

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>

ORDER NO. R5-2008-0162

NPDES NO. CA0084727

**WASTE DISCHARGE REQUIREMENTS
FOR
TUOLUMNE UTILITIES DISTRICT
SONORA REGIONAL WASTEWATER TREATMENT PLANT
AND JAMESTOWN SANITARY DISTRICT
JAMESTOWN WASTEWATER TREATMENT PLANT
TUOLUMNE COUNTY**

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

Table 1. Discharger Information

Discharger	Tuolumne Utilities District
Name of Facility	Sonora Regional Wastewater Treatment Plant
Facility Address	400 South Gate Drive
	Sonora, CA 95370
	Tuolumne County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the Tuolumne Utilities District from the Quartz Reservoir into Woods Creek at 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	Secondary Treated Effluent	37° 55' 20" N	120° 25' 53" W	Woods Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	24 October 2008
This Order shall become effective on:	15 December 2008
This Order shall expire on:	1 October 2013
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 expiration date

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 **24 October 2008**

Original Signed by _____
PAMELA C. CREEDON, Executive Officer

Table of Contents

I.	Facility Information	3
II.	Findings	3
III.	Discharge Prohibitions.....	9
IV.	Effluent Limitations and Discharge Specifications	10
	A. Effluent Limitations – Discharge Point - 001	10
	B. Land Discharge Specifications – Not Applicable.....	11
	C. Reclamation Specifications – Not Applicable	11
V.	Receiving Water Limitations	12
	A. Surface Water Limitations.....	12
	B. Groundwater Limitations – Not Applicable	14
VI.	Provisions.....	14
	A. Standard Provisions.....	14
	B. Monitoring and Reporting Program (MRP) Requirements	19
	C. Special Provisions.....	19
	1. Reopener Provisions	19
	2. Special Studies, Technical Reports and Additional Monitoring Requirements	20
	3. Best Management Practices and Pollution Prevention	22
	4. Construction, Operation and Maintenance Specifications	23
	5. Special Provisions for Municipal Facilities (POTWs Only).....	23
	7. Compliance Schedules.....	24
VII.	Compliance Determination	25

List of Tables

Table 1.	Discharger Information	Cover
Table 2.	Discharge Location	Cover
Table 3.	Administrative Information	Cover
Table 4.	Facility Information.....	3
Table 5.	Basin Plan Beneficial Uses.....	5
Table 6.	Effluent Limitations	10
Table 7.	Interim Effluent Limitations	11
Table 8.	Interim Effluent Limitations	11

List of Attachments

Attachment A	– Definitions	A-1
Attachment B	– Map	B-1
Attachment C	– Flow Schematic.....	C-1
Attachment D	– Standard Provisions.....	D-1
Attachment E	– Monitoring and Reporting Program (MRP).....	E-1
Attachment F	– Fact Sheet.....	F-1
Attachment G	– Ammonia Interim Effluent Limitations	G-1
Attachment H	– Constituents to be Monitored	H-1
Attachment I	– Water Conservation Program Guidelines	I-1

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Tuolumne Utilities District
Name of Facility	Sonora Regional Wastewater Treatment Plant
Facility Address	400 South Gate Drive
	Sonora, CA 95370
	Tuolumne County
Facility Contact, Title, and Phone	Thomas L. Scesa, District Engineer (209) 532-5536 Ext. 516
Mailing Address	P.O. Box 3728, Sonora, CA 95370
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	2.6 million gallons per day (mgd)

II. FINDINGS

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

A. Background. Tuolumne Utilities District (hereinafter Discharger or TUD) is currently discharging pursuant to Order No. 5-01-043 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA 0084727. The Discharger submitted a Report of Waste Discharge, dated August 31, 2005, and applied for a renewal of NPDES permit authorization to continue discharge secondary treated wastewater from TUD's Quartz Reservoir to Woods Creek. The application was deemed complete in December 2007.

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

B. Facility Description. The TUD owns and operates the Sonora Regional Wastewater Treatment Plant (SRWTP), and associated wastewater collection and disposal system. The TUD provides sewer services to approximately 25,000 people and has design capacity of 2.6 million gallons per day (mgd). The SRWTP produces secondary treated, disinfected effluent that is discharged to a large storage reservoir (Quartz Reservoir) prior to distribution for reclamation by agricultural end-users. The Jamestown Sanitary District (JSD), owns and operates the JSD Wastewater Treatment Plant, which provides sewer service to about 3,000 people. JSD has no facilities for effluent disposal and has contracted for its effluent disposal with the TUD. The JSD Wastewater Treatment Plant discharges secondary treated, disinfected effluent to Quartz Reservoir, at an average dry weather flow rate of 0.28 mgd. At present, the secondary treated wastewater is used for irrigation of agricultural lands owned either by the TUD or private parties under contract for the use of the reclaimed wastewater during the dry months and part of the

winter months as weather allows. During high precipitation years excess water that is stored in Quartz Reservoir is discharged seasonally to Woods Creek, when the effluent can receive at least a 20:1 dilution (creek: effluent) from Woods Creek.

This Order regulates the seasonal surface water discharge to Woods Creek. The discharges to land and the reclamation system are currently regulated under Regional Water Board Order Nos. 94-192 and R5-2002-0202, respectively.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as 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 are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (CFR)¹ require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric

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

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) EPA 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 section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), 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. The Basin Plan at page II-2.00 states that the "...beneficial uses of any specifically identified water body generally apply to its tributary streams." The Basin Plan does not specifically identify beneficial uses for *Woods Creek*, but does identify present and potential uses for *Tuolumne River* to which *Woods Creek*, via *New Don Pedro Reservoir*, is tributary. These beneficial uses are as follows: municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); hydropower generation; water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation, including aesthetic enjoyment (REC-2); commercial and sport fishing; aquaculture; warm freshwater habitat; cold freshwater habitat; 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. Thus, as identified in the Basin Plan, beneficial uses applicable to the *Woods Creek* are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Woods Creek	municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); hydropower generation; water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation, including aesthetic enjoyment (REC-2); warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD); and wildlife habitat.

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

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

K. Compliance Schedules and Interim Requirements. 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 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 September 25, 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 May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation that 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/or discharge specifications. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) and/or discharge specifications is included in the Fact Sheet.

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

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅ and TSS. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. The rationale for including these limitations is explained in the Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 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 May 1, 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 May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the [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.
- 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 and/or requirements in subsections IV.B, IV.C, and V.B. 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 No. 5-01-043 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

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 secondary treated disinfected wastewater to Woods Creek is prohibited when the dilution ratio is less than 20:1 (Woods Creek: effluent) on a daily average, as measured upstream from the Discharge Point.
- F. The discharge of secondary treated disinfected wastewater to Woods Creek is prohibited from 16 May through 30 November of each year.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point - 001

1. Final Effluent Limitations (from Quartz Reservoir): Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations with compliance measured at monitoring location EFF-001 as described in the attached MRP.

- 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
BOD 5-day @ 20°C	mg/L	30	45	60	---	---
	lbs/day ¹	726	1088	1452	---	---
Total Suspended Solids	mg/L	30	45	90	---	---
	lbs/day ¹	726	1088	2176	---	---
Chlorine, Total Residual	mg/L	0.01	---	0.02	---	---
pH	Stand. Units	---	---	---	6.5	8.5
Ammonia ² (Total)	mg/L	1.3.	---	2.1.	---	---
	lbs/day ¹	31.4	---	50.8	---	---
Manganese, Total Recoverable	µg/L	---	---	192	---	---
Nitrate + Nitrite (as N)	mg/L	---	---	37		
Oil and Grease	mg/L	10	---	15		
Copper, Total Recoverable ³	µg/L	5.6	---	9.3	---	---
Zinc, Total Recoverable ³	µg/L	38	---	89	---	---

¹ Based on a discharge flow of 2.9 million gallons per day.

² Full Compliance required by 1 October 2013, provided the Discharger submits an acceptable infeasibility analysis per Section VI.C.7.a.ii.

³ Full Compliance required by 18 May 2010, provided the Discharger submits an acceptable infeasibility analysis per Section VI.C.7.a.i.

- b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.
- c. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
 - i. 23 MPN/100ml as a 7-day median; and
 - ii. 230 MPN/100ml more than once in any 30 day period.

- d. **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.
- e. **Monthly Average Discharge Flow.** The Monthly Average Discharge Flow shall not exceed 2.9 million gallons per day (mgd).

2. Interim Effluent Limitations

- a. **Effective immediately and until 17 May 2010**, 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. Provided the Discharger submits an acceptable infeasibility analysis per Section VI.C.7.a.i., 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

Parameters	Units	Maximum Daily Effluent Limit
Copper	µg/L	21.4
Zinc	µg/L	172

- b. **Effective immediately and until 30 September 2013**, 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. Provided the Discharger submits an acceptable infeasibility analysis per Section VI.C.7.a.ii., this interim effluent limitation shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 8. Interim Effluent Limitations

Parameter	Units	Monthly Average	Maximum Daily
Ammonia	mg/L	Attch. G	Attch. G
	lbs/day	1	1

¹ The mass limits (lbs/day) are based on the concentration limits multiplied by 2.9 mgd and the unit conversion factor of 8.34

B. Land Discharge Specifications – Not Applicable

Discharges to land regulated by separate waste discharge requirements.

C. Reclamation Specifications – Not Applicable

Discharges to land regulated by separate waste discharge requirements.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affects beneficial uses.
2. **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 23 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 230 MPN/100 mL.
3. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
4. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
5. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
6. **Dissolved Oxygen:** The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
7. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
8. **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.
9. **pH.** The pH to be depressed below 6.5 raised above 8.5, nor changed by more than 0.5. A one-month averaging period may be applied when calculating the pH change of 0.5.
10. **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.).
 - e. Pesticide concentrations to exceed the lowest levels technically and economically achievable.
 - f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15; nor
 - g. Thiobencarb to be present in excess of 1.0 µg/L.
11. **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.
12. **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.
13. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
14. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
15. **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 of receiving water.
16. **Temperature.** The natural temperature to be increased by more than 5°F.
17. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

18. **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.

In determining compliance with the above limits, a one-month averaging period may be used when determining compliance with this Receiving Surface Water Limitation for turbidity.

B. Groundwater Limitations – Not Applicable

Discharges to land regulated by separate waste discharge requirements.

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:

- i. New regulations. New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the

- ii. 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.
- iii. 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 five 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 ninety 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.j.

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.

- I. 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 three 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 four 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 five 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. **Pollution Prevention.** This Order requires the Discharger prepare and implement pollution prevention plans following CWC section 13263.3(d)(3) for copper and zinc. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.
- 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 copper, and zinc. 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. **Bis(2-ethyl)phthalate.** This Order requires the Discharger to conduct a 1-year study to sample monthly for bis(2-ethylhexyl) phthalate in the effluent and receiving water using clean sampling techniques. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of the human health water quality criteria, this Order may be reopened to add effluent limitations for bis(2-ethylhexyl) phthalate.

- f. **Mixing Zone/Dilution Study.** Section 1.4.2.2 of the SIP requires the Discharger to submit receiving water mixing zone studies prior to allowing dilution credits. This Order does not allow dilution credits for acute and chronic aquatic life criteria due to insufficient information. Should the Discharger conduct a mixing zone study to evaluate the appropriateness for dilution credits for compliance with aquatic life criteria, the Regional Water Board will review such studies and if warranted, may reopen this permit to make appropriate changes to the water quality-based effluent limitations.

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. **Initial Investigative 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 an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at minimum:
 - a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;
 - b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and
 - c) A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (i.e. an in-house expert or outside contractor).
 - 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 $>1 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$). 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 monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a six-week period (i.e. one test every two 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. **Effluent and Receiving Water Characterization Study.** An effluent and receiving water monitoring study is required to ensure sufficient information is available for the next permit renewal. During the term of the permit, the Discharger shall conduct semi-annual monitoring² of the effluent at EFF-001 and of the receiving water at RSW-001. The Discharger shall monitor for all priority pollutants and other constituents of concern as described in Attachment H. The report shall be completed in conformance with the following schedule.

<u>Task</u>	<u>Compliance Date</u>
Submit Workplan and Time Schedule	No later than 2 years 6 months after adoption of the permit
Submit Final Report	6 months following completion of final monitoring event, or 180 days prior to expiration of the permit, whichever is sooner.

- c. **Effluent and Receiving Water Bis(2-ethylhexyl)phthalate Study.** An effluent and receiving water monitoring study to evaluate bis(2-ethylhexyl)phthalate concentrations using clean techniques is required. During the first discharge season after adoption of the permit, the Discharger shall conduct monthly monitoring of the effluent at EFF-001 and of the receiving water at RSW-001 for bis(2-ethylhexyl)phthalate. The report shall be completed in conformance with the following schedule.

<u>Task</u>	<u>Compliance Date</u>
Submit Workplan and Time Schedule	2 months after adoption of the permit
Submit Final Report	3 months following completion of final monitoring event

3. Best Management Practices and Pollution Prevention

- a. **Surface Water Discharge Minimization Program.** In an effort to minimize surface water discharges from Quartz Reservoir to Woods Creek, the Discharger must maximize the use of existing land disposal resources and implement water conservation efforts to minimize wastewater flows into Quartz Reservoir. The Discharger shall submit progress reports, **1 November, annually**, describing its efforts to minimize surface water discharges from Quartz Reservoir to Woods Creek.
- b. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the domestic wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the effective date of this Order for approval by the Executive Officer.**

² Dioxin and furan sampling shall be conducted only once during the permit term.

- c. **Water Conservation Program.** The Discharger shall develop and implement a comprehensive Water Conservation Program (Program) in an effort to minimize wastewater flows into Quartz Reservoir. The Program shall be completed in accordance with the State Water Board, Division of Financial Assistance Water Conservation Program guidelines (Attachment I). As an alternative to developing an independent Program, the Discharger may become a signatory to the *Memorandum of Understanding Regarding Urban Water Conservation in California*. The Discharger shall comply with the following schedule:

Task	Compliance Date
i. Submit Workplan and Time Schedule	6 months after adoption of the permit
ii. Full Compliance	To be determined in Task i., but no later than 24 months after adoption of the permit.

4. Construction, Operation and Maintenance Specifications

- a. **Effluent Outfall Operating Requirements.** Public contact with wastewater, in and around the reservoir and the effluent outfall, shall be discouraged through such means as fences, signs, and other acceptable alternatives

5. Special Provisions for Municipal Facilities (POTWs Only)

- a. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order 2006-0003 and any future revisions thereto. Order 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR. On 23 June 2006, the Discharger applied for coverage under State Water Board Order 2006-0003 for operation of its wastewater collection system.

Regardless of the coverage obtained under Order 2006-0003, 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, Copper, and Zinc**
 - i. **By 18 May 2010**, the Discharger shall comply with the final effluent limitations specified in Section IV.A.1.a, for *copper and zinc*. This compliance schedule is contingent upon the Discharger submitting a compliance schedule justification for copper and zinc **by the effective date of this Order**. The compliance schedule justification shall include all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. As this compliance schedule is greater than 1 year, the Discharger shall submit annual progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.)
 - ii. **By 1 October 2013**, the Discharger shall comply with the final effluent limitations specified in Section IV.A.1.b, for ammonia. This compliance schedule is contingent upon the Discharger submitting a compliance schedule justification for ammonia **by the effective date of this Order**. The compliance schedule justification shall include all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. As this compliance schedule is greater than 1 year, the Discharger shall submit annual progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.)
 - iii. **Corrective Action Plan/Implementation Schedule.** The Discharger shall submit to the Regional Water Board a corrective action plan and implementation schedule to assure compliance with the final effluent limitations for ammonia, copper, and zinc **within 3 months of the effective date of this Order**.
 - iv. **Pollution Prevention Plan.** The Discharger shall prepare and implement a pollution prevention plan for *ammonia, copper, and zinc* in accordance with CWC section 13263.3(d)(3). The minimum requirements for the pollution prevention plan are outlined in the Fact Sheet, Attachment F, Section VII.B.3c. A work plan and time schedule for preparation of the pollution

prevention plan shall be completed and submitted to the Regional Water Board **within 4 months of the effective date of this Order** for approval by the Executive Officer. The Pollution Prevention Plan shall be completed and submitted to the Regional Water Board **within six (6) months following work plan approval by the Executive Officer.**

VII. COMPLIANCE DETERMINATION

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

- A. **BOD and TSS Effluent Limitations.** Compliance with the final effluent limitations for BOD and TSS required in section IV.A.1(a) shall be ascertained by 24-hour composite samples. Compliance with effluent limitations in section IV.A.1(b) for percent removal shall be calculated using the arithmetic mean of 20°C BOD (5-day) and total suspended solids 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. **Average Daily Discharge Flow Effluent Limitations.** The Average Daily Discharge Flow represents the daily average flow discharged to Woods Creek.
- C. **Total Coliform Organisms Effluent Limitations (Section IV.A.1a).** 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 seven days for which analyses have been completed. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.
- 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. **Mass Effluent Limitations.** Compliance with the mass effluent limitations will be determined during surface water discharge periods only.

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:

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

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(I). 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 U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

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

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

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

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

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

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

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

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

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

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

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

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

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

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The

goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

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

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

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

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

where:

x is the observed value;

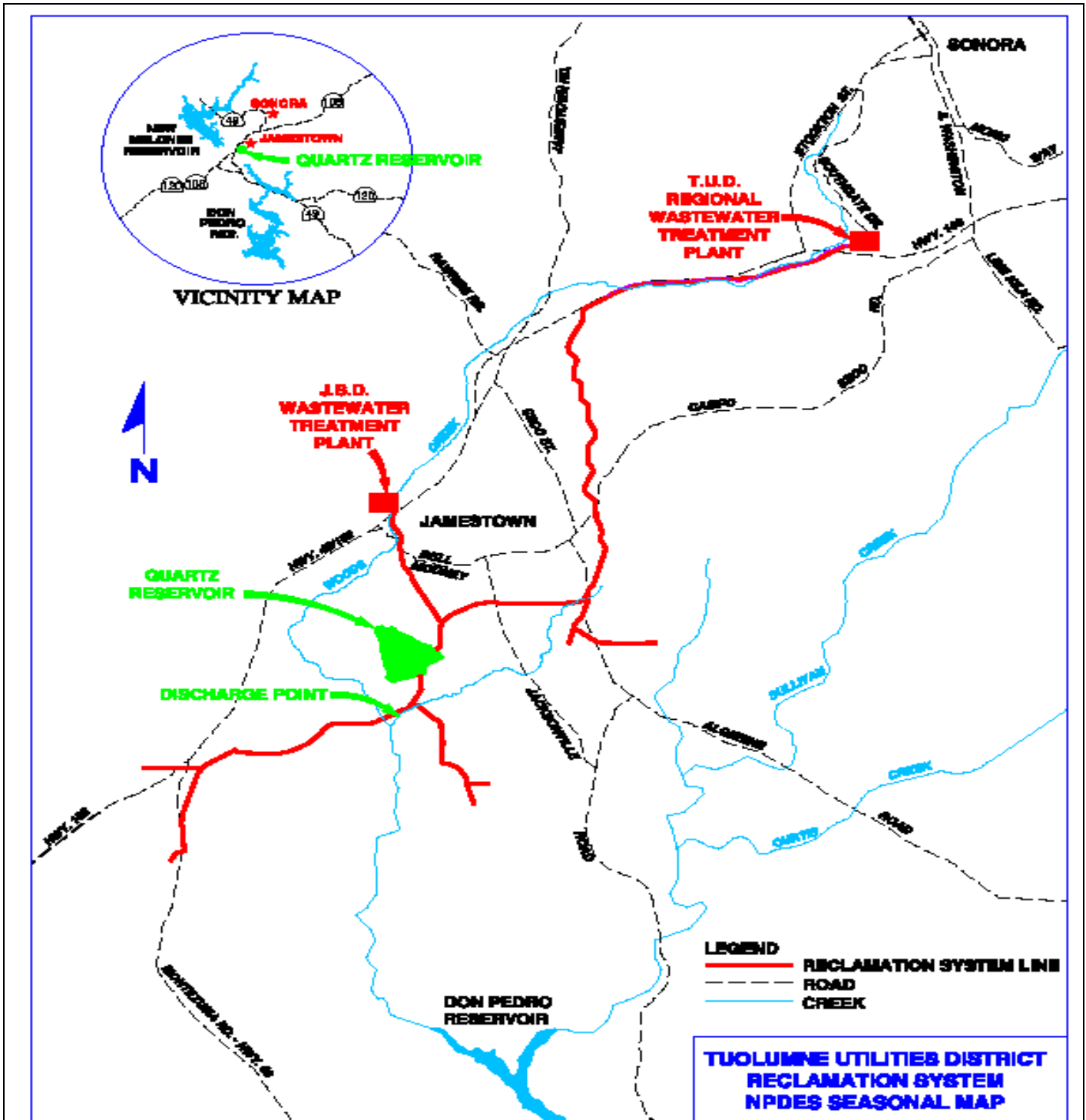
μ is the arithmetic mean of the observed values; and

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 – Topography Map



Drawing Reference
 Map Quest
 Not to Scale

SITE LOCATION
 TUOLUMNE UTILITIES DISTRICT
 SONORA & JAMESTOWN WWTP

↑
 NORTH

ATTACHMENT C – TUD Wastewater Treatment Facilities

(Left Blank)

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

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

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

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

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

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

IV. STANDARD PROVISIONS – RECORDS

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

B. Records of monitoring information shall include:

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

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

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall

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

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

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

C. Monitoring Reports

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

- 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 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP).....	E-1
I. General Monitoring Provisions.....	E-1
II. Monitoring Locations	E-2
III. Influent Monitoring Requirements.....	E-2
A. Monitoring Location (INF-001 and INF-002)	E-2
IV. Effluent Monitoring Requirements	E-3
A. Monitoring Location (EFF-001)	E-3
V. Whole Effluent Toxicity Testing Requirements	E-4
VI. Land Discharge Monitoring Requirements (Set forth in Order No. 94-192)	E-7
VII. Reclamation Monitoring Requirements (Set forth in Order No. R5-2002-0202).....	E-7
VIII. Receiving Water Monitoring Requirements – Surface Water.....	E-7
A. Monitoring Location – Woods Creek (RSW-001, RSW-002, and RSW-003)	E-7
IX. Other Monitoring Requirements.....	E-8
A. Biosolids (Set forth in Order No. 94-192).....	E-8
B. Municipal Water Supply	E-8
X. Reporting Requirements.....	E-8
A. General Monitoring and Reporting Requirements.....	E-8
B. Self Monitoring Reports (SMRs)	E-10
C. Discharge Monitoring Reports (DMRs)	E-11
D. Other Reports	E-12

List of Tables

Table E-1. Monitoring Station Locations	E-2
Table E-2. Influent Monitoring.....	E-2
Table E-3. Effluent Monitoring	E-3
Table E-4. Chronic Toxicity Testing Dilution Series	E-6
Table E-5. Receiving Water Monitoring Requirements	E-7
Table E-6. Municipal Water Supply Monitoring Requirements.....	E-8
Table E-7. Monitoring Periods and Reporting Schedule	E-11
Table E-8. Reporting Requirements for Special Provisions Progress Reports	E-12

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 non-certified 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. 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	At the plant headworks prior to entering into treatment processes of Sonora Regional Wastewater Treatment Plant
	INF-002	At the plant headworks prior to entering into treatment processes of Jamestown Wastewater Treatment Plant
001	EFF-001	Secondary effluent prior to entering the Woods Creek
	RSW-001	Woods Creek: 50 feet upstream of the discharge
	RSW-002	Woods Creek: 100 feet downstream of the discharge
	RSW-003	Woods Creek at Bell Moony Road.
	SPL-001	Municipal Water Supply to Tuolumne Utilities District
	SPL-002	Municipal Water Supply to James Town Sanitary District

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location (INF-001 and INF-002)

1. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. The Discharger shall monitor domestic influent to the facilities at the headworks (INF-001 and INF-002) prior to entry into treatment processes as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method
Flow	mgd	Meter	Continuous	
BOD 5-day 20°C	mg/L, lbs/day	24-hr Composite ²	1/week	
Suspended Solids	mg/L, lbs/day	24-hr Composite ²	1/week	
pH	Standard Units	Meter	1/day	
¹ Sampling required year around. ² 24-hour flow proportional composite,				

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location (EFF-001)

1. When discharging to surface water, the Discharger shall monitor secondary treated effluent prior to discharge at EFF-001 (from the last point in the discharge channel through which the Quartz Reservoir effluent can be admitted into the Woods Creek). Effluent samples should be representative of the volume and quality of the discharge and the time of collection shall be recorded. 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. The Discharger shall monitor the effluent as follows:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous	
Temperature ¹	°F	Grab	1/day	
Dissolved Oxygen	mg/L	Grab	1/day	
pH	Standard Units	Grab	1/day	
Total Residual Chlorine	mg/L	Meter	1/day	
BOD 5-day 20°C	mg/L, lbs/day	Grab	2/week	
Total Suspended Solids	mg/L, lbs/day	Grab	2/week	
Total Coliform Organisms	MPN/100 mL	Grab	2/week	
Settleable Solids	ml/L	Grab	1/month	
Oil and Grease	mg/l, lbs/day	Grab	1/month	
Electrical Conductivity	µmhos/cm	Grab	1/month	
TDS	mg/L	Grab	1/month	
Ammonia (as N) ^{2, 3}	mg/L, lbs/day	Grab	1/week	
Nitrate (as N)	mg/L, lbs/day	Grab	1/month	
Nitrite (as N)	mg/L, lbs/day	Grab	1/month	
Bis(2-ethylhexyl)phthalate ⁴	µg/L	Grab	1/month	
Chloroform ⁴	µg/L	Grab	1/month	
Copper ⁴	mg/L	Grab	1/month	
Manganese	µg/L	Grab	1/month	
Mercury	µg/L	Grab	1/month	
Zinc ⁴	µg/L	Grab	1/month	
Standard Minerals ⁵	mg/L	Grab	1/year	

-
- ¹ Effluent temperature monitoring shall be at the discharge end of discharge pipe 001.
 - ² Concurrent with biotoxicity monitoring
 - ³ Report as total.
 - ⁴ 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.
 - ⁵ 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).
 - ⁶ Concurrent with receiving surface water sampling.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, except for standard minerals and mercury, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge.

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 – when discharging to the Woods Creek, the Discharger shall perform quarterly acute toxicity testing, 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 rainbow trout (*Oncorhynchus mykiss*).
 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 – when discharging to the Woods Creek, the Discharger shall perform quarterly 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 (upstream sampling location out of influence of the discharge) 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 chronic toxicity testing it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent. For accelerated and/or 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).
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. 2.a.iii.)

Table E-4. Chronic Toxicity Testing Dilution Series

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

- 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/LC₅₀, 100/EC₂₅, 100/IC₂₅, and 100/IC₅₀, 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.

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.

VI. LAND DISCHARGE MONITORING REQUIREMENTS (Set forth in Order No. 94-192)

VII. RECLAMATION MONITORING REQUIREMENTS (Set forth in Order No. R5-2002-0202)

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Location – Woods Creek (RSW-001, RSW-002, and RSW-003)

1. Only when discharging to Woods Creek, the Discharger shall monitor Woods Creek at RSW-001, RSW-002, and RSW-003 as follows:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method
Flow ¹	mgd	Meter	Continuous	
Dissolved Oxygen ³	mg/L	Grab	1/week	²
pH ³	Standard Units	Grab	1/week	²
Temperature ³	°F (°C)	Grab	1/week	²

¹ Flow monitoring is required only at monitoring station RSW-003.
² Analyze using the analytical methods described in 40 CFR 136.
³ Monitoring only required at RSW-001 and RSW-002.

In conducting receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Location RSW-001 and RSW-002. Attention shall be given to the presence or absence of:

- | | |
|------------------------------|---|
| Floating or suspended matter | Visible films, sheens or coatings |
| Discoloration | Fungi, slimes, or objectionable growths |
| Bottom deposits | Potential nuisance conditions |
| Aquatic life | |

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

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids (Set forth in Order No. 94-192)

B. Municipal Water Supply

1. Monitoring Locations SPL-001 and SPL-002

The Discharger shall monitor the Municipal Water Supply at SPL-001 and SPL-002 as follows. Sampling stations shall be established where a representative sample of the municipal water supply to both TUD and JSD can be obtained. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

Table E-6. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Standard Minerals ¹	mg/L	Grab	1/year	
Electrical Conductivity (25°C) ²	µmhos/cm	Grab	1/year	
Total Dissolved Solids ²	mg/L	Grab	1/year	

¹ Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e., cation/anion balance).

² If the water supply is from more than one source, the TDS and EC shall be reported as a weighted average and must include copies of supporting calculations.

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, if any, 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 (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
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
 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-7. 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	Submit with monthly SMR
Hourly	First day of calendar month following permit effective date	Hourly	Submit with monthly SMR
Daily	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.	Submit with monthly SMR
Weekly	First day of calendar month following permit effective date	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 after (or on) first day of calendar month following permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 of same year August 1 of same year November 1 of same year February 1 of next year
Semiannually	Closest of January 1 or July 1 after (or on) first day of calendar month following permit effective date	January 1 through June 30 July 1 through December 31	August 1 of same year February 1 of the next year
Annually	January 1 after (or on) first day of calendar month following permit effective date	January 1 through December 31	February 1 of the next year

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 compliance time schedules required in Special Provisions VI, 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-8. Reporting Requirements for Special Provisions Progress Reports

Progress reports for compliance schedules for Final Effluent Limitations for ammonia, copper, and zinc.	June 1 , 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

Table of Contents

Attachment F – Fact Sheet	F-1
I. Permit Information	F-1
II. Facility Description	F-2
A. Description of Wastewater and Biosolids Treatment or Controls	F-3
B. Discharge Points and Receiving Waters	F-3
D. Compliance Summary	F-4
III. Applicable Plans, Policies, and Regulations	F-4
A. Legal Authority	F-4
B. California Environmental Quality Act (CEQA)	F-4
C. State and Federal Regulations, Policies, and Plans	F-4
D. Impaired Water Bodies on CWA 303(d) List	F-7
E. Other Plans, Policies and Regulations	F-8
IV. Rationale For Effluent Limitations and Discharge Specifications	F-8
A. Discharge Prohibitions	F-9
B. Technology-Based Effluent Limitations	F-10
1. Scope and Authority	F-10
2. Applicable Technology-Based Effluent Limitations (TBEL)	F-10
C. Water Quality-Based Effluent Limitations (WQBELs)	F-11
1. Scope and Authority	F-11
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives	F-11
3. Determining the Need for WQBELs	F-17
4. WQBEL Calculations	F-32
5. Whole Effluent Toxicity (WET)	F-35
D. Final Effluent Limitations	F-36
1. Mass-based Effluent Limitations	F-36
2. Averaging Periods for Effluent Limitations	F-37
3. Satisfaction of Anti-Backsliding Requirements	F-37
4. Satisfaction of Antidegradation Policy	F-38
F. Land Discharge Specifications – Not Applicable	F-40
G. Reclamation Specifications – Not Applicable	F-41
V. Rationale for Receiving Water Limitations	F-41
A. Surface Water	F-41
B. Groundwater– Not Applicable	F-44
VI. Rationale for Monitoring and Reporting Requirements	F-45
A. Influent Monitoring	F-45
B. Effluent Monitoring	F-45
C. Whole Effluent Toxicity Testing Requirements	F-45
D. Receiving Water Monitoring	F-45
1. Surface Water	F-45
2. Groundwater – Not Applicable	F-45
E. Other Monitoring Requirements	F-45
VII. Rationale for Provisions	F-46
A. Standard Provisions	F-46

- B. Special Provisions..... F-46
 - 1. Reopener Provisions F-46
 - 2. Special Studies and Additional Monitoring Requirements F-47
 - 3. Best Management Practices and Pollution Prevention F-51
 - 4. Construction, Operation, and Maintenance Specifications F-53
 - 5. Special Provisions for Municipal Facilities (POTWs Only)..... F-53
 - 6. Other Special Provisions F-53
 - 7. Compliance Schedules..... F-53
- VIII. Public Participation F-54
 - A. Notification of Interested Parties F-54
 - B. Written Comments F-54
 - C. Public Hearing F-54
 - D. Waste Discharge Requirements Petitions..... F-55
 - E. Information and Copying..... F-55
 - F. Register of Interested Persons F-55
 - G. Additional Information F-55

List of Tables

- Table F-1. Facility Information F-1
- Table F-2. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-4
- Table F-3. Summary of Technology-based Effluent Limitations (from Quartz Reservoir) F-11
- Table F-4. Salinity Water Quality Criteria/Objectives F-27
- Table F-5. RPA for Effluent Constituents with Detectable Results F-31
- Table F-6: WQBEL Calculations for Ammonia..... F-33
- Table F-7: WQBEL Calculations for Copper F-34
- Table F-8: WQBEL Calculations for Zinc..... F-34
- Table F-9. Summary of Water Quality-Based Effluent Limitations F-35
- Table F-10. Summary of Final Effluent Limitations F-39

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	5B55NP00003
Discharger	Tuolumne Utilities District
Name of Facility	Sonora Regional Wastewater Treatment Plant
Facility Address	400 South Gate Drive Sonora, CA 95370
Facility Contact, Title and Phone	Thomas L. Scesa, District Engineer (209) 532-5536 Ext. 516
Authorized Person to Sign and Submit Reports	Thomas L. Scesa, District Engineer
Mailing Address	P.O. Box 3728, Sonora, CA 95370
Billing Address	Same as above
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	3
Complexity	B
Pretreatment Program	No
Reclamation Requirements	Required in separate waste discharge requirements
Facility Permitted Flow	2.9 million gallons per day
Facility Design Flow	2.6 million gallons per day
Watershed	Tuolumne River Watershed
Receiving Water	Woods Creek
Receiving Water Type	Inland Surface Water

- A. The Tuolumne Utilities District (TUD) owns and operates the Sonora Regional Wastewater Treatment Plant (SRWTP), and associated wastewater collection and disposal system. The TUD provides sewer services to approximately 25,000 people and has design capacity of 2.6 million gallons per day (mgd). The sewerage service area includes communities of Twain Harte, Sonora, Mono Village, Rancho Sonora Estates, Columbia, Willow Springs, Ranchos Poquitos, and part of Jamestown. The

SRWTP produces secondary treated, disinfected effluent that is discharged to a 1200 ac-ft storage reservoir (Quartz Reservoir) prior to distribution for reclamation by agricultural end-users. The Jamestown Sanitary District (JSD), which owns and operates the JSD Wastewater Treatment Plant, provides sewer service to about 3,000 people. JSD has contracted with the TUD for effluent storage and disposal in Quartz Reservoir. The JSD Wastewater Treatment Plant discharges secondary treated, disinfected effluent to Quartz Reservoir, at an average dry weather flow rate of 0.28 mgd. At present, the secondary treated wastewater is used for irrigation of agricultural lands owned either by the TUD or private parties under contract for the use of the reclaimed wastewater during the dry months and part of the winter months as weather allows. There is insufficient storage capacity during high precipitation years. Therefore, excess water that is stored in Quartz Reservoir is discharged to Woods Creek, when the effluent can receive at least a 20:1 dilution (creek: effluent) from Woods Creek. Quartz Reservoir and the disposal site are in Section 1, T1N, R14E, MDB&M, as shown on Attachment A, which is part of this Order.

These discharges to land and the reclamation system are currently regulated under Regional Water Board Order Nos. 94-192 and R5-2002-0202, respectively.

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 secondary treated, chlorinated and de-chlorinated municipal wastewater to the New Don Pedro Reservoir via Woods Creek, a water of the United States. The current biosolids treatment and controls, the land disposal and reclamation of secondary effluent which is accomplished by irrigating agricultural lands, are regulated by Waste Discharge Requirements Orders No. 94-192 and R5-2002-0202, which were adopted by the Regional Water Board on 24 June 1994, and 5 December 2002, respectively, and they are incorporated by reference herein.
- C. The Discharger filed a report of waste discharge and submitted an application for renewal of National Pollutant Discharge Elimination System (NPDES) permit on 31 August 2005, to continue discharge secondary treated and disinfected wastewater from TUD’s Quartz Reservoir to Woods Creek. Supplemental information was requested in early January 2008 and received on 18 January 2008. A site visit was conducted on 7 March 2008, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The TUD provides sewer services to approximately 25,000 people and the design flow of the treatment plant is 2.6 million gallons per day (mgd). The Jamestown Sanitary District’s (JSD) Wastewater Treatment Plant provides sewer service to about 3,000 people and has a design capacity of 0.2 mgd.

This Order only regulates surface water discharges to the Woods Creek, which may only occur from 1 December through 15 May, when wastewater flows exceed the Facility's effluent storage and disposal capacity during high precipitation years.

A. Description of Wastewater and Biosolids Treatment or Controls

The TUD SRWTP secondary treatment facilities consists of headworks with revolving screen, a screening wash system, a bar screen, a Parshall flume, a grit removal system, primary clarifiers, trickling filters, secondary clarifiers, polishing ponds, chlorination and de-chlorination facilities, re-circulation pumps, centrifuge, primary and secondary anaerobic digesters, sludge drying beds, and effluent storage ponds. Chlorination occurs at the pump station, where chlorine is piped as a gas and mixed on demand triggered by the pump station controls. Chlorinated effluent is pumped into Quartz Reservoir for storage. Biosolids are disposed off-site at a regulated beneficial reuse land application site.

The JSD treatment plant provides secondary treatment with chlorination. The plant consists of the headworks, primary clarifier, trickling filter, secondary clarifier, aerobic sludge digester, chlorination facilities, a sludge storage lagoon, sludge drying beds, and an equalization basin. Chlorination occurs at the pump station.

The Discharger anticipates the discharge to surface water would occur only during high precipitation years during which effluent flows are highest due to high infiltration and inflow, agricultural irrigation needs are lowest, winter/spring storage needs are greatest, and only when there is a threat of overflow from the Quartz storage reservoir.

B. Discharge Points and Receiving Waters

1. The SRWTP storage ponds, and disposal sites are in Section 1, T1N, R14E, MDB&M, with surface water drainage to the Tuolumne River and Don Pedro Reservoir via Woods Creek as shown in Attachment B (Figure B-1), which is a part of this Order.
2. Secondary treated and disinfected municipal wastewater is discharged to Woods Creek, a water of the United States at a point Latitude N37°, 55', 20" and longitude W120°, 25', 53". The Woods Creek is within the Tuolumne River watershed management area.

Table F-2. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

		Effluent Limitations					Discharge Reported Data (from Dec 2003 to April 2004)	
Constituents	Units	Monthly Average	Weekly Average	Daily Maximum	4-day Average	1-hour Average	Highest Avg. Monthly	Highest Daily
BOD	mg/l	30	45	60			25	28
	lbs/day ³	775	1163	1550			327	378
TSS	mg/l	30	45	90			26	27
	lbs/day ³	775	1163	2326			343	364
Total Coliform	MPN/100ml	23		230			23	>1600
Settleable Solids	ml/l	0.1		0.2			<0.1	<0.2
Chlorine Residual	mg/l	---		---	0.011	0.019	ND	ND
	lbs/day ³	---		---	0.28	0.49		
Oil and Grease	mg/l	10			15		N.A.	N.A.
	lbs/day ³	258			388		N.A.	N.A.
Ammonia-N	mg/l	Varies ⁴				Varies ⁴	15	18

Footnotes

- ¹ 5-day, 20°C biochemical oxygen demand (BOD).
- ² To be ascertained by a 24-hour composite.
- ³ Based upon a daily peak wet weather flow rate of 3.1 mgd.
- ⁴ Effluent limitations vary based on pH and/or temperature at the time of discharge. A dilution credit of 10:1 allowed.

D. Compliance Summary

No compliance issues noted

E. Planned Changes – Not Applicable

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 August 2006), 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. The Basin Plan at page II-2.00 states that the “...beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan does not specifically identify beneficial uses for *Woods Creek*, but does identify present and potential uses for *Tuolumne River* to which *Woods Creek*, via *New Don Pedro Reservoir*, is tributary. 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. The beneficial uses of the *Woods Creek* downstream of the discharge are: municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); hydropower generation; water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation, including aesthetic enjoyment (REC-2); commercial and sport fishing; aquaculture; warm freshwater habitat; cold freshwater habitat; 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 November 28, 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 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"*. However, the Regional Water Board has determined that no toxic chemical release data has been reported to the state emergency response commission for the discharge into the POTW.
5. **Stormwater 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 stormwater program and are obligated to comply with the Federal Regulations.
6. **Water Reuse Policy.** The Basin Plan's Water Reuse Policy states, *"The Regional Water Board encourages the reclamation and reuse of wastewater...and requires as part of a Report of Waste Discharge an evaluation of reuse and land disposal options as alternative disposal methods. Reuse options should include consideration of the following, where appropriate, based on the quality of the wastewater and the required quality for the specific reuses: industrial and municipal supply, crop irrigation, landscape irrigation, ground water recharge, and wetland restoration."* The purpose of the Water Reuse Policy is to evaluate alternative methods of disposal to prevent unnecessary discharges to surface water

The Discharger disposes of treated wastewater via spray or flood irrigation of fodder crops and pasture lands owned either by the TUD or private parties under contract for the use of the reclaimed wastewater. The land discharge is regulated by WDRs Order No. 94-192 and WRRs Order No. R5-2002-0202. Both these Orders require

that the Discharger maintain sufficient storage capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during a 100-year rainfall year. The Discharger has documented through a feasibility study report titled, *TUD Reclamation System Improvements, Feasibility Study* (August 2005) that the critical element for effluent disposal to land is its effluent storage capacity. The Discharger further documents that the alternatives that best meet the long-term needs of the Discharger is the addition of land for irrigation, the retention of the ability for seasonal surface water discharge during high precipitation years, and increased storage.

Also, in response to the C&D Order, the Discharger submitted water balances for the water reclamation system to assess whether adequate storage and disposal capacity is available for anticipated flow rates. The water balances were prepared based on crop water and nutrient needs, quality and quantity of applied water, historical climate data, and 100-year annual return total rainfall amounts. The water balances indicated that without significant changes to the wastewater reclamation system, some seasonal discharge to Woods Creek would continue to be required during extremely wet winters when effluent flows are maximized and end-use needs for reclaimed water are minimized. Since the preparation of those water balances, the Discharger has added approximately 100 more acres of land for wastewater reclamation application, and obtained NPDES Permit No. CA 0084727 (WDRs Order No. 5-01-043) for the winter-time discharge of excess effluent during years of above average precipitation.

Currently, the effluent storage capacity of the Quartz Reservoir is approximately 1200 ac-ft. The estimated long-term effluent storage requirement, during a 100-year rainfall year, is approximately 1600 acre-feet. Due to a lack of adequate storage capacity, the Discharger experienced unauthorized overflows from its storage reservoir during the winter months from 1995 through 1999. As a result, Cease and Desist Order No. R5-00-002 was issued in January 2000 for failure to meet the discharge requirements.

The Discharger evaluated several irrigation sites to accommodate the long-term disposal needs projected for build-out. This evaluation also included expanding the existing effluent storage facilities or constructing new facilities at new sites. In addition, potential factors to reduce wastewater flows were also considered and their estimated impact on effluent storage requirements were estimated. The Feasibility Study concluded the alternatives that best meet the long-term needs of the TUD is the addition of land for irrigation, the retention of the ability for seasonal surface water discharge during high precipitation years, and increased storage.

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 2006 303(d) list does not have listings for the upper Woods Creek where the treated effluent is proposed to be discharged.

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 Section 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) EPA’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. Due to insufficient wintertime storage capacity during high rainfall years, direct discharge to the Woods Creek from the Quartz Reservoir is permitted from 1 December through 15 May when the dilution ratio of Woods Creek to effluent discharge flow is at least 20:1, on a daily average, as measured upstream from the Discharge Point.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Regulations promulgated in section 125.3(a)(1) of the Code of Federal regulations 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 (BOD₅), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations (TBEL)

- a. **BOD₅ and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD₅ 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. See Table F-3 for final technology-based effluent limitations required by this Order. 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 BOD₅ and TSS over each calendar month.
- b. **Flow.** The SRWTP was designed to provide a secondary level of treatment for up to a design flow of 2.6 mgd ADWF and a peak wet weather flow of 3.1 mgd. Current annual average daily flow to the facility is 1.9 mgd. The JSD Facility was designed to provide a secondary level of treatment for up to a design flow of 0.28 mgd ADWF and a peak wet weather flow of 1.1 mgd. Current annual average daily flow to the facility is 0.23 mgd. Based on the water balance, the proposed

volume of water that must be discharged to surface water to provide adequate disposal capacity during 100-year rainfall year is approximately 88 MG/yr. Therefore, during the surface discharge period (from December 1 through May 15), it is estimated that 2.9 mgd, as a monthly average, needs to be discharged to Woods Creek to maintain the reservoir at a maximum level of 2 feet below spillway and to avoid overflows. Consequently, this Order contains a Monthly Average Discharge Flow effluent limit of 2.9 mgd.

**Summary of Technology-Based Effluent Limitations
 Discharge Point – 001**

Table F-3. Summary of Technology-based Effluent Limitations (from Quartz Reservoir)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day BOD	mg/l	30	45	60	---	---
	lbs/day ¹	726	1088	1452	---	---
Total Suspended Solids	mg/l	30	45	90	---	---
	lbs/day ¹	726	1088	2176	---	---
Flow	mgd	2.9	---	---	---	---

¹ Based on discharge flow of 2.9 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.** The receiving water is Woods Creek, a tributary to new Don Pedro Reservoir and the Tuolumne River. The beneficial uses of the Woods Creek are described above in Section III.C.1 of this Fact Sheet. Woods Creek is a small ephemeral stream ranging in width between 3 ft. to 4 ft., with the lowest flow reported as 0.46 cubic feet per second during the non-discharge season. Dry conditions in the Creek occur primarily in the hot summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years.
- 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 CaCO₃), 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 using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

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

Where:

H = Hardness

b = metal- and criterion-specific constant

m = metal- and criterion-specific constant

¹ See 40 CFR 131.38(c)(4)(i)

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 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 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 70 mg/L as CaCO₃ was used, based on 12 samples collected from January 2002 through December 2002.

For those metals where the regulatory criteria exhibit a concave upward relationship as a function of hardness, a water quality objective based on either the effluent hardness or the receiving water hardness alone, would not be protective under all mixing scenarios. Instead, both the hardness of the receiving water and the effluent is required to determine the reasonable worst-case ambient hardness. The following equation provides fully protective water quality criteria for those metals that exhibit a concave upward relationship.

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

Where:

H_{eff} = Effluent hardness

H_{rw} = 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 an effluent hardness of 70 mg/L as CaCO₃ and a receiving water hardness of 120 mg/L as CaCO₃.

- c. **Assimilative Capacity/Mixing Zone.** Section 1.4.2.2 of the SIP requires that the Discharger provide information necessary for the Regional Water Board to make a determination on allowing a mixing zone, including the calculations for deriving the appropriate receiving water and effluent flows, and/or the results of a mixing zone study. The SIP also states, in part, “...*the Regional Board may grant mixing zones and dilution credits to dischargers in accordance with the provisions of this section... The applicable priority pollutant criteria and objectives are to be met throughout a water body except within any mixing zone granted by the Regional Board. The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis.*”

The SIP lists conditions that must be met in allowing a mixing zone, and states that the Regional Water Board “*shall deny or significantly limit a mixing zone and dilution credit as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements.*”

For incompletely mixed discharges, the SIP provides that: “*Dilution credits and mixing zones for incompletely-mixed discharges shall be considered by the RWQCB only after the discharger has completed an independent mixing zone study and demonstrated to the satisfaction of the RWQCB that a dilution credit is appropriate.*” For completely mixed discharges, the SIP states, “...*the amount of receiving water available to dilute the effluent shall be determined by calculating the dilution ratio (i.e. the critical receiving water flow divided by the effluent flow)...*”

USEPA’s current water quality standards regulation authorizes states to adopt general policies, such as mixing zones, to implement state water quality standards (40 CFR §122.44 and §122.45). The USEPA allows states to have broad flexibility in designing their mixing zone policies. Primary guidance on determining mixing zone and dilution credits is provided by the SIP, the USEPA Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA/505/2-90-001), and the Basin Plan. For NPDES permits in California, the SIP guidance supercedes the USEPA guidance for priority pollutants, to the extent that it addresses a particular procedure. However, for non-priority pollutants, the more stringent of the Basin Plan or US EPA guidance may apply.

In granting a mixing zone, the SIP states that a mixing zone shall be as small as practicable, and meet the conditions provided in Section 1.4.2.2 as follows:

- “A: A mixing zone shall not:
- (1) compromise the integrity of the entire water body;
 - (2) cause acutely toxic conditions to aquatic life passing through the mixing zone;
 - (3) restrict the passage of aquatic life;

(4) adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;

(5) produce undesirable or nuisance aquatic life;

(6) result in floating debris, oil, or scum;

(7) produce objectionable color, odor, taste, or turbidity;

(8) cause objectionable bottom deposits;

(9) cause nuisance;

(10) dominate the receiving water body or overlap a mixing zone from different outfalls; or

(11) be allowed at or near any drinking water intake. A mixing zone is not a source of drinking water. To the extent of any conflict between this determination and the Sources of Drinking Water Policy (Resolution No. 88-63), this SIP supersedes the provisions of that policy.”

Acute and Chronic Aquatic Life Criteria. For acute (1-hour) and chronic (4-day and 30-day) criteria, the discharge is assumed to be incompletely mixed, based on the information provided by the Discharger. The discharge to Woods Creek is via a side channel, therefore, complete mixing may not occur. For incompletely mixed discharges, the SIP requires that to consider dilution credits a dilution/mixing zone study must be performed. The previous permit required the Discharger to conduct a Dilution/Mixing Zone Study. The Discharger submitted a mixing zone study report dated 25 August 2005, titled *Mixing Zone Study Quartz Reservoir Winter Overflow to Woods Creek*, developed by Kennedy/Jenks Consults. Kennedy/Jenks Consultants utilized the CORMIX computer model to simulate the mixing zone and dilution of the discharge to Woods Creek. However, the study doesn't include sufficient detail to adequately determine protective dilution credits for compliance with acute and chronic aquatic life criteria. Therefore, this Order requires end-of-pipe effluent limitations for compliance with these criteria. A reopener provision is provided to reconsider dilution credits should the Discharger provide adequate justification.

Human Health Criteria. For long-term human health criteria it is a valid assumption that the discharge is completely mixed with the receiving water. This approach is appropriate for long-term human health criteria where critical environmental effects are expected to occur far downstream from the source. The Discharger's dilution study, though not sufficient for development of dilution credits for near-field criteria (i.e. acute and chronic aquatic toxicity criteria), includes information useful in the determination of the dilution credits for far-field criteria (i.e. human health criteria). The dilution study predicted the distance downstream where complete mixing will occur. The dilution study predicted that complete mixing will occur between 87 to 135 feet downstream of the discharge, depending on the Manning roughness coefficient. This Order includes Discharge Prohibition III.E. that requires at least a 20:1 flow ratio (Woods Creek:effluent) at all times. Therefore, a dilution credit of 20:1 is allowed for compliance with long-term human health criteria, which allows a mixing zone 135 feet long.

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 Woods Creek approximately 2 miles upstream of Don Pedro Reservoir, which is a source of drinking water. The human health criteria mixing zone extends 135 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 Don Pedro Reservoir. There are no drinking water intakes on Woods Creek 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, 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 be 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, aluminum, copper, iron, manganese, nitrate, nitrite, 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 Table F-5, 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 control². 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*

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

manner that promotes statewide consistency.” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

- d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.
- e. **Aluminum.** The Secondary Maximum Contaminant Level (MCL) - Consumer Acceptance Limit for aluminum is 200 µg/L and is applied for the protection of the MUN beneficial use. For protection of freshwater aquatic life, the Regional Water Board in the past has used USEPA’s criteria for prevention of acute and chronic toxicity to implement the Basin Plan’s narrative toxicity objective for aluminum. The recommended four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively, for waters with a pH of 6.5 to 9.0. The most stringent of these criteria is the chronic criteria of 87 µg/L. This criteria is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as CaCO₃), conditions not commonly observed in Central Valley receiving waters like Woods Creek. Thus the criteria is likely overly protective for this application. For similar reasons, the Utah Department of Environmental Quality (Department) only applies the 87 µg/L chronic criterion for aluminum where the pH is less than 7.0 and the hardness is less than 50 mg/L as CaCO₃ in the receiving water after mixing. For conditions where the pH equals or exceeds 7.0 and the hardness is equal to or exceeds 50 mg/L as CaCO₃, the Department regulates aluminum based on the 750 µg/L acute criterion. Therefore, in the case of Woods Creek where both the pH and hardness ranged from 7.7 to 8.4, and 120 mg/l to 221 mg/l, respectively, it is unlikely that application of the stringent chronic criteria (87µg/L) is necessary to protect aquatic life.

The MEC for aluminum was 67 µg/L, and the maximum annual average effluent concentration was 35 µg/L, while the maximum observed upstream receiving water aluminum concentration was 201 µg/L, and the maximum annual average receiving water concentration was 78 µg/L, based on 11 samples collected during January 2002 and December 2002. The maximum receiving water aluminum concentration and MEC do not exceed the NAWQC for aluminum (750 µg/L), and the annual average receiving water and effluent concentrations do not exceed the Secondary MCL (200 µg/L), therefore, aluminum in the discharge does not have a reasonable potential to cause or contribute to an exceedance of applicable water quality criteria. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the California Department of Public Health and the fact that MCLs are designed to protect human health over long exposure periods. Therefore, it is appropriate to analyze reasonable potential based on an annual average concentration.

- f. **Ammonia.** Untreated domestic wastewater contains ammonia. Nitrification is 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 currently uses 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 section 122.44(d)(1)(vi)(B), it is appropriate to use USEPA's Ambient National Water Quality Criteria for the Protection of Freshwater Aquatic Life for ammonia, which was developed to be protective of aquatic organisms.

USEPA's *Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life*, for total ammonia, recommends acute (1-hour average; criteria maximum concentration) standards based on pH and chronic (30-day average, criteria continuous concentration) standards based on pH and temperature. It also recommends a maximum four-day average concentration of 2.5 times the criteria continuous concentration. 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 Woods Creek has a beneficial use of cold freshwater habitat and the potential for the presence of salmonids and early fish life stages, the recommended criteria for waters where salmonids and early life stages are present were used. USEPA's recommended criteria are shown below:

$$CCC_{30\text{-day}} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \times \text{MIN}(2.85, 1.45 \cdot 10^{0.028(25 - T)}), \text{ and}$$
$$CMC = \left(\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}} \right),$$

where T is in degrees Celsius.

The maximum permitted effluent pH is 8.5. The Basin Plan objective for pH in the receiving stream is in 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, calculated with salmonids present.

There is not enough representative receiving water monitoring data to determine the chronic criterion based on the receiving water. Therefore, the maximum running 30-day average effluent temperature of 24°C (based on temperature data from January 2003 – August 2006) and the maximum 30-day effluent pH of 7.8 (based on pH data from June 2006 – March 2008) were used to calculate the 30-day CCC. The resulting 30-day CCC is 1.73 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 a 30-day CCC of 1.73 mg/L (as N), the 4-day average concentration, that should not be exceeded, is 4.33 mg/L.

The MEC for ammonia was 18 mg/L, based on 16 samples collected between May 2003 and February 2007, while the maximum observed upstream receiving water ammonia concentration was 0.3 mg/L, based on four samples collected between January 2002 and December 2002. 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.

The previous Order included effluent limitations for ammonia that varied based on pH and temperature of the discharge using the NAWQC equations to calculate the 1-hr and 30-day criteria. In addition, pending completion of the Dilution/Mixing Zone Study, the Discharger was provided with a dilution credit of 10:1 for compliance with chronic criteria. However, with regard to variable or "floating" effluent limitations, the State Water Board in WQO 2004-0013 for the City of Yuba City, stated that, "*We recommend that the Regional Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than "floating" effluent limitations.*" Therefore, to be consistent with the State Water Board's recommendation this Order includes fixed effluent limitations for ammonia (as N). Furthermore, as discussed in Section IV.C.2.c., above, the Discharger has not provided sufficient justification for a dilution credit for acute and chronic aquatic life criteria. Therefore, final Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL) of 1.3 mg/L and 2.1 mg/L, respectively, are included in this Order and were calculated without the benefit of dilution. (See Table F-6 in this Fact Sheet for WQBEL calculations).

Based on the effluent sample analytical results, 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 water quality-based effluent limitations 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. This compliance schedule is contingent upon the Discharger submitting a compliance schedule justification for ammonia **by the effective date of this Order**. The compliance schedule justification shall include all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP.

An interim performance-based maximum daily limitation of 23.8 mg/L was calculated using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E.3. However, for some effluent pH and temperature values this performance-based effluent limitation is less stringent than the final “floating” effluent limitations for ammonia from the previous Order. Therefore, the “floating” AMEL and MDEL for ammonia are established as the interim limitations in this Order, not to exceed 23.8 mg/L as N (see Attachment G for the interim ammonia effluent limitations). Provided the Discharger submits a compliance schedule justification for ammonia the interim effluent limitations are in effect until **30 September 2013**. 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 submit and implement a pollution prevention plan in accordance with CWC section 13263.3(d)(3).

- g. **Bis(2-ethylhexyl)phthalate.** The State primary MCL for bis(2-ethylhexyl)phthalate is 4 µg/l and the USEPA primary 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 11 µg/L based on 4 samples collected between January 2002 and December 2002. Bis(2-ethylhexyl)phthalate was also detected in upstream receiving water at 9 µg/L in one of the 4 samples taken during the same period. A concentration of 9 µg/L in the receiving water is highly unusual. There is uncertainty in these results, because, bis(2-ethylhexyl) phthalate samples can be easily contaminated when plastic containers are used or by the use of rubber gloves. Therefore, the Regional Water Board does not have confidence that the above results are representative of the discharge or the receiving water and an RPA could not be performed. This Order requires the Discharger to conduct a 1-year study to sample monthly for bis(2-ethylhexyl) phthalate in the effluent and receiving water using clean sampling techniques. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of the human health water quality criteria, this Order may be reopened to add an effluent limit for bis(2-ethylhexyl) phthalate.

- h. **Chlorine Residual.** Chlorine is used for disinfection at both the Sonora Regional Wastewater Treatment Plant and Jamestown Wastewater Treatment Plant. Chlorine is extremely toxic to aquatic organisms. Due to the use of chlorine, the effluent has a reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective in the receiving water.

Effluent wastewater from the wastewater treatment facilities is stored in Quartz Reservoir prior to discharge to Woods Creek. Quartz Reservoir provides a significant amount of detention time prior to effluent discharge, therefore, since chlorine quickly oxidizes, it is unlikely that any chlorine residual will be discharged to Woods Creek. The previous Order required daily monitoring of chlorine residual when discharging to Woods Creek and chlorine has never been

detected in the effluent (<0.01).

Effluent limitations for residual chlorine were included in the previous Order for total residual chlorine as a 1-hour average of 0.019 mg/L and a weekly average of 0.011 mg/L, which were based on USEPA's National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for chlorine. To determine compliance with a 1-hour average effluent limitation it is necessary to monitor the effluent continuously. Continuous monitoring is not appropriate for this Facility due to the long detention time in Quartz Reservoir; therefore, this Order includes total residual chlorine effluent limitations of 0.01 mg/L and 0.02 mg/L, as an AMEL and MDEL, respectively, and requires daily effluent monitoring using grab samples when discharging to Woods Creek.

- i. **Chloroform.** The Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that narrative objectives may be translated using numerical limits published by other agencies and organizations. The California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicological assumptions used by OEHHA and USEPA in evaluating health risks via drinking water exposure of 70 kilograms (kg) body weight and two liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 µg/L (ppb) at the one-in-a-million cancer risk level. This OEHHA concentration is generally applied when there is a drinking water intake immediately downstream of a discharge. However, because there is not a drinking water intake directly downstream of Discharge Point No. 001, the OEHHA criterion will not be applied. The DHS Primary MCL and USEPA Primary MCL for trihalomethanes of 80 µg/L have been used to determine reasonable potential based on the protection of MUN beneficial use of the receiving water.

The observed chloroform MEC was 2.4 µg/L, based on twelve effluent samples collected between January 2002 and December 2002. The highest observed background data for chloroform MEC was non-detect in samples collected during the same period. The MEC and background concentration do not exceed the water quality criterion; therefore, an effluent limitation for chloroform is not required.

- j. **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 (70 mg/L as CaCO₃) and the USEPA recommended dissolved-to-total translator, the

applicable chronic criterion (maximum four-day average concentration) is 6.9 µg/L, as total recoverable, and the applicable acute criterion (maximum one-hour average concentration) is 10 µg/L, as total recoverable.

The MEC for total copper was 16.4 µg/L, based on 12 samples collected between January 2002 and December 2002, while the maximum observed upstream receiving water total copper concentration was 5.6 µg/L, based on 12 samples collected during the same period. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. An AMEL and MDEL for total copper of 5.6 µg/L and 9.3 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Attachment F, Table F-7 for WQBEL calculations).

Based on reported effluent data, the Discharger will be unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E, an interim performance-based maximum daily limitation of 21.4 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* This compliance schedule is contingent upon the Discharger submitting a compliance schedule justification for copper **by the effective date of this Order**. The compliance schedule justification shall include all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. Provided the Discharger submits a compliance schedule justification for copper the new WQBELs for *copper* become effective on **18 May 2010**.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final copper effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for copper, the Discharger shall develop and implement a pollution prevention plan in compliance with CWC section 13263.3(d)(3).

- k. **Iron.** The Secondary Maximum Contaminant Level (MCL) - Consumer Acceptance Limit for iron is 300 µg/L. The maximum annual average effluent concentration for iron was 151 µg/L, based on 12 samples collected between January 2002 and December 2002, while the maximum annual average upstream receiving water iron concentration was 177 µg/L, based on 12 samples collected during the same period. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the California Department of Public Health and the fact that MCLs are designed to protect human health over long exposure periods. Therefore, it was considered appropriate to analyze reasonable potential based on an annual average concentration.
- l. **Manganese.** The Secondary MCL - Consumer Acceptance Limit for manganese is 50 µg/L. The maximum annual average effluent concentration for manganese was 67 µg/L, based on 12 samples collected between January 2002 and December 2002, while the maximum annual average upstream receiving water manganese concentration was 22 µg/L, based on 12 samples collected between January 2002 and December 2002. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Secondary MCL for manganese. The maximum observed receiving water manganese concentration was less than the secondary MCL; therefore assimilative capacity for manganese is available. The Regional Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and manganese is a non-CTR constituent. The effluent limitation calculation procedures in Section 1.4 of the SIP allow for the granting of dilution credit based on the estimated critical receiving water flow of the Woods Creek. This Order includes Discharge Prohibition III.E. that requires at least a 20:1 flow ratio (Woods Creek:effluent) at all times. Therefore, this Order allows a dilution credit for compliance with water quality objective for manganese.

WQBELs calculated using these allowable dilution credits result in 326 µg/l. However, the Regional Water Board finds that granting of this dilution credit could allocate an unnecessarily large portion of the receiving water's assimilative capacity for manganese and could violate the Antidegradation Policy. For this reason, a more stringent performance-based effluent limitation is more appropriate. A performance-based MDEL of 192 µg/L is included in this order and it is calculated in the same way that interim limits are calculated (see Section IV.E.1 below).

- m. **Nitrate and Nitrite.** 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. Nitrate and nitrite are known to cause adverse health effects in humans. The California Department of Public Health (CDPH) has adopted a Primary MCL at Title 22 of the California Code of Regulations (CCR), Table 64431-A, for the protection of human health for nitrite and nitrate that are equal to 1 mg/l and 10

mg/l (measured as nitrogen), respectively. Title 22 CCR, Table 6443-A, also includes a primary MCL of 10,000 µg/l for the sum of nitrate and nitrite, measured as nitrogen.

USEPA has developed a primary MCL and an MCL goal of 1,000 µg/L for nitrite (as nitrogen). For nitrate, USEPA has developed Drinking Water Standards (10,000 µg/L as Primary Maximum Contaminant Level) and Ambient Water Quality Criteria for protection of human health (10,000 µg/L for non-cancer health effects). Recent toxicity studies have indicated a possibility that nitrate is toxic to aquatic organisms.

The MEC for nitrate was 6.85 mg/L, based on 12 samples collected between January 2002 and December 2002, while the maximum observed upstream receiving water nitrate concentration was 0.59 mg/l based on 12 samples collected during the same period. The MEC for nitrite was 2.34 mg/L, based on 12 samples collected between January 2002 and December 2002, while the maximum observed upstream receiving water nitrite concentration was non-detect based on 12 samples collected during the same period. The nitrate value in the effluent does not exceed the California Primary MCL. But since nitrate and nitrite are typically present in the domestic wastewater and the plant is not designed to nitrify/denitrify, the nitrate and nitrite likely will be present in the discharge. Inadequate or incomplete de-nitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. The conversion of ammonia to nitrites and the conversion of nitrites to nitrates present a reasonable potential for the discharge to cause or contribute to an in-stream excursion above the Primary MCLs for nitrite and nitrate.

Since the maximum ambient background nitrate and nitrite concentrations are less than the applicable criteria, the receiving water has assimilative capacity for these constituents. As described in Section IV.C.2.c. of this Fact Sheet, a dilution credit of up to 20:1 may be allowed for long-term human health criteria, which results in an AMEL of 198 mg/L for nitrate (as N) and an AMEL of 21 mg/L for nitrite (as N). Although, the Regional Water Board finds that granting of this dilution credit could allocate an unnecessarily large portion of the receiving water's assimilative capacity for the Basin Plan's chemical constituents objective for nitrate plus nitrite and could violate the Antidegradation Policy, a more stringent performance-based effluent limitation cannot be calculated at this time. Since this Order includes new, more stringent effluent limitations for ammonia, which will require nitrification, the current treatment plant performance for nitrate and nitrite does not reflect future performance. Consequently, the WQBELs for nitrate and nitrite, discussed above, are included in this Order.

- n. **Oil and Grease.** Untreated domestic wastewater contains oil and grease. The Basin Plan includes a water quality objective for oil and grease in surface waters, which states: "*Waters shall not contain oils, greases, waxes, or other materials 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*". The previous Order included numeric monthly average and

daily maximum Effluent Limitations of 10 mg/L and 15 mg/L, respectively, to implement the Basin Plan's narrative objective, however, the previous Order did not include an effluent monitoring requirement for oil and grease. Therefore, it is unknown if the discharge still has reasonable potential to cause or contribute to an excursion of the Basin Plan's narrative objective. In accordance with federal anti-backsliding regulations, this Order carries forward the effluent limitation from the previous Order.

- o. **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 indicated that it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of at least 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and does not exceed 240 MPN/100 mL more than once in any 30 day period. Since this Order requires a 20:1 dilution ratio (creek: effluent), it is appropriate to require CDPH's recommendations for disinfection as discussed above. To be consistent with the federal anti-backsliding regulations, this Order includes a MDEL of 230 MPN/100 mL, which is carried forward from the previous Order.
- p. **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.
- q. **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. The Basin Plan contains a chemical constituent objective that incorporates State MCLs and contains a narrative objective for EC, TDS, Sulfate, and Chloride. In addition, there are USEPA water quality criteria for the protection of aquatic organisms for chloride. See Table F-3, below, for the applicable water quality objectives.

Table F-4. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal ¹	Secondary MCL ³	USEPA Water Quality Criteria
EC (µmhos/cm)	Varies ²	900, 1600, 2200	N.A.
TDS (mg/L)	Varies	500, 1000, 1500	N.A.
Sulfate (mg/L)	Varies	250, 500, 600	N.A.
Chloride (mg/L)	Varies	250, 500, 600	230 (4-day) 860 (1-hr)

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 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 9.42 mg/L to 74.2 mg/L, with an average of 62 mg/L, for 12 samples collected by the Discharger from January 2002 through December 2002. Background concentrations in receiving water averaged 9.5 mg/L from 12 samples collected by the Discharger during the same period. Both the receiving water and the effluent are within the agricultural water quality goal of 106 mg/L. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for Chloride.

- 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 $\mu\text{mhos/cm}$ 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. 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.

EC concentrations in the effluent samples collected from January 2002 through December 2002, averaged 545 $\mu\text{mhos/cm}$, with a minimum effluent level of 442 $\mu\text{mhos/cm}$, and a maximum effluent level of 624 $\mu\text{mhos/cm}$, based on the results of eleven samples. The background receiving water EC averaged 378 $\mu\text{mhos/cm}$ from 12 sampling events collected by the Discharger from January 2002 through December 2002. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for EC.

- iii. **Sulfate.** The secondary MCL for sulfate is 250 mg/L as 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 5.1 mg/L to 32.8 mg/L, with an average of 24 mg/L, for 12 samples collected by the Discharger from January 2002 through December 2002. Background concentrations in receiving water ranged from 19.2 mg/L to 36.4 mg/L, with an average of 26 mg/L, for 12 samples collected by the Discharger from January 2002 through December 2002. The effluent does not exceed the secondary MCL recommended level of 250 mg/L. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for Sulfate.
- 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.

A review of the Discharger's monitoring reports for the samples collected from January 2002 through December 2002, indicates an average TDS effluent concentration of 275 mg/l, a minimum effluent concentration of 244 mg/l, and a maximum effluent concentration of 308 mg/l (based on 11 data points). The background receiving water TDS averaged 195 mg/L from 12 sampling events performed by the Discharger from January 2002 through December 2002. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for TDS.

- 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 in-stream excursion of water quality objectives for salinity. However, since the receiving water is tributary to 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.

- r. **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.” The previous Order contained average monthly and maximum daily effluent limitations for settleable solids of 0.1 ml/L and 0.2 ml/L, respectively, to ensure compliance with this Basin Plan narrative objective. Based on 431 samples from April 2003 – February 2007, the effluent settleable solids was never detected. All samples were <0.1 ml/L. Therefore, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative objective for deposition of material, and the effluent limitations for settleable solids have not been carried forward. Removal of the settleable solids effluent limitation is in compliance with federal anti-backsliding requirements of the CWA and Federal regulations, the antidegradation provisions of CFR Part 131.12, and State Water Resources Control Board Resolution 68-16. Any impact on existing water quality will be insignificant.

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

- t. **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 reasonable worst-case effluent hardness, (70 mg/L as CaCO₃), the applicable chronic criterion (maximum four-day average concentration) and the applicable acute criterion (maximum one-hour average concentration) are both 87 µg/L as total recoverable.

The MEC for total zinc was 149 µg/L, based on 12 samples collected between January 2002 through December 2002, while the maximum observed upstream receiving water total zinc concentration was 14 µg/L, based on 12 samples collected during the same period. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for zinc. An AMEL and MDEL for total zinc of 38 µg/L and 89 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 reported effluent data, the Discharger will be unable to comply with these new limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E, an interim performance-based maximum daily limitation of 172.2 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* This compliance schedule is contingent upon the Discharger submitting a compliance schedule justification for zinc **by the effective date of this Order**. The compliance schedule justification shall include all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. Provided the Discharger submits a compliance schedule justification for zinc the new WQBELs for *zinc* become effective on **18 May 2010**.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final *zinc* effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for *zinc*, the Discharger shall develop and implement a pollution prevention plan in compliance with CWC section 13263.3(d)(3).

Table F-5. RPA for Effluent Constituents with Detectable Results

Parameter (units)	N ²	Cv ²	MEC ^{2,5}	B ^{2,5}	WQO/WQC ²	Source	RP ¹
Benzene	12	0.6	0.5	ND	1.0	Primary MCL	N
Bis(2-ethylhexyl)phthalate	4	0.6	11	9	1.8	National Toxics Rule	I
Chloroform (µg/L)	12	0.6	2.4	ND	80	USEPA Primary MCL	N
Aluminum (µg/L)	12	0.4	67	201	87/750	USEPA Ambient WQ Criteria	N ⁶
Ammonia (mg/L)	12	0.3	15.8	0.26	1.3 ³	USEPA Recommended WQ Criteria	Y
Chloride (mg/L)	12	0.6	74.2	12.4	106	Agri. goal	N
Arsenic (µg/L)	12	0.6	1.2	1.2	10	USEPA Primary MCL	N
Antimony (µg/L)	12	0.6	0.42	0.15	6	Primary MCL	N
Barium (µg/L)	12	0.6	8.5	47.9	1000	Calif Primary MCL	N
Berillium (µg/L)	12	0.6	ND	ND	4	Calif Primary MCL	N
Chromium Total (µg/L)	12	0.6	49	0.3	50	USEPA Primary MCL	N
Copper (µg/L)	12	0.3	16.4	5.6	6.9 ⁴	Calif. Toxic Rule	Y
Fluoride (µg/L)	12	0.6	0.1	0.14	1000	Agri. WQ Goal	I
Iron (µg/L)	12	0.7	359	308	300	Calif. Secondary MCL	N ⁶
Lead (µg/L)	12	0.6	0.8	0.4	2.0 ⁴	Calif Toxic Rule	N
Mercury (ng/l)	12	0.6	12.5	4.40	50	CTR Human Health	N
Manganese (µg/L)	12	0.6	122	36.2	50	Calif. Secondary MCL	Y
Nickel (µg/L)	12		34	2.0	39 ⁴	Calif. Toxic Rule	N
Silver (µg/L)	12	0.6	0.89	0.11	2.2 ⁴	Calif Toxic Rule	N
Zinc ((µg/L)	12	0.6	149	14	89 ⁴	Calif. Toxic Rule	Y
Toluene (µg/L)	12	0.6	1.2	ND	40	Secondary MCL	N
EC (µmhos/cm)	12	0.6	624	474	700 ⁷	Agri. WQ goal	N
Foaming Agents (MBAS) (µg/L)	11	0.6	410	110	500/500	Calif. Secondary MCL	I
Nitrate (mg/l)	12	0.6	6.85	0.59	10	Calif. Primary MCL	Y
Nitrite (mg/l)	12	0.6	2.34	ND	1.0	Calif. Prmiary MCL	Y
Sulfates (mg/l)	12	0.6	32.8	36.4	250	Calif. Secondary MCL	N
TDS (mg/L)	11	0.6	308	275	450 ⁷	Agri. WQ Goal	N

¹ Reasonable Potential? N: No, Y: Yes, I: Incomplete data

² n: number of data points available; cv: statistically determined coefficient of variation; RPA multiplier: 99th percentile multiplier; MEC: maximum effluent concentration except for hardness, which is recorded as highest/lowest; N.D. Not detected; B: background receiving water concentration; WQO/WQC: applicable water quality objective/water quality criteria.

³ The maximum 30-day receiving water temperature and pH of 17.2⁰C, and 8.04, respectively, were used to calculate the criterion.

⁴ Minimum Effluent hardness of 70 mg/l as CaCO₃ was used to calculate the criterion. (Maximum and minimum receiving water hardness = 221 mg/l and 120 mg/l, respectively).

⁵ Effluent and receiving water data from Jan 2002 to December 2002.

⁶ Determination based on annual average concentration.

⁷ RPA screening value.

4. WQBEL Calculations

- a. Water Quality-based effluent limitations for ammonia, copper, and zinc were calculated in accordance with section 1.4 of the SIP and the TSD.
- b. **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 (one-hour average) toxicity criterion

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

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

CMC = criteria maximum concentration (one-hour average)

CCC = criteria continuous concentration (four-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.

$$\begin{aligned}
 AMEL &= mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic} \right) \right] \\
 MDEL &= mult_{MDEL} \left[\min \left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}} \right) \right] \\
 MDEL_{HH} &= \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}
 \end{aligned}$$

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

Water quality-based effluent limitations were calculated for ammonia, copper, and zinc as follows in Tables F-6 through F-8, below.

Table F-6: WQBEL Calculations for Ammonia

	Acute (1-hr)	Chronic (30-day)	Chronic (4-day)
Criteria (µg/L) ⁽¹⁾	2.14	1.9	4.75
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	2.14	1.9	4.75
ECA Multiplier	0.527	1.38	0.715
LTA	1.13	2.6	3.4
AMEL Multiplier (95 th %)	1.18	(2)	(2)
AMEL (µg/L)	1.3	(2)	(2)
MDEL Multiplier (99 th %)	1.9	(2)	(2)
MDEL (µg/L)	2.1	(2)	(2)

⁽¹⁾ USEPA Ambient Water Quality Criteria

⁽²⁾ Limitations based on acute LTA [Acute LTA < Chronic (30-day) LTA < Chronic (4-day)]

Table F-7: WQBEL Calculations for Copper

	Acute	Chronic
Criteria, dissolved (µg/L) ⁽¹⁾	9.6	6.6
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.96	0.96
ECA, total recoverable ⁽³⁾	10	6.9
ECA Multiplier ⁽⁴⁾	0.527	0.715
LTA	5.27	4.9
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.15
AMEL (µg/L)	⁽⁸⁾	5.6
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	1.9
MDEL (µg/L)	⁽⁸⁾	9.3

- ⁽¹⁾ CTR aquatic life criteria, based on effluent hardness of 70 mg/L as CaCO₃.
⁽²⁾ EPA Translator used as default.
⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP.
⁽⁴⁾ 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.
⁽⁵⁾ Assumes sampling frequency n= 4.
⁽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 (Chronic LTA < Acute LTA)

Table F-8: WQBEL Calculations for Zinc

	Acute	Chronic
Criteria, dissolved (µg/L) ⁽¹⁾	87	87
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.978	0.986
ECA, total recoverable ⁽³⁾	88.96	88.23
ECA Multiplier ⁽⁴⁾	0.321	0.527
LTA	28.6	46.5
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	1.32	⁽⁸⁾
AMEL (µg/L)	38	⁽⁸⁾
MDEL Multiplier (99 th %) ⁽⁷⁾	3.11	⁽⁸⁾
MDEL (µg/L)	89	⁽⁸⁾

- ⁽¹⁾ CTR aquatic life criteria, based on effluent hardness of 70 mg/L as CaCO₃.
⁽²⁾ EPA Translator used as default.
⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
⁽⁴⁾ 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.
⁽⁵⁾ Assumes sampling frequency n= 4.
⁽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 (Acute LTA < Chronic LTA)

**Summary of Water Quality-based Effluent Limitations
 Discharge Point (D-001)**

Table F-9. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Std. Units	---	---	---	6.5	8.5
Chlorine Residual	mg/L	0.01	---	0.02	---	---
Ammonia ²	mg/L	1.3	---	2.1	---	---
	lbs/day ¹	31.4	---	50.8	---	---
Manganese	µg/L	326 ⁴	---	---	---	---
Nitrate (as N)	mg/L	198 ⁴	---	---	---	---
Nitrite (as N)	mg/L	21 ⁴	---	---	---	---
Oil and Grease	µg/L	10	---	15	---	---
Copper, Total Recoverable ³	µg/L	5.6	---	9.3	---	---
Zinc, Total Recoverable ³	µg/L	38	---	89	---	---
Total Coliform Organisms	MPN/100 mL	---	23 ⁵	230	---	---
Acute Toxicity ⁶	% survival	---	---	---	---	---

Footnotes

¹ Based on a design flow of 2.9 million gallons per day

² Full compliance required by 1 September 2013

³ Full compliance required by 18 May 2010

⁴ Based on 20:1 dilution credit. More stringent performance-based effluent limitations implemented in this Order

⁵ 7-day median

⁶ Shall not be less than 70% survival in any one bioassay or less than 90% as a median of 3 consecutive bioassays

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."

Though effluent acute toxicity limitations were included in the previous Order, monitoring results were not available. Accordingly, annual 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 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) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Special Provisions VI.C.2.a. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is 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 were calculated based upon the permitted average daily discharge flow allowed in Section IV.A.1.f. of the Limitations and Discharge Requirements.

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 US EPA 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, copper, 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. Furthermore, for BOD, TSS, 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.

For effluent limitations based on Primary and Secondary MCLs, except nitrate, nitrite and manganese, this Order includes annual average effluent limitations. The Primary and Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis (except for nitrate and nitrite), when sampling at least quarterly. Since it is necessary to determine compliance on an annual average basis, it is impracticable to calculate average weekly and average monthly effluent limitations.

3. Satisfaction of Anti-Backsliding Requirements.

The previous Order contained average monthly and maximum daily effluent limitations for settleable solids of 0.1 ml/L and 0.2 ml/L, respectively, to ensure compliance with this Basin Plan narrative objective. Based on 431 samples from April 2003 – February 2007, the effluent settleable solids was never detected. All samples were <0.1 ml/L. Therefore, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative objective for deposition of material, and the effluent limitations for settleable solids have not been carried forward.

The previous Order contained weekly average and 1-hr average effluent limitations for chlorine residual of 0.011 mg/L and 0.019 mg/L, respectively. The previous Order required daily monitoring of chlorine residual when discharging to Woods Creek and chlorine has never been detected in the effluent (<0.01). To determine compliance with a 1-hour average effluent limitation it is necessary to monitor the effluent continuously. Continuous monitoring is not appropriate for this Facility due to a long detention time in Quartz Reservoir; therefore, this Order used the TSD

procedures to convert 1-hr and 4-day average criteria to AMELs and MDELs. Consequently, this Order includes total residual chlorine effluent limitations of 0.01 mg/L and 0.02 mg/L, as the AMEL and MDEL, respectively, and requires daily effluent monitoring using grab samples when discharging to Woods Creek. The change in the averaging period for the chlorine residual effluent limitations is not less stringent than the previous Order, because the previous Order required daily grab samples for compliance. Thus, the change in averaging period for the chlorine residual effluent limitations does not constitute backsliding.

Removal of the settleable solids effluent limitation and the change in averaging periods for the chlorine residual effluent limitations is in compliance with federal anti-backsliding requirements of the CWA and Federal regulations, the antidegradation provisions of CFR Part 131.12, and State Water Resources Control Board Resolution 68-16. Any impact on existing water quality will be insignificant. All other effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. This Order is consistent with the anti-backsliding requirements of the CWA and federal regulations.

4. Satisfaction of Antidegradation Policy

This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with water quality-based effluent limits (WQBELs) where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards.

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.

Table F-10. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day BOD	mg/L	30	45	60	---	---
	lbs/day ¹	726	1088	1452	---	---
Total Suspended Solids	mg/L	30	45	90	---	---
	lbs/day ¹	726	1088	2176	---	---
pH	Std. Units	--	--	--	6.5	8.5
Chlorine Residual	mg/L	0.01		0.02	---	---
Ammonia ²	mg/L	1.3		2.1	---	---
	lbs/day ¹	31.4		50.8	---	---
Manganese	µg/L	---	---	192 ⁴	---	---
Nitrate + Nitrite (as N)	µg/L			37 ⁴	---	---
Oil and Grease	µg/L	10		15	---	---
Copper, Total Recoverable ³	µg/L	5.6	--	9.3	---	---
Zinc, Total Recoverable ³	µg/L	38	--	89	---	---
Total Coliform Organisms	MPN/100 mL	---	23 ⁵	230	---	---
Acute Toxicity ⁶	% survival	---	---	---	---	---
Flow	mgd	2.9	---	---	---	---

¹ Based on a design flow of 2.9 million gallons per day

² Full compliance required by 1 September 2013

³ Full compliance required by 18 May 2010

⁴ Performance-based effluent limitation

⁵ 7-day median

⁶ Shall not be less than 70% survival in any one bioassay or less than 90% as a median of 3 consecutive bioassays.

E. Interim Effluent Limitations

- 1. Constituents.** 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.

In developing performance-based interim limitations, 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).

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.

The procedure for calculating performance-based interim effluent limitations, discussed above, has been used in this Order to calculate performance-based effluent limitations for copper, manganese, nitrate + nitrite, and zinc. Table F-11 summarizes the calculations of the performance-based effluent limitations.

Table F-11. Performance-Based Effluent Limitation Calculation Summary

Parameter	Unit	MEC	Mean	Std. Dev.	# of Samples	Performance Based Limit
Copper, Total Recoverable	µg/L	16.4	10.67	3.26	12	21.4
Zinc, Total Recoverable	µg/L	149	55	35.53	12	172
Manganese, Total Recoverable	mg/L	122	67.56	37.6	12	192
Nitrate + Nitrite (as N)						
Nitrate (as N)	mg/L	6.3	2.5	2.15	16	9.6
Nitrite (as N)	mg/L	2.34	0.7	1.1	12	3.4
Ammonia (as N)	mg/L	18	14.0	2.97	16	24
Performance-based Limit	mg/L	Calculated as the sum of the performance-based limits for Nitrate, Nitrite, and Ammonia				37

F. Land Discharge Specifications – Not Applicable

Discharges to land regulated by separate waste discharge requirements.

G. Reclamation Specifications – Not Applicable

Discharges to land regulated by separate waste discharge requirements

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

1. 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 Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and electrical conductivity.

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rational for these numeric receiving surface water limitations are as follows:

- a. **Bacteria.** The Woods Creek has been designated as having the beneficial use of contact recreation (REC-1). For water bodies designated as having REC-1 as a beneficial use, the Basin Plan includes a water quality objective limiting the “...fecal coliform concentration based on a minimum of not less than five samples for any 30-day period...” to a maximum geometric mean of 23 MPN/100 ml. The objective also states that “...[no] more than ten percent of the total number of

samples taken during any 30-day period [shall] exceed 240 MPN/100 ml.” This objective is included in the Order as a receiving water limitation but the objective is restricted to 230 MPN/100ml to be consistent with the previous permit and to comply with anti-back sliding requirements.

- b. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that “[W]ater shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for biostimulatory substances are included in this Order and are based on the Basin Plan objective.
- c. **Color.** The Basin Plan includes a water quality objective that “[W]ater shall be free of discoloration that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for color are included in this Order and are based on the Basin Plan objective.
- d. **Chemical Constituents.** The Basin Plan includes a water quality objective that “[W]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.” Receiving Water Limitations for chemical constituents are included in this Order and are based on the Basin Plan objective.
- e. **Dissolved Oxygen.** The Woods Creek has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/L of dissolved oxygen. Since the beneficial use of COLD does apply to the Woods Creek, a receiving water limitation of 7.0 mg/L for dissolved oxygen was included in this Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.” This objective was included as a receiving water limitation in this Order.

- f. **Floating Material.** The Basin Plan includes a water quality objective that “[W]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for floating material are included in this Order and are based on the Basin Plan objective.
- g. **Oil and Grease.** The Basin Plan includes a water quality objective that “[W]aters shall not contain oils, greases, waxes, or other materials 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.” Receiving Water Limitations for oil and grease are included in this Order and are based on the Basin Plan objective.

- h. **pH.** The Basin Plan includes water quality objective that “[T]he 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”. This Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a monthly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in this Order.

- i. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-6.00. Receiving Water Limitations for pesticides are included in this Order and are based on the Basin Plan objective.
- j. **Radioactivity.** The Basin Plan includes a water quality objective that “[R]adionuclides shall not 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.” The Basin Plan states further that “[A]t a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations...” Receiving Water Limitations for radioactivity are included in this Order and are based on the Basin Plan objective.
- k. **Sediment.** The Basin Plan includes a water quality objective that “[T]he suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses” Receiving Water Limitations for suspended sediments are included in this Order and are based on the Basin Plan objective.
- l. **Settleable Material.** The Basin Plan includes a water quality objective that “[W]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for settleable material are included in this Order and are based on the Basin Plan objective.
- m. **Suspended Material.** The Basin Plan includes a water quality objective that “[W]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for suspended material are included in this Order and are based on the Basin Plan objective.

- n. **Taste and Odors.** The Basin Plan includes a water quality objective that “[W]ater 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.” Receiving Water Limitations for taste- or odor-producing substances are included in this Order and are based on the Basin Plan objective.
- o. **Temperature.** The Woods Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” This Order includes a receiving water limitation based on this objective.
- p. **Toxicity.** The Basin Plan includes a water quality objective that “[A]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Receiving Water Limitations for toxicity are included in this Order and are based on the Basin Plan objective.
- q. **Turbidity.** The Basin Plan includes a water quality objective that “[I]ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:
- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
 - Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
 - Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
 - Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity

B. Groundwater– Not Applicable

Discharges to land regulated by separate waste discharge requirements.

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 and TSS reduction requirements).

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.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Quarterly 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.

2. Groundwater – Not Applicable

Discharges to land regulated by separate waste discharge requirements.

E. Other Monitoring Requirements

1. Biosolids Monitoring – Not Applicable

Discharges to land regulated by separate waste discharge requirements.

2. Water Supply Monitoring

Water supply monitoring is required to evaluate the source of constituents in the wastewater.

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. **Pollution Prevention (Special Provision VI.C.1.b).** This Order requires the Discharger prepare and implement pollution prevention plans following CWC section 13263.3(d)(3) for *copper, and zinc*. This re-opener provision allows the Regional Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for these constituents based on a review of the pollution prevention plans.
- b. **Whole Effluent Toxicity (Special Provision VI.C.1.c).** 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.

- c. **Water Effects Ratio (WER) and Metal Translators- (Special Provision VI.C.1.d).** 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 copper, lead and zinc. 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.
- d. **Bis(2-ethylhexyl)phthalate – (Special Provision VI.C.1.e).** Bis(2-ethylhexyl) phthalate was detected in high concentrations in both the effluent and upstream receiving water samples taken during the same period. A single sample with a concentration of 9 µg/L in the receiving water is highly unusual. The Regional Water Board does not have confidence that the above results are representative of the discharge or the receiving water. Therefore, this Order requires the Discharger to conduct a 1-year study to sample monthly for bis(2-ethylhexyl) phthalate in the effluent and receiving water using clean sampling techniques. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of the human health water quality criteria, this re-opener provision allows the Regional Water Board to reopen this Order for addition of new effluent limitations for bis(2-ethylhexyl) phthalate.
- e. **Mixing Zone/Dilution Study (Special Provision VI.C.1.f).** Section 1.4.2.2 of the SIP requires the Discharger to submit receiving water mixing zone studies prior to allowing dilution credits. This Order does not allow dilution credits for acute and chronic aquatic life criteria due to insufficient information. Should the Discharger conduct a mixing zone study to evaluate the appropriateness for dilution credits for compliance with aquatic life criteria, the Regional Water Board will review such studies and if warranted, may reopen this permit to make appropriate changes to the water quality-based effluent limitations.

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.) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective. Attachment E of this Order requires Quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered

in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of > 1 TUC (where TUC = $100/\text{NOEC}$) 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 in a six week period (i.e. one every two 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.

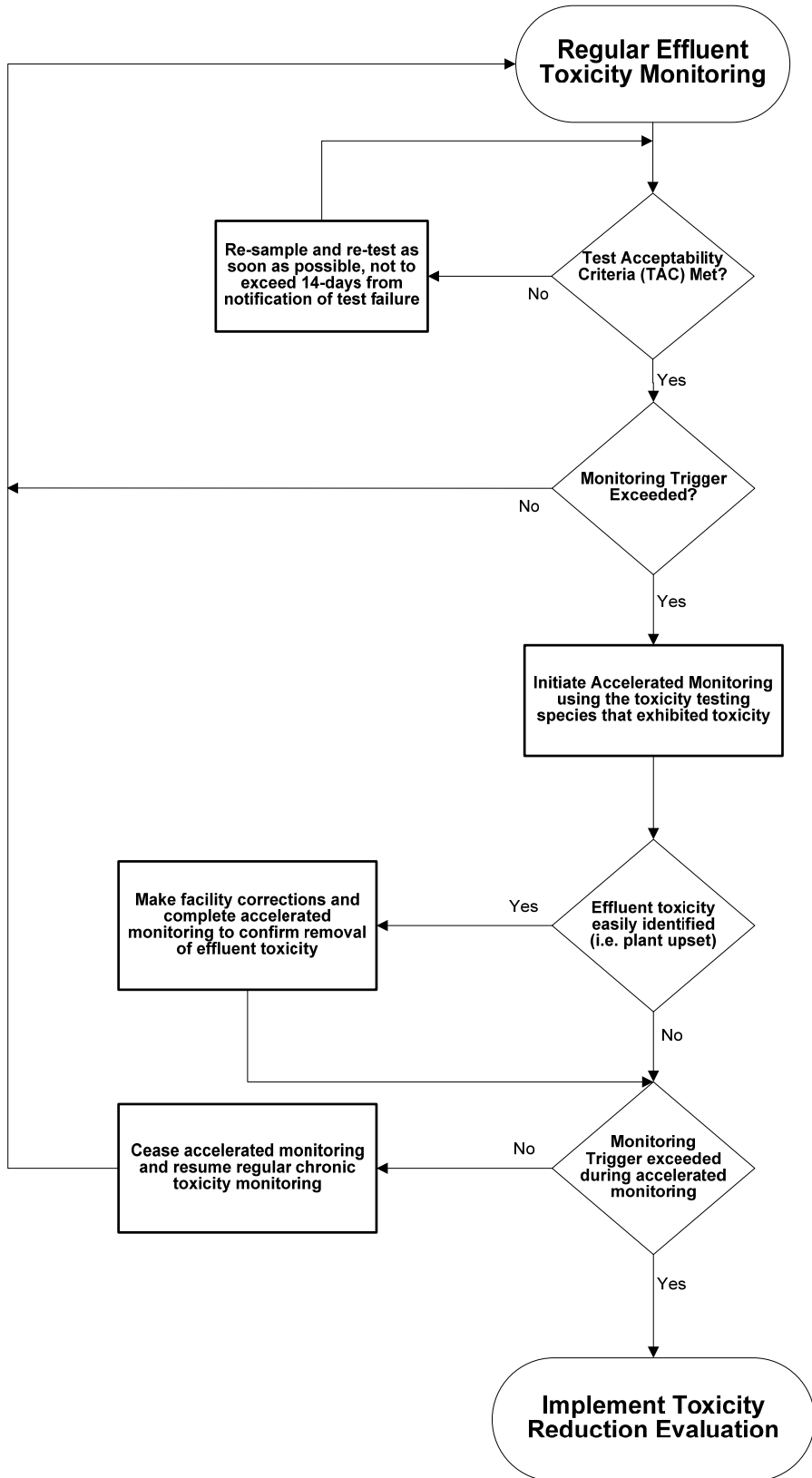
See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

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. **Effluent and Receiving Water Characterization Study.** An effluent and receiving water monitoring study is required to ensure sufficient information is available for the next permit renewal. During the term of the permit, the Discharger is required to conduct semi-annual monitoring of the effluent at EFF-001 and of the receiving water at RSW-001, with the exception that dioxin and furan sampling shall be conducted only once during the permit term at these locations. The Discharger is required to monitor for all priority pollutants and other constituents of concern as described in Attachment H. This information will be used for development of the next permit renewal.
- c. **Effluent and Receiving Water Bis(2-ethylhexyl)phthalate Study.** The MEC for bis(2-ethylhexyl)phthalate was 11 µg/L based on 4 samples collected between January 2002 and December 2002. Bis(2-ethylhexyl) phthalate was also detected in the upstream receiving water at 9 µg/L in one of the 4 samples taken during the same period. A concentration of 9 µg/L in the receiving water is highly unusual. Bis(2-ethylhexyl) phthalate samples can be easily contaminated when plastic sample containers are used or by the use of rubber gloves. Therefore, the Regional Water Board does not have confidence that the above results are representative of the discharge or the receiving water and a reasonable potential analysis (RPA) could not be performed for bis(2-ethylhexyl) phthalate. To ensure representative data is available to conduct an RPA, this Order requires an effluent and receiving water monitoring study to evaluate bis(2-ethylhexyl)phthalate concentrations using clean techniques. During the first discharge season after adoption of the permit, the Discharger shall conduct monthly monitoring of the effluent at EFF-001 and of the receiving water at RSW-001 for bis(2-ethylhexyl)phthalate. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of the NTR human health water quality criteria, this Order may be reopened to add an effluent limit for bis(2-ethylhexyl) phthalate.

3. Best Management Practices and Pollution Prevention

- a. **Surface Water Discharge Minimization Program.** In order to maximize land disposal, the Discharger evaluated several irrigation sites to accommodate the long-term disposal needs projected for build-out in its 2005 Feasibility Study. This evaluation also included expanding the existing effluent storage facilities or constructing new facilities at new sites. In addition, potential factors to reduce wastewater flows were also considered and their estimated impact on effluent storage requirements were estimated. The 2005 Feasibility Study concluded the alternatives that best meet the long-term needs of the TUD is the addition of land for irrigation, the retention of the ability for seasonal surface water discharge during high precipitation years, and increased storage.

In an effort to minimize surface water discharges from Quartz Reservoir to Woods Creek, this Order requires the Discharger to continue to spray or flood irrigate fodder crops and pasture lands with the reclaimed wastewater during the wintertime when the conditions are suitable for irrigation. In addition, the

Discharger is required to implement water conservation efforts to minimize wastewater flows into Quartz Reservoir. The Discharger is required to submit annual progress reports describing its efforts to minimize surface water discharges from Quartz Reservoir to Woods Creek.

- b. **Salinity Evaluation and Minimization Plan.** In an effort to monitor progress in reducing salinity discharges to the Woods Creek, the Discharger is required to provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the Woods Creek. The annual reports to be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).
- c. **CWC section 13263.3(d)(3) Pollution Prevention Plans.** The pollution prevention plans required for ammonia, copper, and zinc shall, at minimum, meet the requirements outlined in CWC section 13263.3(d)(3). The minimum requirements for the pollution prevention plans include the following:
 - i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.
 - ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.
 - iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.
 - iv. A plan for monitoring the results of the pollution prevention program.
 - v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.
 - vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.
 - vii. A description of the Discharger's existing pollution prevention programs.
 - viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.
 - ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

- d. **Water Conservation Program.** The Discharger shall develop and implement a comprehensive Water Conservation Program (Program) in an effort to minimize wastewater flows into Quartz Reservoir. The Program shall be completed in accordance with the guidelines provided in Attachment – I. As an alternative to developing an independent Program, the Discharger may become a signatory to the *Memorandum of Understanding Regarding Urban Water Conservation in California*.

4. Construction, Operation, and Maintenance Specifications

This Order requires precluding public contact with wastewater, in and around the outfall to Woods Creek, by construction of fences, signs, and other acceptable alternatives.

5. Special Provisions for Municipal Facilities (POTWs Only)

- a. **Collection System:** The Discharger's collection system is part of the treatment system that is subject to the Order 94-192, adopted by the State Water Board on May 2006. This Order is a Statewide General WDR for Sanitary Sewer Systems. Therefore, the Discharger shall be subject to the requirements of Order 2006-0003 and any future revisions thereto. 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)].
- b. **Electronic Notification:** Since the Monitoring and Reporting Program is a part of this permit and the disposal facility at the Quartz Reservoir is not staffed on a full time basis, certain parameters which are necessary to be monitored on a continuous basis requires an electronic system to be established for operator notification and for continuous recording device alarms. .

6. Other Special Provisions

The purpose of this provision is that 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.

7. Compliance Schedules

The use and location of compliances schedules in the permit depends on the Discharger's ability to comply and the source of the applied water quality criteria

- a. At the time the tentative NPDES permit was issued, the Discharger had not submitted a request, and justification for compliance schedules for ammonia, copper, and zinc. Therefore, this Order requires the Discharger to submit an infeasibility analysis in accordance with Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. This Order establishes compliance schedules for the new, final, water quality-based effluent limitations for ammonia, copper, and zinc and requires full compliance by May 18, 2010 for copper and zinc and 1 October 2013 for ammonia. However, these compliance schedules are contingent on the submittal of acceptable infeasibility analyses 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 the Tuolumne Utilities District. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through direct mailing to agencies and known interested parties, and the posting of the NOPH at the Discharger's offices and the local post office.

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 **24 September 2008**.

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: 23/24 October 2008
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 916-464-4645

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 Anand Mamidi at 916-464-4853.

ATTACHMENT G – Ammonia Interim Effluent Limitations

Table G-1: Ammonia Interim Effluent Limitations

pH	AMEL (mg/L as N)										MDEL (mg/L as N)	
	Temperature, °C											
	0	14	16	18	20	22	24	26	28	30		
6.5	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
6.6	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
6.7	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.7	23.8
6.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.2	23.8
6.9	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	22.5	23.8
7.0	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	21.8	23.8
7.1	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	20.9	23.8
7.2	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	22.6	19.9	23.8
7.3	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	21.3	18.7	23.8
7.4	23.8	23.8	23.8	23.8	23.8	23.8	23.8	22.6	19.8	17.4	17.4	23.8
7.5	23.8	23.8	23.8	23.8	23.8	23.8	23.7	20.8	18.3	16.1	16.1	23.8
7.6	23.8	23.8	23.8	23.8	23.8	23.8	21.6	19.0	16.7	14.7	14.7	23.8
7.7	23.8	23.8	23.8	23.8	23.8	22.1	19.4	17.1	15.0	13.2	13.2	23.8
7.8	23.8	23.8	23.8	23.8	22.3	19.6	17.3	15.2	13.3	11.7	11.7	23.8
7.9	23.8	23.8	23.8	22.4	19.6	17.3	15.2	13.3	11.7	10.3	10.3	23.8
8.0	23.8	23.8	22.1	19.4	17.1	15.0	13.2	11.6	10.2	8.97	8.97	23.8
8.1	21.0	21.0	19.1	16.8	14.7	12.9	11.4	10.0	8.79	7.73	7.73	23.8
8.2	17.9	17.9	16.3	14.3	12.6	11.1	9.73	8.55	7.52	6.61	6.61	23.8
8.3	15.2	15.2	13.9	12.2	10.7	9.41	8.27	7.27	6.39	5.62	5.62	23.8
8.4	12.9	12.9	11.7	10.3	9.06	7.96	7.00	6.15	5.41	4.75	4.75	23.8
8.5	10.9	10.9	9.90	8.70	7.65	6.72	5.91	5.20	4.57	4.01	4.01	21.4
8.6	9.20	9.20	8.36	7.35	6.46	5.68	4.99	4.39	3.86	3.39	3.39	17.7
8.7	7.78	7.78	7.07	6.22	5.47	4.80	4.22	3.71	3.26	2.87	2.87	14.7
8.8	6.61	6.61	6.01	5.28	4.64	4.08	3.59	3.15	2.77	2.44	2.44	12.3
8.9	5.65	5.65	5.13	4.51	3.97	3.49	3.06	2.69	2.37	2.08	2.08	10.4
9.0	4.86	4.86	4.42	3.89	3.42	3.00	2.64	2.32	2.04	1.79	1.79	8.85

Attachment H - Constituents to be monitored

			Controlling Water Quality Criterion for Surface Waters			
CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
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-Dichloroethene	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	Dibromochloromethane	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
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
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
	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
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
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	°F		
Total Dissolved 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 EPA Water Quality Criteria Levels, US EPA; and Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence, US EPA

Dioxin and Furan Sampling

Each sample shall be analyzed for the seventeen 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 seventeen 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
2,3,7,8TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

ATTACHMENT – I

Water Conservation Program

STATE WATER RESOURCES CONTROL BOARD (SWRCB)
DIVISION OF FINANCIAL ASSISTANCE (DIVISION)
May 2008
REVIEW PROCEDURES

Section IX(C) of *Policy for Implementing the State Revolving Fund for Construction of Wastewater Treatment Facilities* (Policy) requires applicants to have an approved Water Conservation Program (Program), unless a waiver is received, before the SWRCB issues a preliminary funding commitment. The Program must cover at least 75 percent of the water connections within the service area, must be consistent with local ordinances and authorities, and must be approved by the Division. The applicant may become a signatory to the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU) instead of adopting an independent Program. If the applicant is not the water purveyor for the service area, then the applicant must certify that the water purveyor(s) either has an approved water conservation program or is a signatory to the MOU.

The easiest and best way to implement the Water Conservation Program is to become a signatory to and follow the Best Management Practices (BMPs) listed in the MOU. If signing on the MOU is not feasible, applicants and water purveyors may adopt their own water conservation programs that are specific to their individual water needs. In this situation, a water conservation program must be submitted to the Division for review to determine compliance with the Division's water conservation criteria.

Programs submitted for review should include discussions of the following areas:

- Water Supply and Area Characteristics
- Current Water Conservation Program
- Evaluation of Alternative Measures
- Recommended Water Conservation Program
- Water Shortage Plan

WATER SUPPLY AND AREA CHARACTERISTICS

Water supply and area characteristics should include an estimate of past, current, and projected potable and reclaimed water use. Relate these estimates to demographic users (residential, industrial, irrigation, and landscape) with the estimated percentage of water consumption per user type. The current status of groundwater, surface water, reclaimed water, and purchased water with respect to over all supply, demand, and quality should also be considered. A quantified analysis of the cost per unit volume must be evaluated so that water consumption savings with respect to water conservation mechanisms versus cost savings with respect to production and distribution of potable water can be compared.

CURRENT WATER CONSERVATION PROGRAM

A comprehensive review of the current Water Conservation Program with a description of the various water conservation measures must be included. This review should consist of an explanation of the BMPs used by the applicant, an estimated overall amount of water conserved by the BMP, and an estimated implementation cost of each BMP.

EVALUATION OF ALTERNATIVE MEASURES

An evaluation of alternative measures should consider no less than all BMPs specified in the MOU. An analysis of the applicability, cost effectiveness, potential water savings, public acceptance, non-quantifiable benefits, and ability to implement should be performed on each BMP. Each BMP should be analyzed individually and should contain the most optimum level of implementation with respect to different types of water users (i.e. if it is not effective to provide low flush toilets to all water consumers, would it be effective to replace toilets of the top 10 percent of residential water users?)

If any of the BMPs are determined to not be applicable or implementable, a discussion and justification must be given so that these measures may be waived. An example of justification for waiving BMP #9 would be that commercial and industrial water users do not exist within the water purveyor's distribution area.

The 14 BMPs discussed in the MOU are listed below:

1. Water Survey Programs For Single-Family Residential And Multi-Family Residential Customers
2. Residential Plumbing Retrofit
3. System Water Audits, Leak Detection And Repair
4. Metering With Commodity Rates For All New Connections And Retrofit Of Existing Connections
5. Large Landscape Conservation Programs And Incentives
6. High-Efficiency Clothes Washing Machine Financial Incentive Programs
7. Public Information Programs
8. School Education Programs
9. Conservation Programs For Commercial, Industrial, And Institutional Accounts
10. Wholesale Agency Assistance Programs
11. Retail Conservation Pricing
12. Conservation Coordinator
13. Water Waste Prohibition
14. Residential Ultra-Low Flush Toilet Replacement Programs

A full description of the elements of the BMPs contained in the MOU is available at the California Urban Water Conservation Council: <http://www.cuwcc.com>.

RECOMMENDED WATER CONSERVATION PROGRAM

The Recommended Water Conservation Program should consist of all BMPs found to be effective after the evaluation process is done. The Program should clearly identify the resources and time required to implement each of the effective BMPs.

WATER SHORTAGE PLAN

Provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

1. Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
2. An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

3. Actions to be undertaken by the urban water supplier to prepare for, and implement during a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
4. Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
5. Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use reduction consistent with up to a 50 percent reduction in water supply.
6. Penalties or charges for excessive use, where applicable.
7. An analysis of the impacts of each of the actions and conditions described in (a) to (f) above, inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
8. A draft water shortage contingency resolution or ordinance.
9. A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

OTHER STATE LAW

The Urban Water Management Planning Law, Water Code, Part 2.6, Section 10610 et.seq., requires every urban water supplier to prepare and adopt an Urban Water Management Plan that includes specific elements. Water urban suppliers, either publicly or privately owned, providing water for municipal purpose either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually are subject to this Law. Agencies may submit an Urban Water Management Plan instead of a Water Conservation Program in meeting the water conservation requirement (Section 10653 of the Water Code).