discharge prohibitions to prevent these conditions from occurring.

As suggested by the SIP, in determining the extent of or whether to allow a mixing zone and dilution credit, the Regional Water Board has considered the presence of pollutants in the discharge that are carcinogenic, mutagenic, teratogenic, persistent, bioaccumulative, or attractive to aquatic organisms, and concluded that the allowance of the mixing zone and dilution credit is adequately protective of the beneficial uses of the receiving water.

The mixing zone therefore complies with the SIP. The mixing zone also complies with the Basin Plan, which requires that the mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zone, the Regional Water Board has considered the procedures and guidelines in the EPA's *Water Quality Standards Handbook*, 2d Edition (updated July 2007), Section 5.1, and Section 2.2.2 of the *Technical Support Document for Water Quality-based Toxics Control* (TSD). The SIP incorporates the same guidelines. For these reasons, the mixing zone will not be adverse to the purpose of the state and federal antidegradation policies.

3. Determining the Need for WQBELs

a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)*" in Title 22 of CCR. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.*"

b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, bis (2-ethylhexyl) phthalate, chlordane, chlorine residual, copper, cyanide, diazinon, dichlorobromomethane, electrical conductivity, iron, pH, settleable solids, total coliform organisms, and zinc. Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. A summary of the reasonable potential analysis (RPA) is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.[2] The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency."* Therefore, in this Order the RPA

[2] See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

d. The Discharger indicated in the ROWD that improvements to the trickling filter resulted in increased pollutant removal for several constituents and requested that only monitoring data collected subsequent to the improvements should be evaluated for the purposes of conducting the RPA. Therefore, only monitoring data collected after 1 November 2005 was used for the RPA. Because the Discharger discharges to surface waters seasonally (1 November through 30 April), only monitoring data conducted during the discharge season was used for purposes of the RPA. Therefore, the period of data used for the RPA consisted of the following:

   1 November 2005 – 30 April 2006
   1 November 2006 – 30 April 2007
   1 November 2007 – 30 April 2008

   Effluent monitoring data used to conduct the RPA included data reported in SMRs and two priority pollutant scans conducted on 2 May 2007 and 2 January 2008. Order No. R5-2003-0151 only required the Discharger to monitor the surface water to which effluent was being discharged to. Because the Discharger has not previously discharged to the North Fork Calaveras River, monitoring of the North Fork Calaveras River was not performed or reported in the SMRs. The Discharger did monitor for priority pollutants in the North Fork Calaveras River on 2 May 2007 and 2 January 2008, which was used to conduct the RPA.

e. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.

f. **Aluminum.** USEPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for aluminum are 87 µg/L and 750 ug/L, respectively. The Secondary Maximum Contaminant Level - Consumer Acceptance Limit for aluminum is 200 µg/L.

   Footnote L to the National Recommended Ambient Water Quality Criteria summary table for aluminum indicates that the chronic aquatic life criterion is based on studies conducted under specific receiving water conditions with a low pH (6.5 to 6.8 pH units) and low hardness (<10 mg/L as $CaCO_3$). Limited monitoring data is available to evaluate the applicability of the chronic criterion for the discharge to the North Fork Calaveras River. However, the available monitoring data demonstrates that these conditions are not similar to those in the North Fork Calaveras River. Order No. R5-2003-0151 indicated that the minimum observed pH of the North Fork Calaveras River was 7.8 and the minimum observed hardness was 60 mg/L. The Discharger reported a minimum observed hardness value of 40 mg/L in the permit renewal application. Additionally, hardness values of 110 mg/L and 130 mg/L were observed on 2 May 2007 and

2 January 2008, respectively. Thus, it is unlikely that application of the chronic criterion of 87 ug/L is necessary to protect aquatic life in the North Fork Calaveras River and USEPA advises that a water effects ratio may be more appropriate to better reflect the actual toxicity of aluminum to aquatic organisms.

In the absence of an applicable chronic aquatic life criterion, the most stringent water quality criterion is the Secondary MCL - Consumer Acceptance Limit for aluminum of 200 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to be applied as an annual average concentration.

The maximum annual average effluent concentration for aluminum was 227 µg/L, based on 28 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water aluminum concentration was 11 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Due to the low levels of aluminum in the receiving water and the consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the Secondary MCL for aluminum.

g. **Ammonia.** Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger does not currently use nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia would violate the Basin Plan narrative toxicity objective. Applying 40 CFR 122.44(d)(1)(vi)(B), it is appropriate to use the NAWQC for the protection of freshwater aquatic life for ammonia.

The National Ambient Water Quality Criteria for the protection of freshwater aquatic life for total ammonia, recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because the North Fork Calaveras River has a beneficial use of cold freshwater habitat and the presence of early fish life stages in the

North Fork Calaveras River is likely during the permitted period of discharge, the recommended criteria for waters where salmonids and early life stages are present were used.

The maximum permitted effluent pH is 8.5, as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5. In order to protect against the worst-case short-term exposure of an organism, a pH value of 8.5 was used to derive the acute criterion. The resulting acute criterion is 2.14 mg/L.

Downstream temperature and pH data is not available. Therefore, effluent temperature and pH data from the Discharger's monthly monitoring reports from 1 November 2005 and 30 April 2008 were used to develop the chronic criteria. Using effluent data, the 30-day CCC was calculated for each day when temperature and pH were measured. The resulting lowest 99.9% 30-day CCC is 4.34 mg/L (as N). The 4-day average concentration is derived in accordance with the USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 4.34 mg/L (as N), the 4-day average concentration that should not be exceeded is 10.9 mg/L (as N).

The Regional Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, USEPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day average, and 30-day CCC is then selected for deriving the AMEL and the MDEL. The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

The MEC for ammonia was 14 mg/L, based on 60 samples collected between 1 November 2005 and 30 April 2008, while ammonia was not detected in the upstream receiving water. Therefore, ammonia in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life resulting in a violation of the Basin Plan's narrative toxicity objective. As discussed in section IV.C.2.c, dilution credits for calculation of effluent limitations based on aquatic life are not being granted. This Order contains a final AMEL and MDEL for ammonia of 1.2 mg/L and 2.1 mg/L, respectively, based on the National Ambient Water Quality Criteria for the protection of freshwater aquatic life (see Attachment F, Table F-6 for WQBEL calculations).

Based on the sample results for the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed,

installed and put into operation within 30 calendar days. The Basin Plan for the Sacramento and San Joaquin River Basins includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (see Basin Plan at page IV-16). The WQBELs for ammonia are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the ammonia effluent limitations is established in the Order.

An interim performance-based maximum daily effluent limitation of 18 mg/L has been established in this Order. The interim limitation was determined as described in Attachment F, Section IV.E.1., and is in effect through **31 January 2014**. As part of the compliance schedule, this Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final ammonia effluent limitations. In addition, the Discharger shall prepare and implement a pollution prevention plan that is in compliance with CWC section 13263.3(d)(3).

h. **Bis (2-ethylhexyl) phthalate.** Bis (2-ethylhexyl) phthalate is used primarily as one of several plasticizers in polyvinyl chloride (PVC) resins for fabricating flexible vinyl products. According to the Consumer Product Safety Commission, USEPA, and the Food and Drug Administration, these PVC resins are used to manufacture many products, including soft squeeze toys, balls, raincoats, adhesives, polymeric coatings, components of paper and paperboard, defoaming agents, animal glue, surface lubricants, and other products that must stay flexible and noninjurious for the lifetime of their use. The State MCL for bis (2-ethylhexyl) phthalate is 4 µg/L and the USEPA MCL is 6 µg/L. The NTR criterion for Human health protection for consumption of water and aquatic organisms is 1.8 µg/L and for consumption of aquatic organisms only is 5.9 µg/L.

The MEC for bis (2-ethylhexyl) phthalate was 55 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008. Of the 31 samples collected, bis (2-ethylhexyl) phthalate was detected 26 times. While the MEC of 55 µg/L is much higher than the remaining detectable concentrations, those detectable concentrations ranged 1 µg/L to 16 µg/L and exceeded the CTR criterion on 23 occasions. Studies conducted by the Discharger indicate that the use of intravenous (IV) bags at the local convalescent home and hospital may potentially be one of the sources of bis (2-ethylhexyl) phthalate at the Facility. Bis (2-ethylhexyl) phthalate was not detected in the receiving water, based on two samples collected on 2 May 2007 and 2 January 2008. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the NTR criterion for bis (2-ethylhexyl) phthalate.

The ambient monitoring demonstrates the receiving water has assimilative capacity for bis (2-ethylhexyl) phthalate. As described in section IV.C.2.c, a dilution credit for bis (2-ethylhexyl) phthalate of up to 20:1 can be granted, based on the available human health dilution. This Order includes an AMEL and MDEL for bis (2-ethylhexyl) phthalate of 25 µg/L and 68 µg/L, respectively, based on the

NTR criterion for the protection of human health (see Attachment F, Table F-7 for WQBEL calculations). Based on the sample results for the effluent, it appears the Discharger can meet these new limitations.

i. **Chlordane.** Chlordane is a persistent chlorinated hydrocarbon pesticide. The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; persistent chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies. The CTR contains a numeric criterion for chlordane of 0.00057 µg/L for freshwaters from which both water and organisms are consumed. The CTR also contains numeric criteria for chlordane of 0.0043 µg/L as a 4-day average (chronic) and 2.4 µg/L as a 1-hour average (acute) for the protection of freshwater aquatic life.

   Chlordane was sampled on 2 January 2008 using EPA Method 608 and EPA Method 505. Using EPA Method 608, chlordane was not detected with a reporting limit of 0.05 µg/L and an MDL of 0.04 µg/L. Using EPA Method 505, chlordane was detected at a concentration of 0.12 µg/L with an MDL of 0.02 µg/L. Although chlordane was not detected using EPA Method 608, the detection of chlordane using the more sensitive test method, EPA Method 505, indicates a reasonable potential to exceed the Basin Plan objective for persistent chlorinated hydrocarbon pesticides. Effluent Limitations for chlordane are included in this Order and are based on the Basin Plan objective of no detectable concentrations of persistent chlorinated hydrocarbon pesticides. Since the Basin Plan objective is no detectable concentrations, there can be no assimilative capacity. The limitation for chlordane is included in this Order based on reasonable potential to cause or contribute to an in-stream excursion of the water quality objective.

   Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. A time schedule for compliance with the chlordane final effluent limitations is established in Time Schedule Order (TSO) No. **R5-2009-XXXX** in accordance with CWC sections 13300 and 13385. Order No. **R5-2009-XXXX** also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

j. **Chlorine Residual.** USEPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for chlorine. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine are 0.011 µg/L and 0.019 µg/L, respectively. The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses sodium bisulfate to dechlorinate the effluent prior to discharge to the North Fork Calaveras River. Due to the existing chlorine use and the potential for chlorine to be discharged, the discharge has a reasonable potential to cause

or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The USEPA *Technical Support Document for Water Quality-Based Toxics Control* [EPA/505/2-90-001] contains statistical methods for converting chronic (4-day) and acute (1-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average 1-hour limitation is considered more appropriate than an average daily limitation. Average 1-hour and 4-day limitations for chlorine, based on these criteria, are included in this Order. Based on data reported during the previous permit term, it appears as if the Discharger can immediately comply with these new effluent limitations for chlorine residual.

The Facility discharges through a diffuser to the North Fork Calaveras River. The chlorine residual limitations required in this Order are protective of aquatic organisms in the undiluted discharge. If compliance is maintained, the Regional Water Board does not anticipate residual chlorine impacts to benthic organisms.

k. **Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The USEPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. Using the worst-case measured hardness from the effluent as described in section IV.C.2.b (59 mg/L as $CaCO_3$) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum 4-day average concentration) is 5.9 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 8.5 µg/L, as total recoverable.

The MEC for total copper was 32 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008, while the maximum observed upstream receiving water total copper concentration was 1.1 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. Ambient monitoring data indicates that there is no assimilative capacity available. Additionally, as described in section IV.C.2.c, dilution credits for calculation of effluent limitations based on aquatic life are not being granted. An AMEL and MDEL for total copper of 5.4 µg/L and 7.9 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-8 for WQBEL calculations).

Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. A time schedule for compliance with the copper final effluent limitations is established in Time Schedule Order (TSO) No. **R5-2009-XXXX** in accordance with CWC sections 13300 and 13385. Order

No. **R5-2009-XXXX** also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

l. **Cyanide.** The CTR includes maximum 1-hour average and 4-day average cyanide concentrations of 22 µg/L and 5.2 µg/L, respectively, for the protection of freshwater aquatic life. The MEC for cyanide was 37 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008, while cyanide was not detected in the receiving water, based on two samples collected on 2 May 2007 and 2 January 2008. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for cyanide. As discussed in section IV.C.2.c, dilution credits for calculation of effluent limitations based on aquatic life are not being granted. An AMEL and MDEL for cyanide of 4.3 µg/L and 8.5 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-9 for WQBEL calculations).

Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. A time schedule for compliance with the cyanide final effluent limitations is established in Time Schedule Order (TSO) No. **R5-2009-XXXX** in accordance with CWC sections 13300 and 13385. Order No. **R5-2009-XXXX** also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

m. **Diazinon.** The Basin Plan requires the Regional Water Board to consider relevant numerical criteria and guidelines developed by other agencies in determining compliance with the narrative toxicity objective (Basin Plan, IV-17.00). In March 2000, the California Department of Fish and Game (DFG) established acute and chronic criteria for diazinon to protect fresh water aquatic life. The acute (1-hour average) and chronic (4-day average) criteria are 0.08 µg/L and 0.05 µg/L, respectively.

The MEC for diazinon was 0.42 µg/L, based on 16 samples collected between 1 November 2005 and 30 April 2008, while diazinon was not detected in the receiving water, based on four samples collected on 2 May 2007 and 2 January 2008. Therefore, diazinon in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life resulting in a violation of the Basin Plan's narrative toxicity objective. As discussed in section IV.C.2.c, dilution credits for calculation of effluent limitations based on aquatic life are not being granted. An AMEL and MDEL for diazinon of 0.03 µg/L and 0.08 µg/L, respectively, are included in this Order based on DFG's diazinon criteria for the protection of freshwater aquatic life (see Attachment F, Table F-10 for WQBEL calculations).

Based on the sample results for the effluent, it appears that the Discharger may be in immediate non-compliance upon issuance of the permit. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. The Basin Plan for the

Sacramento and San Joaquin River Basins includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (see Basin Plan at page IV-16). The WQBELs for diazinon are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the diazinon effluent limitations is established in the Order.

An interim performance-based maximum daily effluent limitation of 2.8 µg/L has been established in this Order. The interim limitation was determined as described in Attachment F, Section IV.E.1., and is in effect through **31 January 2014**. As part of the compliance schedule, this Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final diazinon effluent limitations. In addition, the Discharger shall prepare and implement a pollution prevention plan that is in compliance with CWC section 13263.3(d)(3).

n. **Dichlorobromomethane.** The CTR includes a dichlorobromomethane criterion of 0.56 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. The MEC for dichlorobromomethane was 1.6 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008, while dichlorobromomethane was not detected in the receiving water, based on two samples collected on 2 May 2007 and 2 January 2008. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for dichlorobromomethane.

The ambient monitoring demonstrates the receiving water has assimilative capacity for dichlorobromomethane. As described in section IV.C.2.c, a dilution credit for dichlorobromomethane of up to 20:1 can be granted, based on the available human health dilution. An AMEL and MDEL for dichlorobromomethane of 9.7 µg/L and 22 µg/L, respectively, are included in this Order based on the CTR criterion for the protection of human health (see Attachment F, Table F-11 for WQBEL calculations). Based on the sample results for the effluent, it appears the Discharger can meet these new limitations.

o. **Iron.** The Basin Plan water quality objectives for chemical constituents requires that water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in Title 22 of the CCR. The Secondary MCL - Consumer Acceptance Limit for iron is 300 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to applied as an annual average concentration.

The maximum annual average effluent concentration for iron was 382 µg/L, based on 29 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water iron concentration was

448 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Secondary MCL for iron. Ambient monitoring data indicates that there is no assimilative capacity available. An annual average effluent limitation of 300 µg/L for iron is included in this Order based on protection of the Basin Plan's narrative chemical constituents objective (see Attachment F, Table F-12 for WQBEL calculations).

Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. A time schedule for compliance with the iron final effluent limitations is established in Time Schedule Order (TSO) No. **R5-2009-XXXX** in accordance with CWC sections 13300 and 13385. Order No. **R5-2009-XXXX** also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

p. **Manganese.** The Basin Plan water quality objectives for chemical constituents requires that water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in Title 22 of the CCR. The Secondary MCL - Consumer Acceptance Limit for manganese is 50 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to be applied as an annual average concentration.

The maximum annual average effluent concentration for manganese was 54 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water manganese concentration was 22 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Due to the low levels of manganese in the receiving water and the consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the Secondary MCL for manganese.

q. **Methylene blue active substances (MBAS).** The Basin Plan water quality objectives for chemical constituents requires that water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in Title 22 of the CCR. The Secondary MCL - Consumer Acceptance Limit for MBAS is 500 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to be applied as an annual average concentration.

The maximum annual average effluent concentration for MBAS was 1,768 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water MBAS concentration was 19 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Due to the low levels of MBAS in the receiving water and consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the Secondary MCL for MBAS.

r. **Pathogens.** Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of the receiving stream. Coliform limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation and drinking water pathways. In a letter to the Regional Water Board dated 8 April 1999, the California Department of Public Health (DPH; formerly the Department of Health Services) indicated that DPH would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period. Furthermore, the DHS provided a letter dated 1 July 2003 that included clarification of the recommendations. The letter states, "*A filtered and disinfected effluent should be required in situations where critical beneficial uses (i.e. food crop irrigation or body contact recreation) are made of the receiving waters unless a 20:1 dilution ration (DR) is available. In these circumstances, a secondary, 23 MPN discharge is acceptable.*" This Order is consistent with these recommendations, considering site-specific factors.

The coliform effluent limitations are adequately protective of the water contact recreation and agricultural irrigation supply beneficial uses of the receiving water in the vicinity of the discharge. In addition, for MUN-designated water bodies, DPH has not recommended treatment beyond secondary with 20:1 dilution, or tertiary without 20:1 dilution, where there were no known users of untreated water near a treatment plant outfall. Based on a review of the State Water Boards eWRIMS water rights database, there is no evidence of the untreated domestic use of the raw water in the vicinity of the discharge. Therefore, the coliform effluent limitations are also adequately protective of the MUN use.

Consistent with the requirements of Order No. R5-2003-0151, this Order contains a prohibition of discharges to the North Fork Calaveras River that do not receive 20:1 dilution. Effluent limitations for total coliform organisms have been revised from Order No. R5-2003-0151 based on DPH recommendations (i.e. are more stringent).

The Discharger has requested the ability to discharge when 20:1 dilution is not available; however this request has not be authorized until the Discharger upgrades the Facility to provide tertiary treatment. Upon upgrades to the Facility, this Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on total coliform organisms and turbidity.

s. **pH.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "…*pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.*" Effluent Limitations for pH are included in this Order based on the Basin Plan objectives for pH.

t. **Salinity.** The discharge contains total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC). These are water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. The Basin Plan contains a chemical constituent objective that incorporates State MCLs, contains a narrative objective, and contains numeric water quality objectives for EC, TDS, sulfate, and chloride.

Table F-5. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal[1]	Secondary MCL[3]	Effluent	
			Average	Maximum
EC (µmhos/cm)	Varies[2]	900, 1600, 2200	469	1,363
TDS (mg/L)	Varies	500, 1000, 1500	455	480
Sulfate (mg/L)	Varies	250, 500, 600	58	73
Chloride (mg/L)	Varies	250, 500, 600	54	59

[1] Agricultural water quality goals based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985)

[2] The EC level in irrigation water that harms crop production depends on the crop type, soil type, irrigation methods, rainfall, and other factors. An EC level of 700 umhos/cm is generally considered to present no risk of salinity impacts to crops. However, many crops are grown successfully with higher salinities.

[3] The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

i. **Chloride**. The secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The recommended agricultural water quality goal for chloride, that would apply the narrative chemical constituent objective, is 106 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29,

Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 106 mg/L water quality goal is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers.

Chloride concentrations in the effluent ranged from 49 mg/L to 59 mg/L, with an average of 54 mg/L, for two samples collected by the Discharger on 2 May 2007 and 2 January 2008. Background concentrations in the North Fork Calaveras River ranged from 6.6 mg/L to 16 mg/L, with an average of 11.3 mg/L, for two samples collected by the Discharger on 2 May 2007 and 2 January 2008. Neither the effluent or receiving water concentrations exceed the agricultural water quality goal of 106 mg/L.

ii. **Electrical Conductivity (EC)**. The secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum. The agricultural water quality goal, that would apply the narrative chemical constituents objective, is 700 µmhos/cm as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 700 µmhos/cm agricultural water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops, such as beans, carrots, turnips, and strawberries. These crops are either currently grown in the area or may be grown in the future. Most other crops can tolerate higher EC concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the EC, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

A review of the Discharger's monitoring reports from 1 November 2005 through 30 April 2008 shows an average effluent EC of 469 µmhos/cm, with a range from 104 µmhos/cm to 1,363 µmhos/cm for 450 samples. The background receiving water EC averaged 275 µmhos/cm in two sampling events collected by the Discharger on 2 May 2007 and 2 January 2008. Due to the low levels of EC in the receiving water, the consideration of a minimum required dilution of 20:1, and the relatively average low levels of EC, the effluent does not exhibit reasonable potential to exceed the agricultural water quality goal of 700 µmhos/cm.

iii. **Sulfate**. The secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. Sulfate concentrations in the effluent ranged from 42 mg/L to 73 mg/L, with an average of 58 mg/L, for two samples collected by the Discharger on 2 May 2007 and 2 January 2008. Background concentrations in the North Fork Calaveras River ranged from 12 mg/L to 30 mg/L, with an average of 21 mg/L, for two samples collected by the Discharger on 2 May 2007 and 2 January 2008. Neither the effluent or receiving water concentrations exceed the secondary MCL of 250 mg/L.

iv. **Total Dissolved Solids (TDS)**. The secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The recommended agricultural water quality goal for TDS, that would apply the narrative chemical constituent objective, is 450 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). Water Quality for Agriculture evaluates the impacts of salinity levels on crop tolerance and yield reduction, and establishes water quality goals that are protective of the agricultural uses. The 450 mg/L water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops. Only the most salt sensitive crops require irrigation water of 450 mg/L or less to prevent loss of yield. Most other crops can tolerate higher TDS concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the TDS, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

The average TDS effluent concentration was 455 mg/L; concentrations ranged from 430 mg/L to 480 mg/L for two samples collected by the Discharger on 2 May 2007 and 2 January 2008. The background receiving water TDS ranged from 150 mg/L to 190 mg/L, with an average of 170 mg/L in two sampling events performed by the Discharger on 2 May 2007 and 2 January 2008. Due to the low levels of TDS in the receiving water and the consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the agricultural water quality goal of 450 mg/L.

v. **Salinity Effluent Limitations.** Based on the low reported salinity in the effluent, the discharge does not have reasonable potential to cause or contribute to an instream excursion of water quality objectives for salinity. However, since the Discharger discharges to the North Fork Calaveras River and eventually the Sacramento – San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Therefore, this Order requires the Discharger to develop a salinity evaluation and minimization plan to address sources of salinity from the domestic wastewater treatment system and includes an effluent limitation for electrical conductivity of the municipal water supply electrical conductivity plus an increment of 500 µmhos/cm, not to exceed 700 µmhos/cm.

u. **Settleable Solids.** For inland surface waters, the Basin Plan states that "[w]*ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses*." Order No. R5-2003-0151 included numeric monthly average and daily maximum effluent limitations of 0.1 ml/L and 0.2 ml/L, respectively. Settleable solids was detected in the effluent at 0.10 ml/L on 2 January 2008, 0.20 ml/L on 16 April 2008, and 1.2 ml/L on 30 April 2008, based on 61 samples collected between

1 November 2005 and 30 April 2008. The 30 April 2008 sample of 1.2 ml/L exceeded the daily maximum effluent limitation of 0.2 ml/L and the monthly average for settleable solids in April 2008 of 0.3 ml/L exceeded the monthly average effluent limitation of 0.1 ml/L. Because the Facility provides only secondary treatment and effluent data indicates exceedances of the effluent limitations for settleable solids contained in Order No. R5-2003-0151, effluent limitations for settleable solids have been retained in this Order.

Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities.

v. **Toxicity.** See Section IV.C.5. of the Fact Sheet regarding whole effluent toxicity.

w. **Zinc.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for zinc in freshwater are 0.978 for the acute criteria and 0.986 for the chronic criteria. Using the worst-case measured hardness from the effluent as described in section IV.C.2.b (59 mg/L as $CaCO_3$) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum 4-day average concentration) and the applicable acute criterion (maximum 1-hour average concentration) are both 77 µg/L, as total recoverable.

The MEC for total zinc was 160 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008, while the maximum observed upstream receiving water total zinc concentration was 2 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for zinc. As discussed in section IV.C.2.c, dilution credits for calculation of effluent limitations based on aquatic life are not being granted. An AMEL and MDEL for total zinc of 48 µg/L and 77 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-13 for WQBEL calculations).

Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. A time schedule for compliance with the zinc final effluent limitations is established in Time Schedule Order (TSO) No. **R5-2009-XXXX** in accordance with CWC sections 13300 and 13385. Order No. **R5-2009-XXXX** also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

4. WQBEL Calculations

a. As discussed in Section IV.C.3 above, the effluent limitation based on the secondary MCL was applied as an annual average for iron based on input from DPH. Effluent limitations for chlordane, chlorine residual, pH, and settleable solids were based on Basin Plan objectives and applied directly as effluent limitations. Effluent limitations for total coliform organisms were based on DPH's recommendations and Order No. R5-2003-0151. The final effluent limitation for electrical conductivity is based on BPTC.

b. Effluent limitations for ammonia, bis (2-ethylhexyl) phthalate, copper, cyanide, diazinon, dichlorobromomethane, zinc were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations for these parameters.

c. **Effluent Limitation Calculations.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

ECA_{acute} = effluent concentration allowance for acute (1-hour average) toxicity criterion

$ECA_{chronic}$ = effluent concentration allowance for chronic (4-day average) toxicity criterion

ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective

CMC = criteria maximum concentration (1-hour average)

CCC = criteria continuous concentration (4-day average, unless otherwise noted)

HH = human health, agriculture, or other long-term criterion/objective

D = dilution credit

B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional

statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting CMC to LTA
M_C = statistical multiplier converting CCC to LTA

WQBELs were calculated for ammonia, bis (2-ethylhexyl) phthalate, copper, cyanide, diazinon, dichlorobromomethane, iron, and zinc as follows in Tables F-6 through F-13, below.

Table F-6. WQBEL Calculations for Ammonia

	Acute	4-Day Chronic	30-Day Chronic
Criteria (mg/L)[1]	2.14	10.9	4.34
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA[2]	2.14	10.9	4.34
ECA Multiplier[3]	0.39	0.6	0.82
LTA	0.83[4]	6.51[4]	3.56[5]
AMEL Multiplier (95th%)[6]	1.43	[8]	[8]
AMEL (mg/L)	**1.2**	[8]	[8]
MDEL Multiplier (99th%)[7]	2.56	[8]	[8]
MDEL (mg/L)	**2.1**	[8]	[8]

1 USEPA Ambient Water Quality Criteria.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 Assumes sampling frequency n=30.
6 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
8 Limitations based on acute LTA ($LTA_{acute} < LTA_{30\text{-day chronic}} < LTA_{4\text{-day chronic}}$).

Table F-7. WQBEL Calculations for Bis (2-Ethylhexyl) Phthalate

	Human Health
Criteria (µg/L)	1.80
Background concentration (µg/L)	0.1[1]
Dilution Credit	20:1
ECA	25
AMEL (µg/L)[2]	**25**
MDEL/AMEL Multiplier[3]	2.78
MDEL (µg/L)	**68**

1 All receiving water concentrations were reported as non-detect. This value represents the lowest reported MDL from the 2 January 2008 sample analyzed by CRG Marine Laboratories.
2 AMEL = ECA per section 1.4.B, Step 6 of SIP
3 Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-8. WQBEL Calculations for Copper

	Acute	Chronic
Criteria, total recoverable (µg/L)[1]	8.5	5.9
Dilution Credit	No Dilution	No Dilution
ECA, total recoverable[2]	8.5	5.9
ECA Multiplier[3]	0.56	0.74
LTA	4.73	4.37
AMEL Multiplier (95th%)[4,5]	[7]	1.24
AMEL (µg/L)	[7]	**5.4**
MDEL Multiplier (99th%)[6]	[7]	1.80
MDEL (µg/L)	[7]	**7.9**

1 CTR aquatic life criteria, based on a hardness of 59 mg/L as $CaCO_3$.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on chronic LTA (Chronic LTA < Acute LTA).

Table F-9. WQBEL Calculations for Cyanide

	Acute	Chronic
Criteria (µg/L)	22	5.2
Dilution Credit	No Dilution	No Dilution
ECA[1]	22	5.2
ECA Multiplier[2]	0.32	0.53
LTA	7.06	2.74
AMEL Multiplier (95th%)[3,4]	[6]	1.55
AMEL (µg/L)	[6]	**4.3**
MDEL Multiplier (99th%)[5]	[6]	3.11
MDEL (µg/L)	[6]	**8.5**

1 ECA calculated per section 1.4.B, Step 2 of SIP.
2 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
3 Assumes sampling frequency n<=4.
4 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
5 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 Limitations based on chronic LTA (Chronic LTA < Acute LTA).

Table F-10. WQBEL Calculations for Diazinon

	Acute	Chronic
Criteria (µg/L)[1]	0.08	0.05
Dilution Credit	No Dilution	No Dilution
ECA[2]	0.08	0.05
ECA Multiplier[3]	0.11	0.18
LTA	0.01	0.01
AMEL Multiplier (95th%)[4,5]	[7]	2.96
AMEL (µg/L)	[7]	**0.03**
MDEL Multiplier (99th%)[6]	[7]	9.32
MDEL (µg/L)	[7]	**0.08**

1 DFG aquatic life criteria.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on chronic LTA (Chronic LTA < Acute LTA).

Table F-11. WQBEL Calculations for Dichlorobromomethane

	Human Health
Criteria (µg/L)	0.56
Background Concentration (µg/L)	0.08[1]
Dilution Credit	20:1
ECA	9.68
AMEL (µg/L)[2]	**9.7**
MDEL/ AMEL Multiplier[3]	2.28
MDEL (µg/L)	**22**

1 All receiving water concentrations were reported as non-detect. This value represents the lowest reported MDL.
2 AMEL = ECA per section 1.4.B, Step 6 of SIP
3 Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-12. WQBEL Calculations for Iron

	Human Health
Criteria (µg/L)[1]	300
Background Concentration (µg/L)	448[2]
Dilution Credit	No Dilution
ECA (µg/L)	300
Annual Average Effluent Limitation (µg/L)	**300**

1 Based on California Secondary Maximum Contaminant Level.
2 This value represents the maximum annual average receiving water concentration.

Table F-13. WQBEL Calculations for Zinc

	Acute	Chronic
Criteria, total recoverable (µg/L)[1]	77	77
Dilution Credit	No Dilution	No Dilution
ECA, total recoverable[2]	77	77
ECA Multiplier[3]	0.48	0.68
LTA	37	52
AMEL Multiplier (95th%)[4,5]	1.31	[7]
AMEL (µg/L)	**48**	[7]
MDEL Multiplier (99th%)[6]	2.09	[7]
MDEL (µg/L)	**77**	[7]

1 CTR aquatic life criteria, based on a hardness of 59 mg/L as $CaCO_3$.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
8 Limitations based on acute LTA (Acute LTA < Chronic LTA).

Summary of Water Quality-based Effluent Limitations
Discharge Point No. 001

Table F-14. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
pH	standard units	--	--	--	6.5	8.5
Priority Pollutants						
Bis (2-ethylhexyl) phthalate	µg/L	34	--	95	--	--
Chlordane	µg/L	--	--	--	--	ND
Copper, Total Recoverable	µg/L	5.4	--	7.9	--	--
Cyanide, Total (as CN)	µg/L	4.3	--	8.5	--	--
Dichlorobromomethane	µg/L	9.7	--	22	--	--
Zinc, Total Recoverable	µg/L	48	--	77	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)	µg/L	1.2	--	2.1	--	--
	lbs/day[1]	15	--	26	--	--
Chlorine, Total Residual	mg/L	--	0.011[2]	0.019[3]	--	--
Diazinon	µg/L	0.03	--	0.08	--	--
	lbs/day[1]	0.0004	--	0.001	--	--
Electrical Conductivity @ 25°C	µmhos/cm	[4]	--	--	--	--
Iron, Total Recoverable	µg/L	300[5]	--	--	--	--
Settleable Solids	ml/L	0.1	--	0.2	--	--
Total Coliform Organisms	MPN/100 mL	--	23[6]	240[7]	--	--

1 Based on permitted flow of 1.5 MGD.
2 Applied as a 4-day average effluent limitation.
3 Applied as a 1-hour average effluent limitation.
4 The annual average effluent electrical conductivity shall not exceed the municipal water supply electrical conductivity plus an increment of 500 µmhos/cm, or 700 µmhos/cm, whichever is less.
5 Applied as an annual average effluent limitation.
6 Applied as a 7-day median effluent limitation.
7 Effluent total coliform organisms are not to exceed 240 MPN/100 mL more than once in any 30-day period.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). This Order also contains effluent limitations for acute toxicity and

requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00) The Basin Plan also states that, "…*effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate*…". USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc."* Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

   Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

   Minimum for any one bioassay-- ---------- 70%
   Median for any three or more consecutive bioassays --------- 90%

b. **Chronic Aquatic Toxicity.** The Discharger performed three annual whole effluent chronic toxicity tests with five different test endpoints for a total of 15 bioassay results for the period 1 November 2005 through 31 April 2008. Of those chronic toxicity test results, the following table summarizes the bioassay results when the endpoint was greater than 1 chronic toxicity unit (TUc).

Table F-15. Summary of Chronic Aquatic Toxicity Results

Date	Species	Test Endpoint	Result (TUc)
7 March 2006	*Pimephales promelas*	Growth	2
6 March 2007	*Pimephales promelas*	Growth	2

Based on whole effluent chronic toxicity testing performed by the Discharger from 1 November 2005 through 31 April 2008, the discharge could cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective in North Fork Calaveras River. As discussed in section IV.C.2.c, dilution credits for calculation of the numeric trigger based on aquatic life are not being granted.

A narrative effluent limit is included in this Order that requires that there shall be no chronic toxicity in the effluent discharge.

To ensure compliance with the Basin Plan's narrative toxicity objective and the narrative toxicity limitation contained in this Order, the Discharger is required to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, Special Provisions VI.C.2.a of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan. The numeric toxicity monitoring trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations

Title 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations are established for ammonia, BOD_5, and TSS, which are oxygen-demanding substances, and diazinon, which is bioaccumulative. The Facility was designed to treat a peak flow capacity of 0.9 MGD. The Discharger also has three effluent polishing ponds that allow the Discharger to store treated effluent until receiving water levels permit, resulting in a hydraulic capacity of 1.5 MGD for the Facility. Because this Order authorizes discharges during the wet-weather season (1 November through 30 April), mass-based effluent limitations were calculated based upon the permitted flow of 1.5 MGD, which reflects the hydraulic capacity of the Facility. For those pollutant parameters for which effluent limitations are based on water quality objectives and criteria that are concentration-based, mass-based effluent limitations are not included in this Order.

2. Averaging Periods for Effluent Limitations

Title 40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, the

USEPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. "*First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed.*" (TSD, pg. 96) This Order utilizes maximum daily effluent limitations in lieu of average weekly effluent limitations for ammonia, bis (2-ethylhexyl) phthalate, copper, cyanide, diazinon, dichlorobromomethane, settleable solids, and zinc as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Based on a conversation between the Regional Water Board and the California DPH, annual average limitations are more appropriate for some pollutants whose effluent limitations are based on primary and secondary MCLs. Therefore, an annual average limitation has been applied for iron. Furthermore, for BOD_5, TSS, chlordane, chlorine residual, pH, and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in Attachment F, Section IV.C.3, above.

3. Satisfaction of Anti-Backsliding Requirements

Some effluent limitations in this Order are less stringent that those in the previous Order. As discussed below this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

Order No. R5-2003-0151 established effluent limitations for aluminum based on the National Ambient Water Quality Criteria for protection of freshwater aquatic life to interpret the Basin Plan's narrative toxicity objective. However, upon evaluation of site-specific conditions in the North Fork Calaveras River, the Regional Water Board has determined that the chronic aquatic life criterion for aluminum is not applicable in the North Fork Calaveras River. 40 CFR 122.44(l)(2)(i)(B)(2) allows for less stringent limitations in a permit if the administrator determines that technical mistakes or mistaken interpretations of the law were made in issuing a permit. Based on available site-specific information that indicates that the application of the chronic aquatic life criterion for the discharge to the North Fork Calaveras is not an applicable interpretation of the Basin Plan's narrative toxicity objective, relaxation of effluent limitations is allowed under 40 CFR 122.44(l)(2)(i)(B)(2). In the absence of an applicable chronic aquatic life criterion, the most stringent water quality criterion is the Secondary MCL for aluminum. As discussed further in section IV.C.3, the discharge no longer exhibits reasonable potential to exceed water quality objectives for aluminum. Therefore, effluent limitations are not included in this Order.

Order No. R5-2003-0151 established final mass-based effluent limitations for chlorine residual, copper, and zinc. 40 CFR 122.45(f)(1)(ii) states that mass limitations are not required when applicable standards and limitations are expressed

in terms of other units of measurement. The numerical effluent limitations for chlorine residual, copper, and zinc established in this Order are based on water quality standards and objectives, which are expressed in terms of concentration. Pursuant to 40 CFR 122.25(f)(1)(ii), expressing the effluent limitations in terms of concentration is in accordance with Federal Regulations. Although the mass limitations for chlorine residual, copper, and zinc have been removed, this does not constitute backsliding, because; (1) this Order includes equivalent or more stringent concentration-based effluent limitations for these constituents, and (2) the flow has not increased, which is the basis for calculating mass-based effluent limitations. Compliance with the concentration-based limits will ensure that significantly less mass of the pollutants is discharged to the receiving water.

The removal of effluent limitations for aluminum and mass-based limitations for chlorine residual, copper, and zinc is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Any impact on existing water quality will be insignificant.

4. Satisfaction of Antidegradation Policy

a. **Surface Water.** This Order does not authorize an increase in discharge flow. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

The Discharger requested in the ROWD the authorization to increase the discharge flow from 1.5 MGD to 1.9 MGD, authorization to discharge when effluent receives 10:1 dilution, and an extension of the surface water discharge season. In order for the Regional Water Board to authorize these changes, the Discharger must submit a complete antidegradation analysis. Upon upgrades to the Facility and submission of an approved Dilution/Mixing Zone Study, an evaluation demonstrating that utilization of additional land disposal does not mitigate the need for extension of the surface water discharge season, and a complete antidegradation analysis, this Order may be reopened to revise the discharge prohibitions to allow discharges that do not receive 20:1 dilution and include tertiary treatment requirements consistent with DPH recommendations, include effluent limitations based on an appropriate dilution factor for the protection of aquatic life, and/or to extend the permitted period of surface water discharge.

b. **Groundwater.** As discussed in section II.A of this Fact Sheet, the Discharger previously purchased the Nielson Property for the purpose of additional effluent storage and disposal. In the Discharger's December 2007 Initial Study/Mitigated Negative Declaration, the Discharger proposed the installation of three new storage ponds, installation of a spray irrigation system and an emergency run-off ditch berm system for water collection, and the installation of several groundwater monitoring wells. Domestic wastewater contains constituents such as TDS, EC, pathogens, nitrates, organics, metals and oxygen demanding

substances (BOD). Percolation from the proposed facilities may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution 68-16 provided that:

i. the degradation is limited in extent;

ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;

iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and

iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

Upon upgrades to the Facility and submission of a complete antidegradation analysis satisfying the requirements of Resolution 68-16, this Order may be reopened to allow for discharges to additional effluent disposal and storage facilities on the Nielson Property.

Summary of Final Effluent Limitations
Discharge Point No. 001

Table F-16. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants							
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	--	--	CFR
	lbs/day[2]	375	563	751	--	--	
	% Removal	85	--	--	--	--	
pH	standard units	--	--	--	6.5	8.5	BP
Total Suspended Solids	mg/L	30	45	60	--	--	CFR
	lbs/day[2]	375	563	751	--	--	
	% Removal	85	--	--	--	--	
Priority Pollutants							
Bis (2-ethylhexyl) phthalate	µg/L	34	--	95	--	--	CTR

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Chlordane	µg/L	--	--	--	--	ND	BP
Copper, Total Recoverable	µg/L	5.4	--	7.9	--	--	CTR
Cyanide, Total (as CN)	µg/L	4.3	--	8.5	--	--	CTR
Dichlorobromomethane	µg/L	9.7	--	22	--	--	CTR
Zinc, Total Recoverable	µg/L	48	--	77	--	--	CTR
Non-Conventional Pollutants							
Acute Toxicity	% Survival	[3]	--	--	--	--	BP
Ammonia Nitrogen, Total (as N)	mg/L	1.2	--	2.1	--	--	NAWQC
	lbs/day[2]	15	--	26	--	--	
Chlorine, Total Residual	mg/L	--	0.011[4]	0.019[5]	--	--	NAWQC
Chronic Toxicity	TUc	[6]	--	--	--	--	BP
Diazinon	µg/L	0.03	--	0.08	--	--	DFG
	lbs/day[2]	0.0004	--	0.001	--	--	
Electrical Conductivity @ 25°C	µmhos/cm	600[7]	--	--	--	--	PB
Iron, Total Recoverable	µg/L	300[8]	--	--	--	--	MCL
Settleable Solids	ml/L	0.1	--	0.2	--	--	BP
Total Coliform Organisms	MPN/100 mL	--	23[9]	240[10]	--	--	DPH

1 CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
DFG – Based on Department of Fish and Game water quality criteria for the protection of freshwater aquatic life.
PB – Based on treatment plant performance.
MCL – Based on the Secondary Maximum Contaminant Level.
DPH – Based on recommendations from the Department of Public Health for discharges which receive 20:1 dilution.

2 Based on a permitted flow of 1.5 MGD.

3 Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
Minimum for any one bioassay ---------- 70%
Median for any three or more consecutive bioassays ---------- 90%

4 Applied as a 4-day average effluent limitation.

5 Applied as a 1-hour average effluent limitation.

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

7 The annual average effluent electrical conductivity shall not exceed the municipal water supply electrical conductivity plus an increment of 500 µmhos/cm, or 700 µmhos/cm, whichever is less.

8 Applied as an annual average effluent limitation.

9 Applied as a 7-day median effluent limitation.

10 Effluent total coliform organisms are not to exceed 240 MPN/100 mL more than once in any 30-day period.

E. Interim Effluent Limitations

1. **Ammonia and Diazinon.** The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to both CTR and non-CTR constituents in this Order.

   The interim limitations for ammonia and diazinon in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data.

   When there are less than 10 sampling data points available, the *Technical Support Document for Water Quality-based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than 10 sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2).

   The Regional Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

   Table F-20 summarizes the calculations of the interim effluent limitations for ammonia and diazinon:

Table F-17. Interim Effluent Limitation Calculation Summary

Parameter	Units	MEC	Mean	Std. Dev.	# of Samples	Interim Limitation
Ammonia Nitrogen	mg/L	14	6.2	3.6	107	18
Diazinon	µg/L	2.5	0.4	0.7	15	2.8

F. Land Discharge Specifications

The land discharge specifications for BOD_5, settleable solids, and total coliform organisms are necessary to protect the beneficial uses of the groundwater and have been retained from Order No. R5-2003-0151 for discharges to the DLDA.

G. Reclamation Specifications

The Discharger does not currently reclaim wastewater; however this Order requires that any reclaimed wastewater shall meet the criteria contained in Title 22, Division 4, California Code of Regulations (CCR), Section 60301, et seq, should the Discharger provide for reclamation in the future.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

A. Surface Water

CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "*[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses*." The Basin Plan includes numeric and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity,

suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

3. Order No. R5-2003-0151 contained groundwater limitations due to the potential of discharges to the DLDA to result in an increase in concentrations of pollutants in groundwater. Results of quarterly groundwater monitoring indicate periodic increases above background concentrations and the agricultural water goal of 450 mg/L for total dissolved solids at the downstream monitoring location GW-2. Increases were not observed at monitoring location GW-3. Results of monitoring also indicate several increases above background concentrations and the groundwater limitation for total coliform organisms at the downstream monitoring locations GW-2 and GW-3. Therefore, groundwater limitations are being retained from Order No. R5-2003-0151 to protect the beneficial uses of the underlying groundwater.

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 authorizes 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

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements).

2. This Order retains continuous monitoring for flow and weekly monitoring for BOD_5 and TSS of the influent from Order No. R5-2003-0151.

3. Order No. R5-2003-0151 established weekly influent monitoring requirements for electrical conductivity. Monitoring for electrical conductivity is necessary to characterize contributions of salinity to the Facility, however the Regional Water Board finds that quarterly monitoring is sufficient. Therefore, weekly monitoring for electrical conductivity has been reduced to quarterly. Quarterly monitoring requirements have also been established for total dissolved solids to characterize contributions of salinity to the Facility.

4. Influent monitoring for pH, ammonia, aluminum, copper, zinc, bis (2-ethylhexyl) phthalate, iron, manganese, MBAS, and diazinon have not been retained from Order No. R5-2003-0151 as they are not necessary for the evaluation of treatment plant performance.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream.

2. Effluent monitoring requirements for flow, BOD_5, TSS, ammonia, diazinon, electrical conductivity, settleable solids, total coliform organisms, and turbidity have been retained from Order No. R5-2003-0151 to characterize the effluent and determine compliance with applicable effluent limitations.

3. Monitoring data collected over the term of Order No. R5-2003-0151 for chlordane and cyanide indicate reasonable potential to exceed water quality criteria for these pollutants. Therefore, monthly effluent monitoring for chlordane and cyanide has been established in this Order.

4. Order No. R5-2003-0151 required effluent monitoring twice per month for copper, zinc, dichlorobromomethane, bis (2-ethylhexyl) phthalate, and iron. Monitoring data collected over the term of Order No. R5-2003-0151 indicates reasonable potential to exceed water quality criteria for these pollutants. The Regional Water Board staff finds that monthly monitoring is sufficient to characterize levels of these pollutants in the effluent and determine compliance with effluent limitations. Therefore, the monitoring frequency for copper, zinc, dichlorobromomethane, bis (2-ethylhexyl) phthalate, and iron has been reduced to monthly in this Order.

5. Order No. R5-2003-0151 required effluent monitoring twice per month for aluminum, manganese, and MBAS. Monitoring data collected over the term of Order No. R5-2003-0151 did not demonstrate reasonable potential to exceed water quality criteria. Therefore, the monitoring frequency for aluminum, manganese, and MBAS has been reduced to quarterly in this Order.

6. Order No. R5-2003-0151 required effluent monitoring twice per month for hardness to be conducted concurrent with effluent monitoring for metals. The monitoring frequency for metals with effluent limitations (i.e., copper and zinc) has been reduced to monthly. Therefore, the monitoring frequency for hardness has been reduced to monthly in this Order.

7. Electrical conductivity is an indicator parameter for salinity, including total dissolved solids. Establishing effluent limitations for electrical conductivity is expected to effectively limit the constituents that contribute to salinity, including total dissolved solids. Effluent limitations for total dissolved solids were not established in this Order. However, in order to continue to characterize salinity in the effluent, monthly monitoring for total dissolved solids has been established in this Order.

8. Monitoring data collected over the term of Order No. R5-2003-0151 for oil and grease and standard minerals did not demonstrate reasonable potential to exceed water quality criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order No. R5-2003-0151.

9. Order No. R5-2003-0151 found that nitrate plus nitrite in the discharge exhibited reasonable potential to exceed water quality objectives and required monitoring for nitrate plus nitrite twice per month. Monitoring data collected over the term of Order No. R5-2003-0151 for nitrate plus nitrite did not demonstrate reasonable potential to exceed water quality criteria and effluent limitations have not been included in this Order and monitoring requirements have not been retained. However, nitrate and nitrite are generated as part of the wastewater treatment plant operations. Therefore, this Order establishes monthly monitoring requirements for nitrate and nitrite.

10. Order No. R5-2003-0151 specified the sample type (meter) for pH, dissolved oxygen, and temperature. The sample type has been modified to grab and a footnote has been included allowing for a hand-held field meter to be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. Monitoring frequencies for these parameters have been retained from Order No. R5-2003-0151.

11. Order No. R5-2003-0151 required daily grab samples for chlorine residual. The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Because chlorine is an acutely toxic constituent that can be monitored continuously, average 1-hour and 4-day limitations for chlorine have been included in this Order. Therefore, this Order requires continuous monitoring for chlorine residual using a meter.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Order No. R5-2003-0151 required quarterly acute toxicity testing. Because this Order only authorizes discharges from 1 November through 30 April, quarterly monitoring is not appropriate. Therefore, this Order requires 96-hour bioassay testing twice per surface water discharge season (1 November through 30 April) to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

b. Order No. R5-2003-0151 established four receiving water monitoring stations: R-1, 100 feet upstream from the point of discharge in San Andreas Creek; R-2, 500 feet downstream from the point of discharge in San Andreas Creek; R-3, 100 feet upstream from the point of discharge in the Calaveras River; and R-4, downstream from the point of discharge in the Calaveras River, at defined edge of mixing zone. The Discharger has discontinued discharges to San Andreas Creek. Therefore, monitoring requirements for R-1 and R-2 have been discontinued. As discussed in Section IV.C.2 above, a human health mixing zone has been allowed, the boundary of which is 250 feet downstream from the discharge point. Therefore, the downstream monitoring location is defined as 250 feet downstream of the point of discharge to the North Fork Calaveras Creek. Monitoring location names have been revised from R-3 and R-4 to RSW-001 and RSW-002, respectively, to be consistent with Regional Water Board naming conventions.

c. Receiving water monitoring requirements for flow, dilution factor, pH, ammonia, dissolved oxygen, electrical conductivity, fecal coliform organisms, temperature, and turbidity have been retained from Order No. R5-2003-0151.

d. Order No. R5-2003-0151 required monthly receiving water monitoring for bis (2-ethylhexyl) phthalate, copper, dichlorobromomethane, zinc, aluminum, diazinon, iron, manganese, MBAS, and nitrate plus nitrite. This Order requires the Discharger to perform an Effluent and Receiving Water Characterization Study which will require monitoring for these constituents during the permit term to provide the necessary information for the next permit renewal. Thus, specific monitoring requirements for these pollutants have not been retained in this Order.

e. Order No. R5-2003-0151 required receiving water monitoring twice per month for hardness to be conducted concurrent with monitoring for metals. The effluent monitoring frequency for metals with effluent limitations (i.e., copper and zinc) has been reduced to monthly. Therefore, the monitoring frequency for hardness has been reduced to monthly in this Order.

2. Groundwater

a. Section 13267 of the California Water Code states, in part, *"(a) A Regional Water Board, in establishing…waste discharge requirements… may investigate the quality of any waters of the state within its region*" and *"(b) (1) In conducting an investigation…, the Regional Water Board may require that any person who… discharges… waste…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports*." In requiring those reports, the Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program (Attachment E) is issued pursuant to California Water Code Section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the Facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents that may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. This Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution No. 68-16 and the Basin Plan.

c. Results of quarterly groundwater monitoring collected during Order No. R5-2003-0151 indicate periodic increases above background concentrations and the agricultural water goal of 450 mg/L for total dissolved solids at the downstream monitoring location GW-2. Increases were not observed at monitoring location GW-3. Results of monitoring also indicate several increases above background concentrations and the groundwater limitation for total coliform organisms at the downstream monitoring locations GW-2 and GW-3. Groundwater monitoring data did not show an increase of any other constituents in groundwater in monitoring wells downstream of the DLDA. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to continue evaluating impacts to waters of the State to assure protection of beneficial uses and compliance with Regional Water Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Quarterly monitoring of groundwater elevation, electrical conductivity, and pH and semi-annual monitoring of total dissolved solids, total coliform organisms, and nitrate has been retained from Order No. R5-2003-0151.

e. Order No. R5-2003-0151 required monitoring for standard minerals every other year. This Order requires standard minerals to be monitored once during the third year of the permit term.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements (Special Provisions VI.C.6.a.). Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. Water Supply Monitoring

a. The Antidegradation Policy (Resolution No. 68-16) requires that the Discharger implement best practicable treatment or control (BPTC) of its discharge. For salinity, the Regional Water Board is limiting effluent salinity of municipal wastewater treatment plants to an increment of 500 µmhos/cm over the electrical conductivity of the municipal water supply as representing BPTC. This Order requires the Discharger to monitor quarterly for electrical conductivity and total dissolved solids in the municipal water supply to continue to characterize contributions of salinity to the Facility.

b. Annual monitoring for standard minerals has been retained from Order No. R5-2003-0151.

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

a. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for inorganic constituents. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

c. **Dilution/Mixing Zone Study.** As described in section IV.C.2.c of this Fact Sheet, the Discharger submitted an inadequate Dilution/Mixing Zone Study and effluent limitations based on criteria for the protection of aquatic life have been established without consideration of dilution credits. Should the Discharger submit an approved Dilution/Mixing Zone Study that meets the requirements of

Section 1.4.2.2 of the SIP, including defining the boundaries of the acute and chronic mixing zones, the Regional Water Board may reopen this Order to include effluent limitations based on an appropriate dilution factor for the protection of aquatic life.

d. **Extension of Surface Water Discharge Season.** The Discharger requested in the ROWD to extend the permitted period of surface water discharge from 1 November through 30 April to 16 October through 31 May due to limited land disposal facilities and recent early autumn and/or late spring rainfall. However, the ROWD also indicates that the Discharger is planning the development of additional effluent storage and disposal facilities on the Nielson Property. In order to authorize an extension of the surface water discharge season, the Discharger must submit a report evaluating the use of the additional land disposal area as an alternative to extension of the surface water discharge season. Should the Discharger submit an evaluation demonstrating that utilizing the additional land disposal does not mitigate the need for extension of the surface water discharge season, this Order may be reopened to extend the permitted period of surface water discharge.

e. **Flow Ratio Prohibition.** This Order includes a prohibition of discharges of secondary treated wastewater to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. Flow monitoring indicates that, at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. The Discharger has proposed to construct upgrades to the Facility to provide tertiary treatment to adequately protect beneficial uses for discharges that do not achieve 20:1 dilution. Upon upgrades to the Facility to provide tertiary treatment, this Order may be reopened to revise the discharge prohibition to allow discharges that do not receive 20:1 dilution and include tertiary treatment requirements consistent with DPH recommendations.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00.) Based on annual whole effluent chronic toxicity testing performed by the Discharger from 1 November 2005 through 30 April 2008, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

This provision requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) Work Plan in accordance with USEPA guidance. In addition, the provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity has been demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests every 2 weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991* (TSD). The TSD at page 118 states, "EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required." Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants,* EPA/833B-99/002, August 1999.

- Generalized Methodology for Conducting Industrial TREs, EPA/600/2-88/070, April 1989.

- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures,* Second Edition, EPA 600/6-91/005F, February 1991.

- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.

- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity,* Second Edition, EPA 600/R-92/080, September 1993.

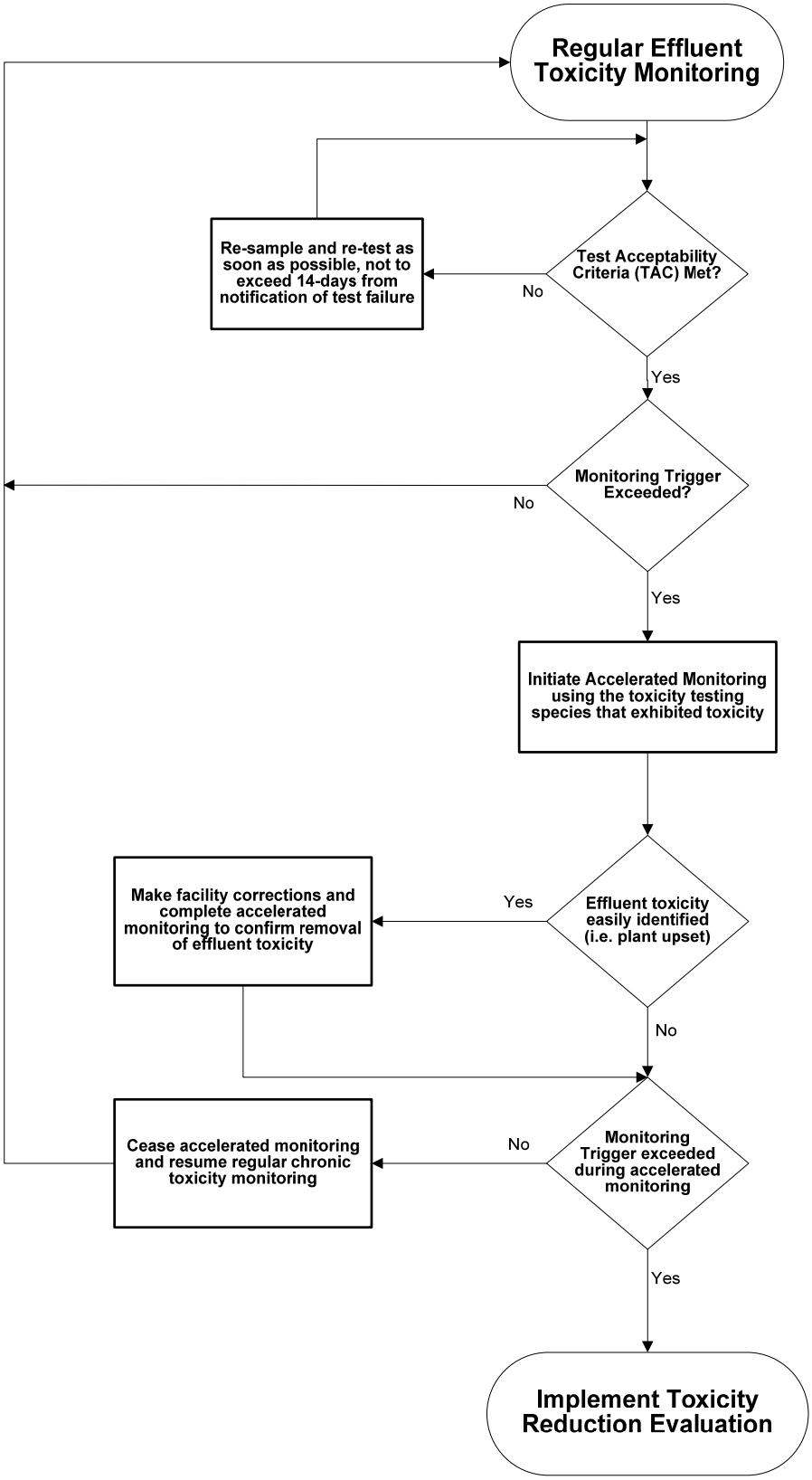
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.

- *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002.

- *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991.

Figure F-1
WET Accelerated Monitoring Flow Chart



b. **Groundwater Monitoring.** To determine compliance with Groundwater Limitations V.B., the Discharger is required to evaluate the adequacy of its groundwater monitoring network for the existing developed portions of the DLDA. This provision requires the Discharger to evaluate its groundwater monitoring network to ensure there are one or more background monitoring wells and a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater.

c. **BPTC Evaluation Tasks.** Results of quarterly groundwater monitoring indicate periodic increases above background concentrations and the agricultural water goal of 450 mg/L for total dissolved solids at the downstream monitoring location GW-2. Increases were not observed at monitoring location GW-3. Results of monitoring also indicate several increases above background concentrations and the groundwater limitation for total coliform organisms at the downstream monitoring locations GW-2 and GW-3. Therefore, this Order requires the Discharger to submit a technical report describing the groundwater results for total coliform organisms and critiquing each evaluated component of the Facility with respect to BPTC and minimizing the discharge's impact on groundwater quality.

d. **Alternative Disposal Options.** The State Water Board adopted a State Policy for Water Quality Control on 6 July 1972 in which the State Water Board found that protection of the State's waters required implementation programs that conformed to specific principles. The State Policy for Water Quality Control included the following principles that relate to reclaimed water and consolidation of wastewater collection and treatment systems.

   i. Municipal, agricultural, and industrial wastewaters must be considered as a potential integral part of the total available fresh water resource.

   ii. Coordinated management of water supplies and wastewaters on a regional basis must be promoted to achieve efficient utilization of water.

   iii. Wastewater collection and treatment facilities must be consolidated in all cases where feasible and desirable to implement sound water quality management programs based upon long-range economic and water quality benefits to an entire basin.

   iv. Institutional and financial programs for implementation of consolidated wastewater management systems must be tailored to serve each particular area in an equitable manner.

   v. Wastewater reclamation and reuse systems which assure maximum benefit from available fresh water resources shall be encouraged. Reclamation systems must be an appropriate integral part of the long-range solution to the

water resources needs of an area and incorporate provisions for salinity control and disposal on nonreclaimable residues.

The Basin Plan includes a wastewater reuse policy that encourages the reclamation and reuse of wastewater where practicable and requires as part of a Report of Waste Discharge an evaluation of reuse and land disposal options as alternative disposal methods.

State and federal antidegradation policies require dischargers to demonstrate that degradation from new or expanded discharges are necessary, and to implement BPTC of the discharge necessary to maintain the highest water quality consistent with maximum benefit to the people of the State. Regionalization, reclamation, reuse and conservation may enhance the implementation of these policies.

The Discharger requested in the ROWD the authorization to increase the discharge flow from 1.5 MGD to 1.9 MGD, authorization to discharge when effluent receives 10:1 dilution, and an extension of the surface water discharge season. Based on these requests, it is appropriate to require the Discharger to evaluate the feasibility of alternative disposal options, including optimization of waste water recycling and reclamation, optimization of conservation measures, consideration of regional solutions (i.e., regionalization), and reuse and land disposal options as alternative disposal methods.

e. **Effluent and Receiving Water Characterization Study.** An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the North Fork Calaveras River.

4. Construction, Operation, and Maintenance Specifications

a. **DLDA Operating Requirements.** The operation and maintenance specifications for the DLDA are necessary to ensure proper operation of the land discharge facilities and minimize the potential for impacts to groundwater quality.

b. **Trickling Filter Operating Requirements.** The peak wet weather flow through the trickling filter treatment facility shall not exceed 0.9 MGD. This provision limits the peak wet weather flow through the trickling filter to its design capacity. The Discharger is planning to construct improvements to increase the treatment capacity of the trickling filter. Upon completion of the improvements this Order may be reopened to modify this operation requirement accordingly.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. The Discharger treats all primary and secondary sludge in a heated unmixed anaerobic digester. Drying of digested sludge is accomplished by using sand drying beds. Dried sludge is then stored on-site, characterized, and disposed of at the Calaveras County Landfill. This Order requires the Discharger to comply with sludge/biosolids discharge specifications, biosolids disposal requirements, and biosolids storage requirements.

b. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on 2 May 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 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 by 1 December 2006.

6. Other Special Provisions

a. **Ownership Change.** To maintain the accountability of the operation of the Facility, the Discharger is required to notify the succeeding owner or operator of the existence of this Order by letter if, and when, there is any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger.

7. Compliance Schedules

a. **Compliance Schedules for Final Effluent Limitations for Ammonia and Diazinon.** The Discharger has not submitted a request, and justification for compliance schedules for ammonia and diazinon. Therefore, this Order requires the Discharger to submit an infeasibility analysis This Order establishes compliance schedules for the new, final, water quality-based effluent limitations for ammonia and diazinon and requires full compliance by **1 February 2104.** However, these compliance schedules are contingent on the submittal of acceptable infeasibility analyses in accordance with Paragraph 3, items (a) through (d), of Section 2.1 of the SIP, by the effective date of this Order.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley 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 San Andreas Sanitary District, Wastewater Treatment Plant. 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.

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 should be received at the Regional Water Board offices by 5:00 p.m. on **12 January 2009.**

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:	5 February 2009
Time:	8:30 am
Location:	Regional Water Quality Control Board, Central Valley Region 11020 Sun Center Dr., Suite #200 Rancho Cordova, CA 95670

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/rwqcb5/ 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 (916) 464-3291.

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 Ken Landau at (916) 464-4726.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum, Total Recoverable	µg/L	380	11	200	750[1]	--	--	--	--	200	No[2]
Ammonia Nitrogen, Total (as N)	mg/L	14	<0.1	2.14	2.14[1]	4.34[3]	--	--	--	--	Yes
Antimony, Total Recoverable	µg/L	0.4	<0.1	6	--	--	14	4,300	--	6	No
Arsenic, Total Recoverable	µg/L	0.8	0.4	10	340	150	--	--	--	10	No
Asbestos	MFL	2	NA	7	--	--	7	--	--	7	No
Barium, Total Recoverable	µg/L	22	48	1,000	--	--	--	--	--	1,000	No
Bis (2-Ethylhexyl) phthalate	µg/L	55	<0.6	1.8	--	--	1.8	5.9	--	--	Yes
Cadmium, Total Recoverable	µg/L	0.1	0.05	1.63	2. 4	1.63	--	--	--	5	No
Chlordane	µg/L	0.12	<0.02	ND	2.4	0.0043	0.00057	0.00059	ND	--	Yes
Chloride	mg/L	59	16	106[4]	--	--	--	--	--	250	No
Chloroform	µg/L	5.7	<0.09	80	--	--	--	--	--	80	No
Chromium, Total Recoverable	µg/L	1	0.4	50	--	--	--	--	--	50	No
Copper, Total Recoverable	µg/L	32	1.1	5.9	8.5	5.9	1,300	--	--	1,000	Yes
Cyanide, Total (as CN)	µg/L	37	<0.8	5.2	22	5.2	700	220,000	--	150	Yes
Diazinon	µg/L	0.42	<0.02	0.05[5]	--	--	--	--	--	--	Yes
Dichlorobromomethane	µg/L	1.6	<0.08	0.56	--	--	0.56	46	--	80	Yes
Electrical Conductivity @ 25°C	µmhos/cm	1,363	310	700[4]	--	--	--	--	--	900	No[6]
Fluoride	µg/L	50	82	2,000	--	--	--	--	--	2,000	No
Iron, Total Recoverable	µg/L	720	870	300	--	--	--	--	--	300	Yes
Lead, Total Recoverable	µg/L	0.83	<0.05	1.6	40	1.6	--	--	--	15	No
Manganese, Total Recoverable	µg/L	80	41	50	--	--	--	--	--	50	No[7]
Mercury, Total Recoverable	µg/L	0.019	0.0032	0.050	--	--	0.050	0.051	--	2	No
Methylene Blue Activated Substances	µg/L	5,600	13	500	--	--	--	--	--	500	No[8]
Methylene Chloride	µg/L	0.08	<0.08	4.7	--	--	4.7	1,600	--	5	No
Nickel, Total Recoverable	µg/L	2.9	1.5	33	300	33	610	4,600	--	100	No
Nitrate Nitrogen, Total (as N)	mg/L	8.9	<0.1	10	--	--	--	--	--	10	No
Nitrate Plus Nitrate (as N)	mg/L	9.8	NA	10	--	--	--	--	--	10	No
Nitrite Nitrogen, Total (as N)	mg/L	0.89	<0.03	1	--	--	--	--	--	1	No

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Phosphorus	µg/L	8,300	23	--	--	--	--	--	--	--	No
Selenium, Total Recoverable	µg/L	1.2	0.7	5	20	5	--	--	--	20	No
Silver, Total Recoverable	µg/L	0.4	<0.02	1.5	1.5	--	--	--	--	100	No
Sulfate	mg/L	73	30	250	--	--	--	--	--	250	No
Sulfide	µg/L	48	<100	--	--	--	--	--	--	--	No
Sulfite	µg/L	2,000	NA	--	--	--	--	--	--	--	No
Thallium, Total Recoverable	µg/L	<0.01	0.1	1.7	--	--	1.7	6.3	--	2	No
Toluene	µg/L	2	<0.06	150	--	--	6,800	200,000	--	150	No
Total Dissolved Solids	mg/L	480	190	450[4]	--	--	--	--	--	500	No[6]
Zinc, Total Recoverable	µg/L	160	2	77	77	77	--	--	--	5,000	Yes

MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available

Footnotes:
1 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-Hour Average
2 See section IV.C.3.f for rational for reasonable potential determination
3 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-Day Average
4 Water Quality for Agriculture
5 Department of Fish and Game water quality criterion for the protection of freshwater aquatic life
6 See section IV.C.3.t for rationale for reasonable potential determination
7 See section IV.C.3.p for rationale for reasonable potential determination
8 See section IV.C.3.q for rationale for reasonable potential determination

ATTACHMENT H – EFFLUENT AND RECEIVING WATER CHARACTERIZATION STUDY

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
VOLATILE ORGANICS						
28	1,1-Dichloroethane	75343	Primary MCL	5	0.5	EPA 8260B
30	1,1-Dichloroethene	75354	National Toxics Rule	0.057	0.5	EPA 8260B
41	1,1,1-Trichloroethane	71556	Primary MCL	200	0.5	EPA 8260B
42	1,1,2-Trichloroethane	79005	National Toxics Rule	0.6	0.5	EPA 8260B
37	1,1,2,2-Tetrachloroethane	79345	National Toxics Rule	0.17	0.5	EPA 8260B
75	1,2-Dichlorobenzene	95501	Taste & Odor	10	0.5	EPA 8260B
29	1,2-Dichloroethane	107062	National Toxics Rule	0.38	0.5	EPA 8260B
	cis-1,2-Dichloroethylene	156592	Primary MCL	6	0.5	EPA 8260B
31	1,2-Dichloropropane	78875	Calif. Toxics Rule	0.52	0.5	EPA 8260B
101	1,2,4-Trichlorobenzene	120821	Public Health Goal	5	0.5	EPA 8260B
76	1,3-Dichlorobenzene	541731	Taste & Odor	10	0.5	EPA 8260B
32	1,3-Dichloropropene	542756	Primary MCL	0.5	0.5	EPA 8260B
77	1,4-Dichlorobenzene	106467	Primary MCL	5	0.5	EPA 8260B
17	Acrolein	107028	Aquatic Toxicity	21	2	EPA 8260B
18	Acrylonitrile	107131	National Toxics Rule	0.059	2	EPA 8260B
19	Benzene	71432	Primary MCL	1	0.5	EPA 8260B
20	Bromoform	75252	Calif. Toxics Rule	4.3	0.5	EPA 8260B
34	Bromomethane	74839	Calif. Toxics Rule	48	1	EPA 8260B
21	Carbon tetrachloride	56235	National Toxics Rule	0.25	0.5	EPA 8260B
22	Chlorobenzene (mono chlorobenzene)	108907	Taste & Odor	50	0.5	EPA 8260B
24	Chloroethane	75003	Taste & Odor	16	0.5	EPA 8260B
25	2- Chloroethyl vinyl ether	110758	Aquatic Toxicity	122 (3)	1	EPA 8260B
26	Chloroform	67663	OEHHA Cancer Risk	1.1	0.5	EPA 8260B
35	Chloromethane	74873	USEPA Health Advisory	3	0.5	EPA 8260B
23	Chlorodibromomethane	124481	Calif. Toxics Rule	0.41	0.5	EPA 8260B
27	Dichlorobromomethane	75274	Calif. Toxics Rule	0.56	0.5	EPA 8260B
36	Dichloromethane	75092	Calif. Toxics Rule	4.7	0.5	EPA 8260B
33	Ethylbenzene	100414	Taste & Odor	29	0.5	EPA 8260B
88	Hexachlorobenzene	118741	Calif. Toxics Rule	0.00075	1	EPA 8260B
89	Hexachlorobutadiene	87683	National Toxics Rule	0.44	1	EPA 8260B
91	Hexachloroethane	67721	National Toxics Rule	1.9	1	EPA 8260B
94	Naphthalene	91203	USEPA IRIS	14	10	EPA 8260B

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
38	Tetrachloroethene	127184	National Toxics Rule	0.8	0.5	EPA 8260B
39	Toluene	108883	Taste & Odor	42	0.5	EPA 8260B
40	trans-1,2-Dichloroethylene	156605	Primary MCL	10	0.5	EPA 8260B
43	Trichloroethene	79016	National Toxics Rule	2.7	0.5	EPA 8260B
44	Vinyl chloride	75014	Primary MCL	0.5	0.5	EPA 8260B
	Methyl-tert-butyl ether (MTBE)	1634044	Secondary MCL	5	0.5	EPA 8260B
	Trichlorofluoromethane	75694	Primary MCL	150	5	EPA 8260B
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	Primary MCL	1200	10	EPA 8260B
	Styrene	100425	Taste & Odor	11	0.5	EPA 8260B
	Xylenes	1330207	Taste & Odor	17	0.5	EPA 8260B
SEMI-VOLATILE ORGANICS						
60	1,2-Benzanthracene	56553	Calif. Toxics Rule	0.0044	5	EPA 8270C
85	1,2-Diphenylhydrazine	122667	National Toxics Rule	0.04	1	EPA 8270C
45	2-Chlorophenol	95578	Taste and Odor	0.1	2	EPA 8270C
46	2,4-Dichlorophenol	120832	Taste and Odor	0.3	1	EPA 8270C
47	2,4-Dimethylphenol	105679	Calif. Toxics Rule	540	2	EPA 8270C
49	2,4-Dinitrophenol	51285	National Toxics Rule	70	5	EPA 8270C
82	2,4-Dinitrotoluene	121142	National Toxics Rule	0.11	5	EPA 8270C
55	2,4,6-Trichlorophenol	88062	Taste and Odor	2	10	EPA 8270C
83	2,6-Dinitrotoluene	606202	USEPA IRIS	0.05	5	EPA 8270C
50	2-Nitrophenol	25154557	Aquatic Toxicity	150 (5)	10	EPA 8270C
71	2-Chloronaphthalene	91587	Aquatic Toxicity	1600 (6)	10	EPA 8270C
78	3,3'-Dichlorobenzidine	91941	National Toxics Rule	0.04	5	EPA 8270C
62	3,4-Benzofluoranthene	205992	Calif. Toxics Rule	0.0044	10	EPA 8270C
52	4-Chloro-3-methylphenol	59507	Aquatic Toxicity	30	5	EPA 8270C
48	4,6-Dinitro-2-methylphenol	534521	National Toxics Rule	13.4	10	EPA 8270C
51	4-Nitrophenol	100027	USEPA Health Advisory	60	5	EPA 8270C
69	4-Bromophenyl phenyl ether	101553	Aquatic Toxicity	122	10	EPA 8270C
72	4-Chlorophenyl phenyl ether	7005723	Aquatic Toxicity	122 (3)	5	EPA 8270C
56	Acenaphthene	83329	Taste and Odor	20	1	EPA 8270C
57	Acenaphthylene	208968	No Criteria Available		10	EPA 8270C
58	Anthracene	120127	Calif. Toxics Rule	9,600	10	EPA 8270C
59	Benzidine	92875	National Toxics Rule	0.00012	5	EPA 8270C
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
63	Benzo(g,h,i)perylene	191242	No Criteria Available		5	EPA 8270C
64	Benzo(k)fluoranthene	207089	Calif. Toxics Rule	0.0044	2	EPA 8270C

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
65	Bis(2-chloroethoxy) methane	111911	No Criteria Available		5	EPA 8270C
66	Bis(2-chloroethyl) ether	111444	National Toxics Rule	0.031	1	EPA 8270C
67	Bis(2-chloroisopropyl) ether	39638329	Aquatic Toxicity	122 (3)	10	EPA 8270C
68	Bis(2-ethylhexyl) phthalate	117817	National Toxics Rule	1.8	3	EPA 8270C
70	Butyl benzyl phthalate	85687	Aquatic Toxicity	3 (7)	10	EPA 8270C
73	Chrysene	218019	Calif. Toxics Rule	0.0044	5	EPA 8270C
81	Di-n-butylphthalate	84742	Aquatic Toxicity	3 (7)	10	EPA 8270C
84	Di-n-octylphthalate	117840	Aquatic Toxicity	3 (7)	10	EPA 8270C
74	Dibenzo(a,h)-anthracene	53703	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
79	Diethyl phthalate	84662	Aquatic Toxicity	3 (7)	2	EPA 8270C
80	Dimethyl phthalate	131113	Aquatic Toxicity	3 (7)	2	EPA 8270C
86	Fluoranthene	206440	Calif. Toxics Rule	300	10	EPA 8270C
87	Fluorene	86737	Calif. Toxics Rule	1300	10	EPA 8270C
90	Hexachlorocyclopentadiene	77474	Taste and Odor	1	1	EPA 8270C
92	Indeno(1,2,3-c,d)pyrene	193395	Calif. Toxics Rule	0.0044	0.05	EPA 8270C
93	Isophorone	78591	National Toxics Rule	8.4	1	EPA 8270C
98	N-Nitrosodiphenylamine	86306	National Toxics Rule	5	1	EPA 8270C
96	N-Nitrosodimethylamine	62759	National Toxics Rule	0.00069	5	EPA 8270C
97	N-Nitrosodi-n-propylamine	621647	Calif. Toxics Rule	0.005	5	EPA 8270C
95	Nitrobenzene	98953	National Toxics Rule	17	10	EPA 8270C
53	Pentachlorophenol	87865	Calif. Toxics Rule	0.28	0.2	EPA 8270C
99	Phenanthrene	85018	No Criteria Available		5	EPA 8270C
54	Phenol	108952	Taste and Odor	5	1	EPA 8270C
100	Pyrene	129000	Calif. Toxics Rule	960	10	EPA 8270C
INORGANICS						
	Aluminum	7429905	Ambient Water Quality	87	50	EPA 6020/200.8
1	Antimony	7440360	Primary MCL	6	5	EPA 6020/200.8
2	Arsenic	7440382	Ambient Water Quality	0.018	0.01	EPA 1632
15	Asbestos	1332214	National Toxics Rule/ Primary MCL	7 MFL	0.2 MFL >10um	EPA/600/R-93/116(PCM)
	Barium	7440393	Basin Plan Objective	100	100	EPA 6020/200.8
3	Beryllium	7440417	Primary MCL	4	1	EPA 6020/200.8
4	Cadmium	7440439	Public Health Goal	0.07	0.25	EPA 1638/200.8
5a	Chromium (total)	7440473	Primary MCL	50	2	EPA 6020/200.8
5b	Chromium (VI)	18540299	Public Health Goal	0.2	0.5	EPA 7199/1636
6	Copper	7440508	National Toxics Rule	4.1 (2)	0.5	EPA 6020/200.8
14	Cyanide	57125	National Toxics Rule	5.2	5	EPA 9012A

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			Basis	Criterion Concentration ug/L or noted[1]		
	Fluoride	7782414	Public Health Goal	1000	0.1	EPA 300
	Iron	7439896	Secondary MCL	300	100	EPA 6020/200.8
7	Lead	7439921	Calif. Toxics Rule	0.92 (2)	0.5	EPA 1638
8	Mercury	7439976	TMDL Development		0.0002 (11)	EPA 1669/1631
	Manganese	7439965	Secondary MCL/ Basin Plan Objective	50	20	EPA 6020/200.8
9	Nickel	7440020	Calif. Toxics Rule	24 (2)	5	EPA 6020/200.8
10	Selenium	7782492	Calif. Toxics Rule	5 (8)	5	EPA 6020/200.8
11	Silver	7440224	Calif. Toxics Rule	0.71 (2)	1	EPA 6020/200.8
12	Thallium	7440280	National Toxics Rule	1.7	1	EPA 6020/200.8
	Tributyltin	688733	Ambient Water Quality	0.063	0.002	EV-024/025
13	Zinc	7440666	Calif. Toxics Rule/ Basin Plan Objective	54/ 16 (2)	10	EPA 6020/200.8
PESTICIDES - PCBs						
110	4,4'-DDD	72548	Calif. Toxics Rule	0.00083	0.02	EPA 8081A
109	4,4'-DDE	72559	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
108	4,4'-DDT	50293	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
112	alpha-Endosulfan	959988	National Toxics Rule	0.056 (9)	0.02	EPA 8081A
103	alpha-Hexachlorocyclohexane (BHC)	319846	Calif. Toxics Rule	0.0039	0.01	EPA 8081A
	Alachlor	15972608	Primary MCL	2	1	EPA 8081A
102	Aldrin	309002	Calif. Toxics Rule	0.00013	0.005	EPA 8081A
113	beta-Endosulfan	33213659	Calif. Toxics Rule	0.056 (9)	0.01	EPA 8081A
104	beta-Hexachlorocyclohexane	319857	Calif. Toxics Rule	0.014	0.005	EPA 8081A
107	Chlordane	57749	Calif. Toxics Rule	0.00057	0.1	EPA 8081A
106	delta-Hexachlorocyclohexane	319868	No Criteria Available		0.005	EPA 8081A
111	Dieldrin	60571	Calif. Toxics Rule	0.00014	0.01	EPA 8081A
114	Endosulfan sulfate	1031078	Ambient Water Quality	0.056	0.05	EPA 8081A
115	Endrin	72208	Calif. Toxics Rule	0.036	0.01	EPA 8081A
116	Endrin Aldehyde	7421934	Calif. Toxics Rule	0.76	0.01	EPA 8081A
117	Heptachlor	76448	Calif. Toxics Rule	0.00021	0.01	EPA 8081A
118	Heptachlor Epoxide	1024573	Calif. Toxics Rule	0.0001	0.01	EPA 8081A
105	Lindane (gamma-Hexachlorocyclohexane)	58899	Calif. Toxics Rule	0.019	0.019	EPA 8081A
119	PCB-1016	12674112	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
120	PCB-1221	11104282	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
121	PCB-1232	11141165	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
122	PCB-1242	53469219	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
123	PCB-1248	12672296	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082

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			Basis	Criterion Concentration ug/L or noted[1]		
124	PCB-1254	11097691	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
125	PCB-1260	11096825	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
126	Toxaphene	8001352	Calif. Toxics Rule	0.0002	0.5	EPA 8081A
	Atrazine	1912249	Public Health Goal	0.15	1	EPA 8141A
	Bentazon	25057890	Primary MCL	18	2	EPA 643/ 515.2
	Carbofuran	1563662	CDFG Hazard Assess.	0.5	5	EPA 8318
	2,4-D	94757	Primary MCL	70	10	EPA 8151A
	Dalapon	75990	Ambient Water Quality	110	10	EPA 8151A
	1,2-Dibromo-3-chloropropane (DBCP)	96128	Public Health Goal	0.0017	0.01	EPA 8260B
	Di(2-ethylhexyl)adipate	103231	USEPA IRIS	30	5	EPA 8270C
	Dinoseb	88857	Primary MCL	7	2	EPA 8151A
	Diquat	85007	Ambient Water Quality	0.5	4	EPA 8340/ 549.1/HPLC
	Endothal	145733	Primary MCL	100	45	EPA 548.1
	Ethylene Dibromide	106934	OEHHA Cancer Risk	0.0097	0.02	EPA 8260B/504
	Glyphosate	1071836	Primary MCL	700	25	HPLC/EPA 547
	Methoxychlor	72435	Public Health Goal	30	10	EPA 8081A
	Molinate (Ordram)	2212671	CDFG Hazard Assess.	13	2	EPA 634
	Oxamyl	23135220	Public Health Goal	50	20	EPA 8318/632
	Picloram	1918021	Primary MCL	500	1	EPA 8151A
	Simazine (Princep)	122349	USEPA IRIS	3.4	1	EPA 8141A
	Thiobencarb	28249776	Basin Plan Objective/ Secondary MCL	1	1	HPLC/EPA 639
16	2,3,7,8-TCDD (Dioxin)	1746016	Calif. Toxics Rule	1.30E-08	5.00E-06	EPA 8290 (HRGC) MS
	2,4,5-TP (Silvex)	93765	Ambient Water Quality	10	1	EPA 8151A
	Diazinon	333415	CDFG Hazard Assess.	0.05	0.25	EPA 8141A/GCMS
	Chlorpyrifos	2921882	CDFG Hazard Assess.	0.014	1	EPA 8141A/GCMS
OTHER CONSTITUENTS						
	Ammonia (as N)	7664417	Ambient Water Quality	1500 (4)		EPA 350.1
	Chloride	16887006	Agricultural Use	106,000		EPA 300.0
	Flow			1 CFS		
	Hardness (as $CaCO_3$)			5000		EPA 130.2
	Foaming Agents (MBAS)		Secondary MCL	500		SM5540C
	Nitrate (as N)	14797558	Primary MCL	10,000	2,000	EPA 300.0
	Nitrite (as N)	14797650	Primary MCL	1000	400	EPA 300.0
	pH		Basin Plan Objective	6.5-8.5	0.1	EPA 150.1
	Phosphorus, Total (as P)	7723140	USEPA IRIS	0.14		EPA 365.3

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			Basis	Criterion Concentration ug/L or noted[1]		
	Specific conductance (EC)		Agricultural Use	700 umhos/cm		EPA 120.1
	Sulfate		Secondary MCL	250,000	500	EPA 300.0
	Sulfide (as S)		Taste and Odor	0.029		EPA 376.2
	Sulfite (as SO_3)		No Criteria Available			SM4500-SO3
	Temperature		Basin Plan Objective	^oF		
	Total Disolved Solids (TDS)		Agricultural Use	450,000		EPA 160.1

FOOTNOTES:

(1) - The Criterion Concentrations serve only as a point of reference for the selection of the appropriate analytical method. They do not indicate a regulatory decision that the cited concentration is either necessary or sufficient for full protection of beneficial uses. Available technology may require that effluent limits be set lower than these values.

(2) - Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. Values displayed correspond to a total hardness of 40 mg/L.

(3) - For haloethers

(4) - Freshwater aquatic life criteria for ammonia are expressed as a function of pH and temperature of the water body. Values displayed correspond to pH 8.0 and temperature of 22 C.

(5) - For nitrophenols.

(6) - For chlorinated naphthalenes.

(7) - For phthalate esters.

(8) - Basin Plan objective = 2 ug/L for Salt Slough and specific constructed channels in the Grassland watershed.

(9) - Criteria for sum of alpha- and beta- forms.

(10) - Criteria for sum of all PCBs.

(11) - Mercury monitoring shall utilize "ultra-clean" sampling and analytical methods. These methods include:

Method 1669: Sampling Ambient Water for Trace Metals at USEPA Water Quality Criteria Levels, USEPA; and

Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluoresence, US EPA

Dioxin and Furan Sampling

Section 3 of the State Implementation Plan requires that each NPDES discharger conduct sampling and analysis of dioxin and dibenzofuran congeners. Dioxin and Furan sampling shall be conducted in the effluent and receiving water once during the third surface water discharge season of this permit term.

Each sample shall be analyzed for the 17 congeners listed in the table below. High Resolution GCMS Method 8290, or another method capable of individually quantifying the congeners to an equivalent detection level, shall be used for the analyses.

For each sample the Discharger shall report:

- The measured or estimated concentration of each of the 17 congeners
- The quantifiable limit of the test (as determined by procedures in Section 2.4.3, No. 5 of the SIP)
- The Method Detection Level (MDL) for the test

The TCDD equivalent concentration for each analysis calculated by multiplying the concentration of each congener by the Toxicity Equivalency Factor (TEF) in the following table, and summing the resultant products to determine the equivalent toxicity of the sample expressed as 2,3,7,8-TCDD.

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