CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2006-XXXX
NPDES NO. CA0078441

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF DUNSMUIR
WASTEWATER TREATMENT PLANT
SISKIYOU AND SHASTA COUNTIES

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

Table 1. Discharger Information

Discharger	**City of Dunsmuir**
Name of Facility	**City of Dunsmuir Wastewater Treatment Plant**
Facility Address	**1100 South First Street**
	Dunsmuir, CA 96025
	Siskiyou and Shasta Counties

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

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
EFF-001	**Treated Municipal Wastewater**	**41º, 11', 00" N**	**122º, 16', 52" W**	**Sacramento River**

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**<Adoption Date>**
This Order shall become effective on:	**<Effective Date>**
This Order shall expire on:	**<Expiration Date>**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a **minor** discharge.	
The Discharger shall file a complete Report of Waste Discharge in accordance with Title 23, California Code of Regulations, **not later than 180 days in advance of the Order expiration date** as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 5-00-124 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, 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 **<Adoption Date>**.

_____
PAMELA C. CREEDON, Executive Officer

ADMINISTRATIVE DRAFT (DATE)

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	**City of Dunsmuir**
Name of Facility	**City of Dunsmuir Wastewater Treatment Plant, Dunsmuir**
Facility Address	**1100 South First Street**
	Dunsmuir, CA 96025
	Siskiyou County
Facility Contact, Title, and Phone	**Ronald LaRue, Utility Supervisor (530) 235-2325** **Patricia Hall, City Administrator (530) 235-4822**
Mailing Address	**5919 Dunsmuir Avenue, Dunsmuir, CA 96025**
Type of Facility	**POTW**
Facility Design Flow	**0.41 (million gallons per day)**

II. FINDINGS

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

A. Background. The City of Dunsmuir (hereinafter Discharger) is currently discharging under Order No. 5-00-124 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078441. The Discharger submitted a Report of Waste Discharge, dated 16 December 2004, and applied for a NPDES permit renewal to discharge up to 0.41 million gallons per day (mgd) of treated wastewater from City of Dunsmuir Wastewater Treatment Plant, hereinafter Facility. The application was deemed complete on 14 April 2006.

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

B. Facility Description. The Discharger owns and operates a secondary/tertiary wastewater treatment and collection system. The Dunsmuir Wastewater Treatment Plant is composed of an aerated grit chamber, comminutor, oxidation ditch, secondary clarifier, sand filter, chlorine contact chamber, dechlorinator system, and sludge drying beds.

Wastewater is discharged from Discharge Point 001 (see table on cover page) to the Sacramento River, a water of the United States within Upper Sacramento Hydrologic Unit, Mount Shasta Hydrologic Area, Dunsmuir Hydrologic Subarea. Attachment B (Figure B-1) provides a map describing the location of the Facility. Attachment C (Figure C-1) provides a wastewater flow schematic of the facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). 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 of the CWC for discharges that are not subject to regulation under CWA section 402.

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. 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. The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on tertiary treatment or equivalent requirements that meet both the technology-based secondary treatment standards for POTWs and protect the beneficial uses of the receiving waters. The Regional Water Board has considered the factors listed in CWC §13241 in establishing these requirements. 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. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) 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 September 2004), 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 of the Basins. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Sacramento River downstream of the discharge as identified in Table-II of the Basin Plan are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Sacramento River	Existing: Municipal and domestic supply (MUN), Agricultural supply, including stock watering (AGR), Water contact recreation, including canoeing and rafting (REC-1), Non-contact water recreation, including aesthetic enjoyment (REC-2), Cold freshwater habitat (COLD), Cold spawning, reproduction, and /or early development (SPWN), and Wildlife habitat (WILD);
	Underlying Groundwater	Potential: Municipal and domestic water supply (MUN), Industrial service supply (IND), Industrial process supply (PRO), and Agricultural supply (AGR).

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999. About 40 criteria in the NTR applied in California. On 18 May 2000, USEPA adopted the CTR, which adopted new water quality criteria and also incorporated the NTR criteria that were applicable in California. The CTR was amended on 13 February 2001. These rules include water quality criteria for priority pollutants.

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

for chronic toxicity control. Requirements of this Order implement the SIP.

K. Compliance Schedules and Interim Requirements. Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed five years from the date that the permit is issued or reissued, nor may it extend beyond ten years from the effective date of the SIP (or 18 May 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds one 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. Antidegradation Policy. Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates the federal antidegradation policy, where the federal policy applies under federal law. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Central Valley Regional Water Board's Sacramento/San Joaquin Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet the discharge is consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution 68-16.

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

N. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5, TSS, and pH. The water quality-based effluent limitations consist of restrictions on toxics, pathogens, and others. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are more stringent than required by the CWA. Specifically, this Order includes effluent limitations for BOD, TSS, and pathogens that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in the Fact

Sheet. In addition, the Regional Water Board has considered the factors in Water Code section 13241 in establishing these requirements.

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

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 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. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

P. Monitoring and Reporting. Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards 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.

Q. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 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 (Attachment F).

R. 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 for a public hearing and to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.

S. 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 (Attachment F) of 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 Provision I.G. and I.H. (Attachment D)

C. Neither the discharge nor its treatment shall create a nuisance or polution 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 direct discharge of treated wastewater to surface waters or surface water drainage courses during the recreation season, 15 June through 15 September, is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point EFF-001

1. Final Effluent Limitations – (16 November through 30 April)

a. Effective immediately, the discharge of **treated wastewater** shall maintain compliance with the following effluent limitations at Discharge Point **001**, with compliance measured at Monitoring Location **EFF-001** as described in the attached Monitoring and Reporting Program (Attachment E, Section IV):

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations (16 November through 30 April)				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	30	45	60	--	--
	lbs/day[1]	102	154	205	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day[1]	102	154	205	--	--
pH	standard units	--	--	--	6.5	8.5
Settleable Solids	mL/L-hr	0.1	--	0.2	--	--
Copper[2], Total Recoverable	g/L	3.69	--	7.40	--	--
Dichlorobromomethane[2]	g/L	0.56	--	1.13	--	--
Zinc, Total Recoverable	g/L	9.96		20.0		

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

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

d. **Total Residual Chlorine**: Effluent total residual chlorine shall not exceed the following:

i. 0.01 mg/L as a four-day average;
ii. 0.02 mg/L as a one-hour average.

[1] Based upon a design treatment capacity of 0.41 mgd.
[2] Final Effluent Limitations become effective 18 May 2010.

e. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

i. 23 most probable number (MPN) per 100 mL, as a weekly median; and
ii. 240 MPN per 100 mL, as a daily maximum.

f. **Average Daily Discharge Flow:** The average dry weather (May through October) discharge flow shall not exceed 0.41 million gallons per day (mgd).

2. **Final Effluent Limitations - (1 May through 14 June and 16 September through 15 November)**

a. Effective immediately, the discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (Attachment E, Section IV):

Table 7. Effluent Limitations

Parameter	Units	Effluent Limitations (1 May through 14 June and 16 September through 15 November)				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20	--	--
	lbs/day[1]	34	51	68	--	--
Total Suspended Solids	mg/L	10	15	20	--	--
	lbs/day[1]	34	51	68	--	--
pH	standard units	--	--	--	6.5	8.5
Settleable Solids	mL/L-hr	0.1	--	0.2	--	--
Copper[2], Total Recoverable	µg/L	3.69	--	7.40	--	--
Dichlorobromomethane[2]	µg/L	0.56	--	1.13	--	--
Zinc, Total Recoverable	µg/L	9.96		20.0		

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. **Acute 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

[1] Based upon a design treatment capacity of 0.41 mgd.
[2] Final Effluent Limitations become effective 18 May 2010

d. **Total Residual Chlorine**: Effluent total residual chlorine shall not exceed the following:

i. 0.01 mg/L as a four-day average;
ii. 0.02 mg/L as a one-hour average.

e. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

i. 2.2 MPN per 100 mL, as a 7-day median;
ii. 23 MPN per 100 mL, more than once in any 30-day period; and
iii. 240 MPN per 100 mL, at any time.

f. **Average Daily Discharge Flow:** The average dry weather (May through October) discharge flow shall not exceed 0.41 million gallons per day (mgd).

3. **Interim Effluent Limitations**

a. During the period beginning upon the effective date of this Order and ending on 18 May 2010, the discharge of treated wastewater shall maintain compliance with the following priority pollutant limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (Attachment E). 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 8. Interim Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	23.1	--	71.8	--	--
Dichlorobromomethane	µg/L	2.4	--	7.5	--	--

B. Land Discharge Specifications – Discharge Point LND-001

1. The average dry weather discharge flow (May through October) shall not exceed 0.41 mgd.

2. The discharge of waste classified as "hazardous" as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or "designated", as defined in section 13173 of the CWC, to the treatment ponds is prohibited.

3. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.

4. As a means of discerning compliance with Land Discharge Specification IV.B.3, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L.

5. Ponds shall not have a pH less than 6.0 or greater than 9.0.

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

   a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

   b. Weeds shall be minimized.

   c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

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

8. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the nonirrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).

9. Effective immediately, the discharge of treated wastewater to the percolation/evaporation ponds shall maintain compliance with the following limitations at Discharge Point LND-001, with compliance measured at Monitoring Location LND-001 as described in the attached Monitoring and Reporting Program (Attachment E).

Table 9. Land Discharge Specifications

Parameter	Units	Discharge Specifications		
		Average Monthly	Average Weekly	Maximum Daily
Settleable Solids	mL/L-hr	0.1		0.2
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	30	45	60
Total Suspended Solids	mg/L	30	45	60

   a. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

      i. 23 MPN per 100 mL, as a weekly median;
      ii. 240 MPN per 100 mL, as a daily maximum

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

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

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

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

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

5. **Dissolved Oxygen**:

    a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;

    b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor

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

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

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

8. **pH**. The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5 units. A one-month averaging period may be applied when calculating the pH change of 0.5 units.

9. **Pesticides**:

    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;

b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;

c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA and prescribed in *Standard Methods for the Examination of Water and Wastewater, 18th Edition*, or other equivalent methods approved by 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/specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations.

g. Thiobencarb to be present in excess of 1.0 μg/L.

10. **Radioactivity**:

    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

    b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

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

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

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

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

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

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

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

    a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.

    b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.

    c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.

    d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

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

2. Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP shall not, in combination with other sources of the waste constituents, cause groundwater within influence of the WWTP to contain waste constituents in concentrations in excess of natural background quality or that listed below, whichever is greater:

    a. Total coliform organisms median of 2.2 MPN/100 mL over any weekly period.

VI. PROVISIONS

A. Standard Provisions

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

   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.

2. **Regional Water Board Standard Provisions.** 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 permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

      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 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.

l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 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.

a. 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)

b. 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 Requirements

1. The discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

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. This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

C. Special Provisions

1. Reopener Provisions

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

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

i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

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

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

d. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for 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. **Mixing Zone/Dilution Study.** Section 1.4 of the SIP establishes procedures for calculating effluent limitations. Included in the procedures is determination of a dilution credit, which the Regional Board may approve or disapprove at its discretion. However, the Discharger has not developed the information needed to determine a dilution credit. Consequently, this Order establishes final effluent limitations based on zero dilution. This Order also has a reopener that allows new effluent limitations to be adopted if a mixing zone and dilution study demonstrates that dilution credits are appropriate.

f. **Constituent Study.** If after review of the study results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective this Order may be reopened and effluent limitations added for the subject constituents.

2. **Special Studies, Technical Reports and Additional Monitoring Requirements**

a. **Chronic Whole Effluent Toxicity.** The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the narrative water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Water Board evaluation, conduct the TRE. This Order may be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened and a limitation based on that objective included.

3. **Best Management Practices and Pollution Prevention – Not Applicable**

4. **Construction, Operation and Maintenance Specifications**

a. **Requirements for Operator Certification**
Tertiary or equivalent to tertiary treatment standards for Technology Based effluent limitations are contained within this Order. Therefore, a Grade 3 Wastewater Treatment Plant Operator must oversee operation of the plant between 1 May through 14 June and 16 September through 15 November. However, a Grade 3 operator is not required if the Facility does not use tertiary treatment (filters) to comply with tertiary treatment effluent limitations.

b. **Treatment Pond Operating Requirements.**

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

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

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

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

iv. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow.

v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).

vi. Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the volume necessary to comply with Land Discharge Specification IV.B.8.

5. **Special Provisions for Municipal Facilities (POTWs Only)**

a. **Pretreatment Requirements. Not Applicable**

b. **Sludge/Biosolids Discharge Specifications**

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy these specifications.

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

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

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

c. **Biosolids Disposal Requirements**

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

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

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

d. **Biosolids Storage Requirements**

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

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

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

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

e. **Collection System.** On May 2, 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. By November 2, 2006**,** the Discharger is required by that Order, not incorporated by reference herein, to apply 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)].

f. This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

6. **Other Special Provisions**

a. The Discharger shall use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.

b. 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.

c. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (530) 224-4845 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 Federal Standard Provision V.E.1 [*40 CFR §122.41(l)(6)(i)*].

d. 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 the Federal 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.

e. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

f. 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 this office.

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 paragraph of Standard Provision 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 Schedule for Copper and Dichlorobromomethane.**

Justification for Interim Limits - This Order establishes effluent limitations based on water quality criteria contained in the CTR for copper and dibromochloromethane. The Discharger shall complete and submit justification for interim limits and a compliance time schedule **within 90 days** of the effective date of this Order. Justification for interim limits and a compliance time schedules shall include all of the following items (from Section 2.1 of the SIP):

i. Documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;

ii. Documentation of source control and/or pollution minimization efforts currently underway or completed;

iii. A proposed schedule for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and

iv. A demonstration that the proposed schedule is as short as practicable.

If adequate justification for interim limits and a compliance time schedule are not completed and submitted by the Discharger, then the final effluent limits for copper and dibromochloromethane shall become effective immediately following **90 days** after the effective date of this Order. If adequate justification for interim limits and a compliance time schedules is submitted, then the interim effluent limits will become effective and the final effluent limits shall not become effective until **18 May 2010**. As this compliance time schedule is greater than one year, the Discharger shall submit annual progress reports by **15 July** of each year until the Discharger achieves compliance with the final effluent limits for dibromochloromethane.

Time Schedule – In accordance with CWC Section 13385(j)(3) this Order requires the Discharger to prepare and implement a pollution prevention plan pursuant to Section 13263.3(d)(3) of the CWC. Copper and dichlorobromomethane may be able to be reduced through source control measures.

The Discharger shall comply with the following time schedule for copper and dichlorobromomethane:

Table 10. Compliance Time Schedule for Copper and Dichlorobromomethane

Task	Compliance Date
1. Identify potential sources by water quality monitoring of raw water, product water at various stages of treatment, and the various wastewater streams.	12 months after the effective date of this Order.
2. Prepare a Pollutant Minimization Plan	2 years after the effective date of this Order.
3. Implement pollutant minimization measures and evaluate treatment upgrades necessary to achieve compliance with final limitations.	3 years after the effective date of this Order.
4. Implement selected operational measures and/or treatment upgrades. Final effluent limitations become effective.	18 May 2010.

b. **Total Residual Chlorine Monitoring**

Within 24 months of the adoption of this Order, the Discharger shall install an electronic, real-time residual chlorine analyzer on the treatment plant effluent following the dechlorination process. The device shall continuously measure and record the chlorine residual and automatically notify the treatment plant operator of errors and effluent violations. The device shall have the sensitivity and accuracy to demonstrate compliance with the effluent limits for chlorine residual contained in this Order. Documentation of such installation shall be submitted to the Regional Board following completion of this task.

c. The Discharger shall submit to the Regional Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus 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 time schedule.

VII. COMPLIANCE DETERMINATION

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

A. **General.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. **Multiple Sample Data.** When determining compliance with an AMEL, 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:

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

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

C. **Average Monthly Effluent Limitation (AMEL).** If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that

parameter (*e.g.*, resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. **Average Weekly Effluent Limitation (AWEL).** If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in seven (7) days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. **Maximum Daily Effluent Limitation (MDEL).** If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

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

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

H. **Mass Effluent Limitations.** The mass effluent limitations contained in Final Effluent Limitations IV.A.1 and IV.A.2 are based on a design average dry weather flow (ADWF) in million gallons per day (mgd), and calculated as follows:

Mass (lbs/day) = Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor)

If the effluent flow exceeds the design ADWF (i.e. during wet-weather storm events), the mass effluent limitations contained in Final Effluent Limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

I. **BOD and TSS Effluent Limitations**. Compliance with the final effluent limitations for BOD and TSS required in Section IV.A shall be ascertained by 24-hour composite samples. Compliance with effluent limitations in Section IV.A 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.

J. **Average Daily Discharge Flow Effluent Limitations**. The Average Daily Discharge Flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the Average Daily Discharge Flow effluent limitations will be measured at times when groundwater is at or near normal and runoff is not occurring.

K. **Total Coliform Organisms Effluent Limitations**. For each day that an effluent sample is collected and analyzed for total coliform organisms, one of the following calculations shall be made:

1. If the daily maximum total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters (1 May through 14 June and 16 September through 15 November) or 240 MPN per 100 milliliters (16 November through 30 April), the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

2. 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 2.2 per 100 milliliters (1 May through 14 June and 16 September through 15 November) or 23 MPN per 100 milliliters (16 November through 30 April), the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

L. **Total Residual Chlorine.** 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.

ATTACHMENT A – DEFINITIONS

Average Four-Day Effluent Limitation: the highest allowable average of daily discharges over a four-day period, calculated as the sum of all daily discharges measured during a four-day period divided by the number of daily discharges measured during that four-day period.

Average Hourly Effluent Limitation: the highest allowable average of discharges over a one-hour period, calculated as the sum of all discharges measured during that one-hour period divided by the number of discharges measured during that one-hour period.

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.

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 one 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.

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

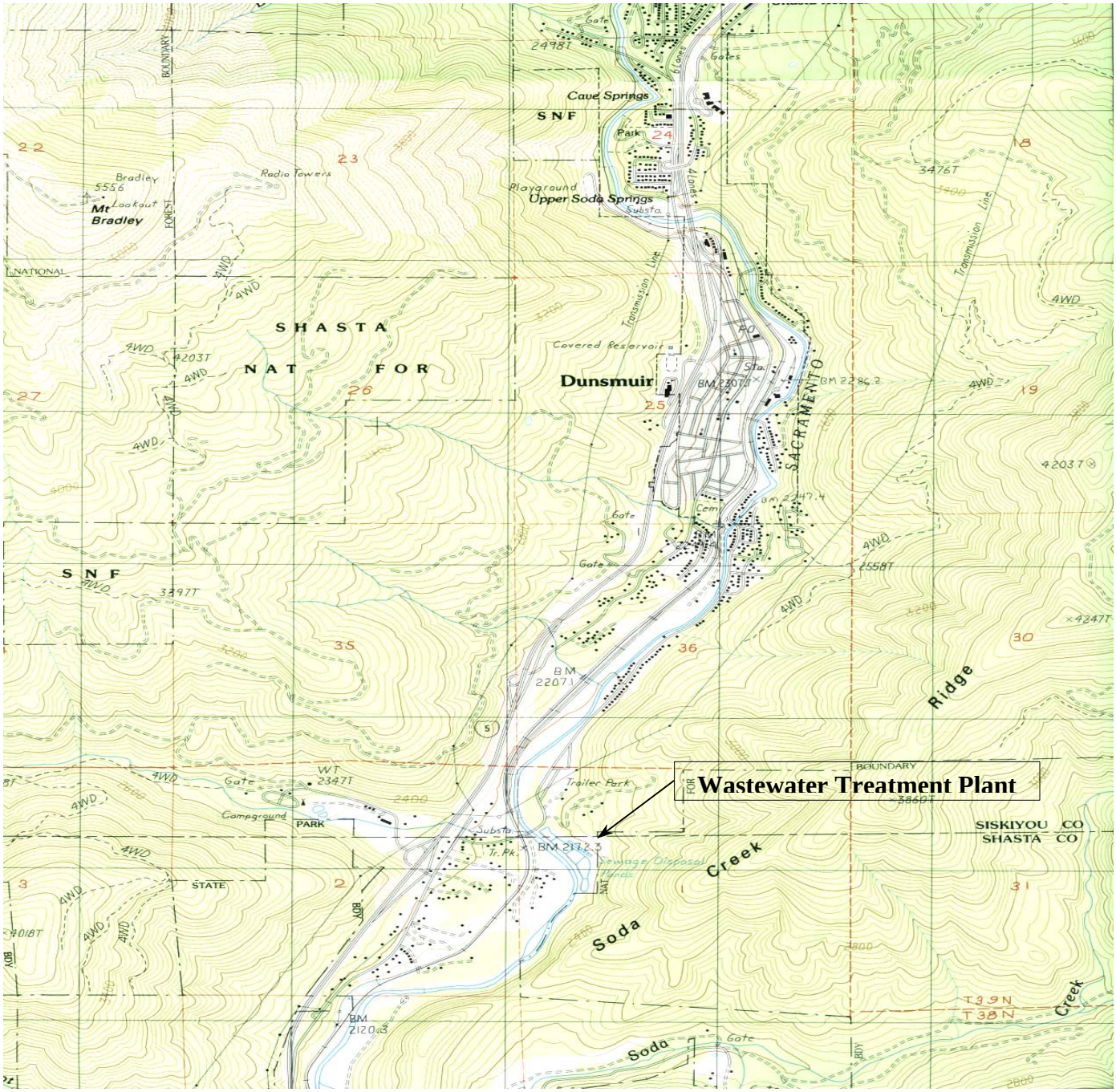
Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (*i.e.*, each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

Percent Removal: 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 (85 percent removal).

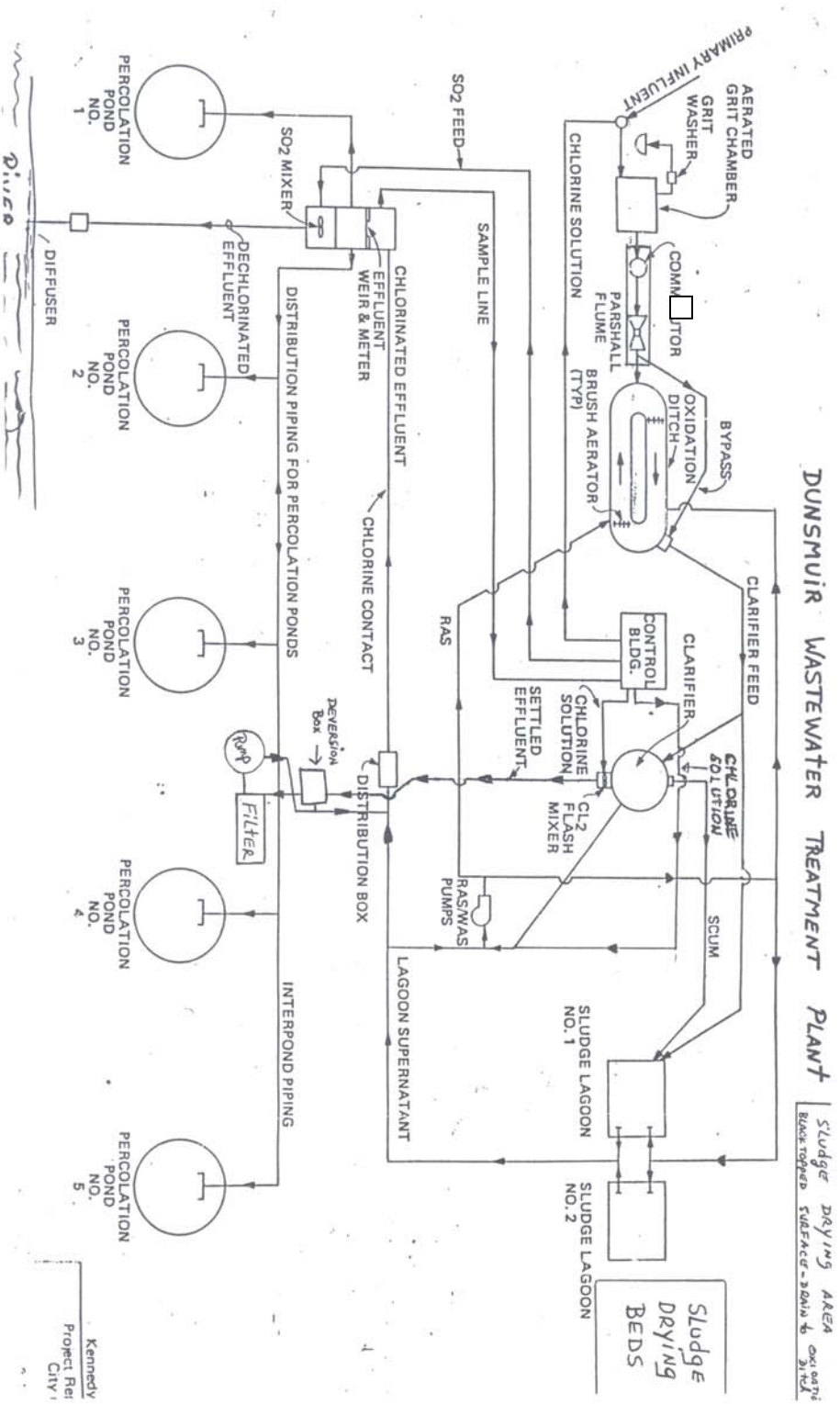
Six-month Median Effluent Limitation: the highest allowable moving median of all daily discharges for any 180-day period.

ATTACHMENT B
FIGURE B-1. TOPOGRAPHIC MAP



Drawing Reference: DUNSMUIR QUADRANGLE SECTION 1, T39N, R4W, MDB&M U.S.G.S TOPOGRAPHIC MAP 7.5 MINUTE QUADRANGLE *Photorevised 1986* *Not to scale*	CITY OF DUNSMUIR WASTEWATER TREATMENT PLANT SISKIYOU AND SHASTA COUNTIES	N W E S

ATTACHMENT C
FIGURE C-1. FLOW SCHEMATIC



ATTACHMENT D – FEDERAL 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 (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act 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 been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

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

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

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

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

G. Bypass

1. Definitions

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

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

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

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

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

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

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

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

5. Notice

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

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

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [*40 CFR §122.41(n)(2)*].

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [*40 CFR §122.41(j)(4)*] [*40 CFR §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 40 CFR Part 503), the Discharger shall retain records of all

monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

B. Records of monitoring information shall include:

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

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

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

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

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

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

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

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

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

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

2. All permit applications shall be signed as follows:

   a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-

president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or

c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (*e.g.*, Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, 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 paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

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

   c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision 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 paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board, or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].

5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

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

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

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

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

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

F. Planned Changes

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

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

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT—NOT APPLICABLE

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

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

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

Attachment E – Monitoring and Reporting Program – Table of Contents

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

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

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

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

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

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

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Influent	INF-001	Influent to Facility. East side of Pond 1
Effluent	EFF-001	Outfall of sulfur dioxide contact chamber between Pond 1 and Pond 2 to Sacramento River
Evap/Perc Ponds	LND-001	End of chlorine contact chamber between Pond 1 and Pond 2
Oxidation Ditch	OXD-001	Oxidation Ditch (No monitoring required)
Receiving Surface Water Upstream	RSW-001	Sacramento River 100' below confluence of Little Castle Creek (west bank)
Receiving Surface Water Downstream	RSW-002	Sacramento River 300' below EFF-001, adjacent to Pond 4
Subsurface Drain	SD-001	Wet Well, adjacent to east side of Pond 1
French Drain	FD-001	Sacramento River, south of Pond 5
Biosolids Monitoring	BIO-001	Sludge Drying Beds

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location - INF-001

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 influent to the facility at **INF-001** as follows:

Table E-2. Influent Monitoring.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
5-Day BOD_5[1]	mg/L, lbs/day	24-hr. Composite	2 Times Monthly	
Total Suspended Solids	mg/L, lbs/day	24-hr. Composite	2 Times Monthly	
pH	standard units	Meter	Daily	
Flow	mgd	Meter	Continuous	

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location – EFF-001

1. Effluent samples shall be collected downstream from the last connection through which wastes can be admitted into the outfall, following the last unit process. Effluent samples should be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. The Discharger shall monitor treated effluent at **EFF-001** as follows:

[1] 5-day 20°C Biochemical Oxygen Demand

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	
Total Residual Chlorine[1]	mg/L	Meter	Continuous	
pH	standard units	Grab	Daily	
Settleable Solids	mL/L-hr	Grab	Daily	
Total Suspended Solids	mg/L, lbs/day	24-Hour Composite	Weekly	
5-Day BOD_5	mg/L, lbs/day	24-Hour Composite	Weekly	
Total Coliform Organisms	MPN/100 mL	Grab	Weekly	
Bis (2-ethylhexl) Phthalate[2,3]	µg/L	Grab	Monthly	
Copper, Total Recoverable [2, 4]	µg/L	Grab	Monthly	
Dichlorobromoethane [2]	µg/L	Grab	Monthly	
Zinc, Total Recoverable [2,4]	µg/L	Grab	Monthly	
Ammonia, Total (as N)[5,6]	mg/L	Grab	Semiannually	
Priority Pollutants [2,7]	µg/L	Grab	Annually	

2. 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 priority pollutants, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

V. WHOLE EFFLUENT TOXICITY (WET) 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] Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
[2] 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.
[3] If Bis (2-ethylhexl) Phthalate is not detected in effluent samples above the MDL for six consecutive sampling events, this requirement will be automatically removed from the permit at the Dischargers request and documented by a staff response.
[4] Report as Total Recoverable.
[5] Concurrent with biotoxicity monitoring.
[6] Temperature and pH shall be recorded at the time of ammonia sample collection.
[7] Concurrent with receiving water sampling.

1. **Monitoring Frequency** – the Discharger shall perform semiannually acute toxicity testing, concurrent with effluent ammonia sampling.

2. **Sample Types** – For static non-renewal and static renewal testing, the samples shall be 24-hour, flow-proportional composites 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 larval stage (0 to 14 days old) rainbow trout (*Oncorhynchus mykiss*).

4. **Methods** – The acute bioassays tests shall be conducted in accordance with EPA-821-R-02-012, Fifth Edition, or later amendment with Executive Officer approval. Temperature, total residual chlorine, ammonia, 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 seven (7) business days following notification of test failure.

B. Chronic Toxicity Testing.

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

1. **Monitoring Frequency** – the Discharger shall perform three-species (B.4, below), chronic toxicity testing annually, between 16 September and 15 October.

2. **Sample Types** – Effluent samples shall be flow-proportional, 24-hour composites 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 upstream monitoring location RSW-001, 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:

   a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);

   b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and

c. 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, or later amendment with Executive Officer approval.

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** – The chronic toxicity testing shall be performed using the dilution series identified in Table E-1, 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

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 Central Valley Water Board within 24 hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements

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

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

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

   b. The statistical methods used to calculate endpoints;

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

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

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

   Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

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

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

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

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

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

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Pond Monitoring – Monitoring Location - LND-001

1. The Discharger shall monitor the evaporation/percolation Ponds 1 through 5 when water is present in the ponds. All Pond samples shall be grab samples. The Discharger shall monitor evaporation/percolation **Pond(s)** at **LND-001,** at a minimum as follows:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Residual Chlorine[1]	mg/L	Grab	Weekly	
5-Day BOD_5	mg/L, lbs/day	24-Hour Composite	Weekly	
Total Suspended Solids	mg/L, lbs/day	24-Hour Composite	Weekly	
pH[2]	pH units	Grab	Weekly	
Settleable Solids	mL/L-hr	Grab	Weekly	
Freeboard[3]	feet	Measurement	Weekly	
Dissolved Oxygen[2]	mg/L	Grab	Weekly	
Odors	--	--	Weekly	
Total Coliform Organisms	MPN/100 mL	Grab	Weekly	

2. The Discharger shall inspect the condition of the ponds once per week and write visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether burrowing animals or insects are present; and the color of the ponds (*e.g.*, dark sparkling green, dull green, yellow, gray, tan, brown). A summary of the entries made in the log during each month shall be submitted along with the monitoring report the following month. If the Discharger finds itself in violation of the Discharge Specifications, the Discharger shall briefly explain the action taken or to be taken to correct the violation. The Discharger shall certify in each monitoring report that it is in compliance with the Discharge Specifications.

[1] Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
[2] A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the WWTP.
[3] Freeboard shall be monitored to the nearest tenth of a foot.

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Location – RSW-001

The Discharger shall monitor the **Sacramento River** at **RSW-001** as follows:

Table E-6a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen[1]	mg/L	Grab	Twice Per Month	
pH[1]	Standard Units	Grab	Twice Per Month	
Turbidity	NTU	Grab	Twice Per Month	
Temperature[1]	°F	Grab	Twice Per Month	
Total Coliform Organisms	MPN/100 mL	Grab	Twice Per Month	
Hardness (as $CaCO_3$)	mg/L	Grab	Monthly	
Priority Pollutants	µg/L	Grab	Annually	

B. Monitoring Location – RSW-002

The Discharger shall monitor the **Sacramento River** at **RSW-002** as follows:

Table E-6b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen[1]	mg/L	Grab	Twice Per Month	
pH[1]	Standard Units	Grab	Twice Per Month	
Turbidity	NTU	Grab	Twice Per Month	
Temperature[1]	°F	Grab	Twice Per Month	
Total Coliform Organisms	MPN/100 mL	Grab	Twice Per month	

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

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations RSW-00l and RSW-002. Attention shall be given to the presence or absence of:

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

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

IX. OTHER MONITORING REQUIREMENTS

A. Biosolid/Sudge Monitoring – Monitoring Location - BIO-001

1. A composite sample of sludge shall be collected when sludge is removed from the sludge drying beds or ponds for disposal in accordance with USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the metals listed in Title 22.

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

3. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). Suggested methods for analysis of sludge are provided in USEPA publications titled "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" and "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e). Other guidance is available in USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989.

B. French Drain – Monitoring Location - FD-001

A sampling station shall be established where a representative sample of the french drain effluent can be obtained. The Discharger shall monitor the **French Drain** at **FD-001** as follows:

Table E-7. French Drain Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Coliform Organisms	MPN/100 mL	Grab	Monthly	
Fecal Coliform Organisms	MPN/100 mL	Grab	Monthly	

C. Subsurface Drain – Monitoring Location - SD-001

A sampling station shall be established where a representative sample of the subsurface drain effluent can be obtained. The Discharger shall monitor the **Subsurface Drain** at **SD-001** as follows:

Table E-8. Subsurface Drain Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Coliform Organisms	MPN/100 mL	Grab	Monthly	
Fecal Coliform Organisms	MPN/100 mL	Grab	Monthly	

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

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

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

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

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

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

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ($\pm$ 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.

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:

   California Regional Water Quality Control Board
   Central Valley Region
   415 Knollcrest Drive, Suite 100
   Redding, CA 96002

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

Table E-9. Monitoring Periods and Reporting Schedule

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

Semiannually	**<Closest of January 1 or July 1 following (or on) permit effective date>**	January 1 through June 30 July 1 through December 31	**August 1** **February 1**
Annually	**<January 1 following (or on) permit effective date>**	January 1 through December 31	**February 1**

C. Discharge Monitoring Reports (DMRs)

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

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

1. 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.

2. 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 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

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 renewed Order regulates the discharge of up to 0.41 million gallons per day (mgd), design average dry weather flow (ADWF), of effluent from the City of Dunsmuir Wastewater Treatment Plant. This Order includes effluent, groundwater and surface water limitations, biosolids requirements, monitoring and reporting requirements, additional study requirements, and re-opener provisions for effluent and groundwater constituents.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	**5A470101001**
Discharger	**City of Dunsmuir**
Name of Facility	**City of Dunsmuir Wastewater Treatment Plant**
Facility Address	**1100 South First Street**
	Dunsmuir, CA 96025
	Siskiyou County
Facility Contact, Title and Phone	**Ronald LaRue, Utility Supervisor (530) 235-2325** **Patricia Hall, City Administrator (530) 235-4822**
Authorized Person to Sign and Submit Reports	**Ronald LaRue, Utility Supervisor (530) 235-2325**
Mailing Address	**5919 Dunsmuir Avenue, Dunsmuir, CA 96025**
Billing Address	**5919 Dunsmuir Avenue, Dunsmuir, CA 96025**
Type of Facility	**POTW**
Major or Minor Facility	**Minor**
Threat to Water Quality	**1**
Complexity	**B**
Pretreatment Program	**Not Applicable**
Reclamation Requirements	**Not Applicable**
Facility Permitted Flow	**0.41 mgd (average dry weather flow)**
Facility Design Flow	**0.41 mgd (average dry weather flow)**
Watershed	**Upper Sacramento Hydrologic Unit (525.00)** **Mount Shasta Hydrologic Area (525.20)** **Dunsmuir Hydrologic Subarea (525.21)**
Receiving Water	**Sacramento River/Land Discharge to Ponds**
Receiving Water Type	**Fresh Water**

A. The City of Dunsmuir (hereinafter Discharger) is the owner and operator of the City of Dunsmuir Wastewater Treatment Plant (hereinafter Facility), a wastewater collection, treatment, and disposal system.

B. The Facility discharges wastewater to the Sacramento River, a water of the United States, and is currently regulated by Order 5-00-124 which was adopted on 16 June 2000 and expired on 16 June 2005. The terms of the Order automatically continued in effect after the permit expiration date.

C. The Discharger filed a Report of Waste Discharge, dated 16 December 2004. The Discharger requested renewal of their Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit to discharge up to 0.41 million gallons per day (mgd) of treated wastewater from the Facility. A site visit was conducted on 17 March 2006, to observe operations and collect additional data to develop permit limitations and conditions. Supplemental information was requested on 14 April 2006 and received on 15 April 2006. The application was deemed complete on 14 April 2006.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the community of Dunsmuir and portions of Siskiyou County, and serves a population of approximately 3,000. The Facility's design average dry weather flow capacity is 0.41 mgd.

A. Description of Wastewater and Biosolids Treatment or Controls

The City of Dunsmuir operates a wastewater treatment plant that consists of an aerated grit chamber, comminutor, oxidation ditch, secondary clarifier, sand filter (used 1 May through 14 June and 16 September through 15 November, if needed to meet effluent limitations), chlorine contact chamber, dechlorination system, and sludge drying beds. Treated wastewater is discharged through an outfall pipeline at the discharge point (D-001), latitude 41º 11' 00" N and longitude 122º 16' 52" W, to the Sacramento River within the Upper Sacramento Hydrologic Unit, Mount Shasta Hydrologic Area, Dunsmuir Hydrologic Subarea (525.21), as depicted on interagency hydrologic maps prepared by California Department of Water Resources (DWR) in August 1986. Between 15 June and 15 September, treated wastewater is discharged to five surface ponds located within the facility.

Attachment B provides a topographic map of the Facility and vicinity. Attachment C provides a flow schematic of the Facility.

B. Discharge Points and Receiving Waters

1. The wastewater treatment plant is located in Section 1, T39N, R4W, MDB&M on Assessor's Parcel Number 014-060-030, as shown on Attachment B (Figure B-1), a part of this Order. The existing Order allows the Facility to discharge treated municipal wastewater, between 16 September and 14 June, to the Sacramento River, at discharge point D-001.

2. The outfall is equipped with a diffuser that extends into the Sacramento River along the riverbed. The diffuser consists of three, eight-inch outlets separated approximately ten feet apart.

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

1. In previous Order No. 5-00-124, Effluent Limitations/Discharge Specifications for discharges to the Sacramento River at Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are shown in Tables F-2 and F-3 below:

Table F-2. Historic Limitations and Monitoring Data - (16 November through 30 April)

Parameter (units)	Effluent Limitation				Monitoring Data			
	Average Monthly	Average Weekly	30-Day Median	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest 30-Day Median	Highest Daily Discharge
BOD (mg/L)	30	45		60	10	16		16
BOD (lbs/day)	125	190		250	29.7	53		53
TSS (mg/L)	30	45		60	6.4	18.5		25
TSS (lbs/day)	125	190		250	19.9	61.5		84
Settleable Solids (mL/L-hr)	0.1			0.2	<0.1	<0.1		<0.1
Chlorine Residual (mg/L)				0.2	<0.02	<0.02		<0.02
Total Coliform Organisms (MPN/100 mL)			23	500	48	140	2	140

Table F-3. Historic Effluent Limitations and Monitoring Data - (1 May through 14 June, and 16 September through 15 November)

Parameter (units)	Effluent Limitation				Monitoring Data			
	Average Monthly	Average Weekly	30-Day Median	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest 30-Day Median	Highest Daily Discharge
BOD (mg/L)	10	15		30	8.6	15		15
BOD (lbs/day)	42	63		125	24.6	34		34
TSS (mg/L)	10	15		30	5.3	6		6
TSS (lbs/day)	42	63		125	10.3	11		11
Settleable Solids (mL/L-hr)	0.1			0.2	<0.1	<0.1		<0.1
Chlorine Residual (mg/L)				0.2	<0.02	<0.02		<0.02
Total Coliform Organisms (MPN/100 mL)			2.2	23	2	2	2	2

2. The Report of Waste Discharge describes the City of Dunsmuir Wastewater Treatment Plant discharge as shown in Table F-4 below (Note – file review showed slightly different numbers):

Table F-4. Facility Discharge

Design Flow (dry weather):	0.41	million gallons per day (mgd)
Annual Average Daily Flow Rate:	0.270	mgd
Maximum Daily Flow Rate:	0.522	mgd
Average Temperature, Summer:	21	ºC
Average Temperature, Winter:	9	ºC
BOD[11] (Max/Ave):	11/5	mg/L
Total Suspended Solids (Max/Ave):	9/4	mg/L

D. Compliance Summary

Based on the monitoring data submitted by the Discharger from January 2000 through December 2005, there were no exceedances of effluent and receiving water limitations set by Order No. 5-00-124.

E. Planned Changes

The Facility does not anticipate any planned changes within the next five years.

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 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 (CWC). 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 of the CWC for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, *et seq*.), requiring preparation of an environmental impact report or negative declaration in

[1] 5-day, 20°C Biochemical Oxygen Demand

accordance with Section 13389 of the California Water Code.

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,* 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. In addition, State Water Resources Control Board (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. Beneficial uses applicable to the Sacramento River downstream of the discharge, Box Canyon Dam to Shasta Lake as designated in the Basin Plan, Table II-1.

   In addition, State Water Resources Control Board (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. Thus, as discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Sacramento River, from Box Canyon Dam to Shasta Lake are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Sacramento River	<u>Existing:</u> Municipal and domestic supply (MUN); Agricultural supply, including stock watering (AGR); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation, including aesthetic enjoyment (REC-2); Cold freshwater habitat (COLD); Cold spawning, reproduction, and /or early development (SPWN); and Wildlife habitat (WILD).
LND-001	Groundwater	<u>Existing:</u> Municipal and domestic water supply (MUN); Agricultural supply (AGR); and Industry, Service supply (IND) and Process (PRO).

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 swimable. Federal Regulations, 40 CFR §§ 131.2 and 131.10, require that all waters of the State be regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR § 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.

Although the beneficial uses of the Sacramento River are designated in the Basin Plan, the Regional Water Board has considered the following facts, regarding preservation and enhancements of fish, wildlife, and other aquatic resources:

a. Municipal and Domestic Supply, and Agricultural Supply

   The Regional Water Board is required to apply the beneficial uses of municipal and domestic supply to the Sacramento River based on State Water Resources Control Board (State Water Board) Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Water Board Resolution No. 89-056. In addition, the State Water Board has issued water rights to existing water users along the Sacramento River downstream of the discharge for domestic and irrigation uses. The Sacramento River likely provides groundwater recharge during periods of low flow. The groundwater is a source of drinking water. In addition to the existing water uses, growth in the area, downstream of the discharge is expected to continue, which presents a potential for increased municipal and domestic, and agricultural uses of the water in the Sacramento River.

b. Water Contact and Non-contact Recreation and Esthetic Enjoyment

   The Regional Water Board finds that the discharge flows through residential areas, public access to the Sacramento River is readily available, exclusion of the public is unrealistic and contact recreational activities currently exist along the Sacramento River, and that these uses are likely to increase as the population in the area grows. The Sacramento River flows through areas of general public access, meadows, residential areas, and parks. The Sacramento River also offers recreational opportunities.

c. Preservation and Enhancement of Fish, Wildlife, and Other Aquatic Resources

The California Department of Fish and Game (DFG) has verified that the fish species present in the Sacramento River are consistent with cold water fisheries, that there is a potential for anadromous fish migration necessitating a cold water designation and that numerous cold water species have been found both upstream and downstream of the wastewater treatment plant. The Basin Plan (Table II-1) designates the Sacramento River as being a cold freshwater habitat. Therefore, pursuant to the Basin Plan (Table II-1, Footnote (2)), the cold designation applies to the Sacramento River. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/L.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the CTR on 18 May 2000, which was amended on 13 February 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

3. **State Implementation Policy.** On 2 March 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP*).* The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in their Basin Plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on 22 May 2000. The SIP became effective on 18 May 2000. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.

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

5. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (BOD), total suspended solids (TSS), and pH. Restrictions on BOD, TSS, pH are specified in federal regulations as discussed in Finding F, and the permit's technology-based pollutant restrictions are no more stringent than required by the CWA. 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 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 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA*" pursuant to 40 CFR 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.

6. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.

8. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

9. **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) (EPCRKA) 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*". No discharges subject to EPCRKA reporting have occurred at the Facility.

10. **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 plants with design flow rates greater than 1 mgd. The design flow for the Facility is 0.41 mgd, therefore, the Facility is not obligated to comply with the Federal storm water regulations.

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

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

E. Other Plans, Policies, 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.

2. The State Water Board adopted the *Water Quality Control Policy for the Enclosed Bays and Estuaries of California*. The requirements within this Order are consistent with the Policy.

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.

B. Discharge Prohibitions

As stated in the Federal Standard Provisions (Attachment D), 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 Resources Control 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. In the case of United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that "*any bypass which occurs because of inadequate plant capacity is unauthorized…to the extent that there are 'feasible alternatives', including the construction or installation of additional treatment capacity*".

C. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

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

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. However, tertiary treatment is necessary to minimize degradation and protect the beneficial uses of the receiving stream. The final effluent limitations for BOD_5 and TSS are based on the technical capability of the tertiary process. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. In applying 40 CFR Part 133 for weekly and monthly average BOD_5 and TSS limitations, the application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed; the 30-day average BOD_5 and TSS limitations have been revised to 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. See Tables F-5 and F-6 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. If 85 percent removal of BOD_5 and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (i.e., treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month.

b. **Flow.** The City of Dunsmuir Wastewater Treatment Facility was designed to provide a secondary level of treatment for up to a design flow of 0.41 mgd. Therefore, this Order contains an Average Daily Discharge Flow effluent limit of 0.41 mgd.

c. **Mass-based Effluent Limitations.** Mass-based effluent limitations were calculated by multiplying the concentration limitation by the design flow rate of the Facility and the appropriate unit conversion factor. The Facility has a design flow rate of 0.41 mgd. Unless otherwise noted, all mass limitations or mass emissions rates (MERs) in this Order were calculated by multiplying the concentration limitation by the design flow rate and the appropriate unit conversion factor as follows:

MER = Concentration Limitation x 0.41 mgd x 8.34 (lb-L/mg-gal)

d. **pH**. Federal Regulations, 40 CFR 133 establish the technology-based level of effluent quality achievable through secondary treatment, and require effluent pH to be between 6.0 and 9.0 standard pH units.

Summary of Technology-based Effluent Limitations
Discharge Point 001

The Clean Water Act and Federal Regulations require that municipal wastewater be treated to "secondary" quality. Federal Regulations, 40 CFR 133, establish the technology-based level of effluent quality achievable through secondary treatment. Final discharge limitations in this Order are based on secondary treatment for discharges between 16 November and 30 April and on the technical capability of tertiary wastewater treatment systems from 1 May through 14 June and 16 September through 15 November. Technology based limitations are utilized to assure the treatment systems are properly designed and operated. Discharge Limitations have been established for secondary treatment or equivalent as 30 mg/L (30-day average), 45 mg/L (weekly average) and 60 mg/L (daily maximum) for both BOD and TSS. Discharge Limitations have been established for tertiary treatment or equivalent as 10 mg/L (30-day average), 15 mg/L (weekly average) and 20 mg/L (daily maximum) for both BOD and TSS. No discharge to the Sacramento River is allowed between 15 June and 15 September.

Table F-5 - Summary of Technology Based Effluent Limitations - (16 November through 30 April)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Standard Units				6.0	9.0
5-Day BOD @ 20 °C	mg/L	30	45	60		
	lbs/day[1]	103	154	205		
Total Suspended Solids	mg/L	30	45	60		
	lbs/day[1]	103	154	205		
Removal	85% removal BOD_5 and TSS					

Table F-6 - Summary of Technology Based Effluent Limitations - (1 May through 14 June and 16 September through 15 November)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Standard Units				6.0	9.0
5-Day BOD @ 20 °C	mg/L	10	15	20		
	lbs/day[1]	34	51	68		
Total Suspended Solids	mg/L	10	15	20		
	lbs/day[1]	34	51	68		
Removal	85% removal BOD_5 and TSS					

D. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR §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 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 water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Receiving Water**. Receiving water of the City of Dunsmuir WWTP is the Sacramento River. The beneficial uses of the Sacramento River, from Box Canyon Dam to Shasta Lake, as described above in III.C.1, are as follows:

[1] Based upon a design treatment capacity of 0.41 mgd.

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Sacramento River	Existing: Municipal and domestic supply (MUN); Agricultural supply, including stock watering (AGR); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation, including aesthetic enjoyment (REC-2); Cold freshwater habitat (COLD); Cold spawning, reproduction, and /or early development (SPWN); and Wildlife habitat (WILD).
LND-001	Groundwater	Existing or Potential: Municipal and domestic water supply (MUN), and Agricultural supply (AGR); and Industry, Process (PRO) and Service Supply (IND).

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*, at (c)(4), states the following:

"Application of metals criteria. (i) *For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations*."

The State Water Resources Control Board, in footnote 19 to Water Quality Order No. 2004-0013, stated: "*We note that…the Regional Water Board…applied a variable hardness value whereby effluent limitations will vary depending on the actual, current hardness values in the receiving water. We recommend that the Regional Water Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than 'floating' effluent limitations*."

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 conditions at the time of discharge, Effluent Limitations must be set using the worst-case condition (*e.g.*, lowest ambient hardness) in order to protect beneficial uses for all discharge conditions. For purposes of establishing water quality-based effluent limitations, a reported hardness value of 51 mg/L as $CaCO_3$ was used.

c. **Assimilative Capacity/Mixing Zone.** The Discharger has not conducted a mixing zone/dilution study. Therefore, based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero dilution/assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

d. **Translators.** USEPA regulations at 40 CFR 122.45(c) require effluent limitations for metals to be expressed as total recoverable metal, and therefore, attention must be given to ensure that analytical data and water quality standards for metals are expressed accordingly. Appendix 3 of the SIP provides Conversion Factors (CFs) or translators, for certain metals including arsenic, cadmium, copper, silver, and zinc, to convert total recoverable concentrations to dissolved concentrations and vice versa. Since the Discharger did not provide translators specific to the receiving water, this Order used CFs from the SIP summarized in Table F-7 below:

Table F-7. Translators

Parameter	Conversion Factor Freshwater Acute Criteria
Arsenic	1.000
Cadmium	0.983
Copper	0.960
Silver	0.85
Zinc	0.978

3. **Determining the Need for WQBELs**

a. The City of Dunsmuir Wastewater Treatment Plant conducted monitoring for priority and non-priority pollutants. The analytical results were submitted to the Regional Water Board. The results of these sampling events were used in developing this Order. All detectable results of these sampling events from these analyses are summarized in Table F-8 (below). Effluent limitations are included in the Order to protect the beneficial uses of the receiving waters and to ensure that the Discharger complies with the Basin Plan objective that toxic substances not be discharged in toxic amounts. Unless otherwise noted, all mass limitations in this Order were calculated by multiplying the concentration limitation by the design flow and the appropriate unit conversion factors.

Table F-8. City of Dunsmuir Wastewater Treatment Plant: CTR Detectable Results (µg/L)

Constituents	7 February 2001			19 March 2002			1 October 2002		
	Effluent	R-001	Blank	Effluent	R-001	Blank	Effluent	R-001	Blank
Arsenic	< 0.26	1.0 DNQ		0.3 DNQ	2.4		0.4 DNQ	10.6	
Chromium (lll) (or total Cr)	<0.05	<0.05		<0.02	0.30 DNQ		0.3 DNQ	0.60	
Copper	2	<0.09		12.8	0.32 DNQ		23.10	0.5	
Lead	<0.06	<0.06		0.23 DNQ	0.05 DNQ		0.22 DNQ	0.08	
Mercury	0.0027	0.0008		0.00264	0.00049 DNQ		0.0129	0.00286	
Nickel	<0.12	0.30 DNQ		<0.2	6		1.0	4.0	
Selenium	0.8 DNQ	1.0 DNQ		0.3 DNQ	<0.2		0.4 DNQ	0.4 DNQ	
Thallium	<0.07	<0.07		0.02 DNQ	<0.01		0.03 DNQ	0.04 DNQ	
Zinc	24	<10		51	11		53	3	
Cyanide	<2	3.0 DNQ		<2	<2		<2	<2	
Chloroform	13.1	<0.5		8	<0.5	1	28.3	<0.5	1.4
Dichlorobromomethane	2.4	<0.5		1	<0.5		<0.5	<0.5	
Toluene	1.30	<0.5		15	<0.5		6.5	<0.5	
Bis (2-Ethylhexyl) Phthalate	<1	<2		<2	<2		2.0 DNQ	<2	

b. 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 CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. 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: *"Waters 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."*

c. For determining whether the discharge has reasonable potential to cause, or contribute to an in-stream excursion above a water quality standard, Federal regulations prescribe three discrete methods (40 CFR 122.44 (d)(vi). The Regional Water Board often relies on the second method, because the USEPA's water quality criteria have been developed using methodologies that are subject to public review, as are individual recommended criteria guidance documents. USEPA ambient water quality criteria are used as means of supplementing the integrated approach to toxics control as required by the Basin Plan's narrative toxicity objective. In addition, when determining effluent limitations for a discharger, the dilution of the effluent in the receiving water may be considered where areas of dilution are defined. However, when receiving water is impaired by a particular pollutant or stressor, limited or no pollutant assimilative capacity may be available in spite of the available dilution. In these instances, and depending upon the nature of the pollutant, effluent limitations may be set equal to or less than the applicable water quality criteria, which are applied at the point of discharge such that the discharge will not cause or contribute to the receiving stream exceedance of water quality standards established to protect the beneficial uses.

d. Reasonable potential (RP) was determined by calculating the projected maximum effluent concentration (MEC) for each constituent and comparing it to applicable water quality criteria; if a criterion was exceeded, the discharge was determined to have reasonable potential to exceed a water quality objective for that constituent. The projected MEC is determined by multiplying the observed MEC (the maximum detected concentration) by a factor that accounts for statistical variation. The multiplying factor is determined (for 99% confidence level and 99% probability basis) using the number of results available and the coefficient of variation (standard deviation divided by the mean) of the sample results. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean and standard deviation. For all constituents for which the source of the applicable water quality standard is the CTR or NTR, the multiplying factor is 1. Reasonable potential evaluation was based on the methods used in the SIP and the USEPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001].

e. 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 does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for *chlorine, copper, dichlorobromomethane, pH, settleable solids, and zinc*. Effluent limitations for these constituents are included in this Order, and a discussion of each constituent is provided below.

f. Effluent Limitations for water quality-based effluent limitations were calculated in accordance with section 1.4 of the SIP and the TSD. Attachment F, Section IV.C.4. describes the methodology used for calculating effluent limitations.

g. **Ammonia.** Domestic wastewater treatment plants that do not nitrify (convert ammonia to nitrate) generally produce effluent with ammonia concentrations exceeding USEPA recommended freshwater criteria. Nitrification capability at the Plant is unknown and nitrification may not occur year-round, if at all, due to the City of Dunsmuir's cold climate. Therefore, there may be a reasonable potential for effluent ammonia to cause or contribute to an in-stream excursion above the Basin Plan narrative toxicity objective if there is inadequate mixing of effluent in the Sacramento River. The USEPA has published revised ambient water quality criteria for ammonia (1999 Ammonia Update). This Order contains requirements for monitoring effluent ammonia, and a reopener to set ammonia effluent limitations if it is determined that ammonia in the effluent presents a reasonable potential for exceedance of a water quality objective.

h. **Bis (2-ethylhexyl) phthalate.** In order to verify if bis-(2-ethylhexyl) phthalate is truly present in the receiving water or effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant. If changes in sampling and/or analytical procedures and equipment indicate that bis-(2-ethylhexyl) phthalate is not present in the effluent or receiving water samples at concentrations that cause reasonable potential as defined by the SIP for six consecutive sampling event, then effluent limits are not necessary and this requirement will be automatically removed from the permit at the Dischargers request and documented by a staff response. However, if bis-(2-ethylhexyl) phthalate continues to be detected in the effluent and/or receiving water, then this Order may be reopened and modified by adding an appropriate effluent limitation for bis-2-ethylhexylphthalate.

i. **BOD and TSS.** 40 CFR §133.102 contains regulations describing the minimum level of effluent quality—for biochemical oxygen demand (BOD) and total suspended solids (TSS)—attainable by secondary treatment.

The WWTP is required to comply with effluent limitations appropriate for treatment systems providing secondary treatment from 16 November and 30 April and tertiary or equivalent treatment between 1 May through 15 June and 16 September through 15 November. Effluent limitations for both BOD and TSS have been established at 30 mg/L, as a monthly average from 16 November through 30 April, which is technically based on the capability of a secondary system. In addition, effluent limitations for both BOD and TSS have been established at 10 mg/L, as a monthly average between 1 May through 15 June and 16 September through 15 November, which is technically based on the capability of a tertiary system. 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. If 85 percent removal of BOD and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (*i.e.*, treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD and TSS over each calendar month.

j. **Chlorine Residual.** The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses a sulfur dioxide process to dechlorinate the effluent prior to discharge to the Sacramento River. Due to the existing chlorine use and the potential for chlorine to be discharged, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The USEPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001] contains statistical methods for converting chronic (four-day) and acute (one-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average one-hour limitation is considered more appropriate than an average daily limitation. USEPA recommends, in its Ambient Water Quality Criteria for the protection of fresh water aquatic life, maximum 1-hour average and 4-day average chlorine concentrations of 0.019 mg/L and 0.011 mg/L, respectively. Average one-hour and four-day limitations for chlorine, based on these criteria, are included in this Order. The Discharger can immediately comply with these new effluent limitations for chlorine residual.

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

k. **Copper.** The discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR aquatic life criteria for 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 conversion factors for copper in freshwater are 0.960 for both the acute and the chronic criteria.

The observed copper MEC was detected in a sample collected on 1 October 2002 at a concentration of 23.10 µg/L. Using the worst-case ambient (lowest upstream receiving water) measured hardness from the receiving water (51 mg/L), the applicable chronic criterion (maximum four-day average concentration) is 5.2 µg/L and the applicable acute criterion (maximum one-hour average concentration) is 7.4 µg/L. The observed MEC is greater than the water quality criteria; therefore, Effluent Limitations for copper are required. The Discharger has not requested a mixing zone or use of assimilative capacity for effluent limitations based on protection of aquatic life. The Effluent Limitations for copper included in this Order are presented in total concentrations, and are based on CTR standards for the protection of freshwater aquatic life.

The SIP requires converting CTR chronic (four-day) and acute (one-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. Equations summarizing the conversion are shown below:

Assuming a hardness of 51mg/L as $CaCO_3$

$$CCC = e^{[0.8545\ln(hardness)-1.702]} = 5.25\ \mu g/L \text{ (total copper)}$$

$$CMC = e^{[0.9422\ln(hardness)-1.700]} = 7.42\ \mu g/L \text{ (total copper)}$$

Assuming no dilution:

$$AMEL = 1.55[\min(0.321CMC, 0.527CCC)] = 3.69\ \mu g/L \text{ (total copper)}$$

$$MDEL = 3.11[\min(0.321CMC, 0.527CCC)] = 7.40\ \mu g/L \text{ (total copper)}$$

This Order includes the above average monthly and maximum daily effluent copper limitations.

l. **Dichlorobromomethane.** The discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR standards for dichlorobromomethane. The CTR includes a dichlorobromomethane criterion of 0.56 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed.

Dichlorobromomethane was detected in an effluent sample collected 7 February 2001 at a concentration of 2.4 µg/L. The observed MEC is greater than the water quality criteria; therefore, Effluent Limitations for dichlorobromomethane are required. Effluent Limitations for dichlorobromomethane are included in this Order and are based on the CTR standard for the protection of human health.

No dichlorobromomethane has been detected in the receiving water. The lowest detection level of the receiving water dichlorobromomethane concentrations is 0.5 µg/L.

$$ECA_{HH} = HH + D_{HH}(HH - B_{HH})$$

$$ECA_{HH} = 0.56 + 0(0.56 - 0.5) = 0.56\mu g/L$$

Using a multiplier to project the MEC with a 99% confidence level and 99% probability basis (see WQBEL Calculations VIII.E.2.b for procedure), the dichlorobromomethane MEC for the purpose of calculating effluent limitations is 2.4 µg/L. The Discharger has not requested a mixing zone or use of assimilative capacity for effluent limitations based on protection of human health. The average monthly effluent limitation, therefore, is set at 0.56 µg/L.

With the AMEL set equal to 0.56 µg/L, the MDEL was calculated as follows:

$$MDEL = \left(\frac{3.11}{1.55}\right) AMEL = 1.13\,\mu g / L$$

Where: AMEL = average monthly effluent limitation
MDEL = maximum daily effluent limitation

This Order includes the above average monthly and maximum daily effluent limitations for dichlorobromomethane.

m. **Flow.** The Facility was designed to provide a secondary level of treatment for up to its design flow of 0.41 mgd. The effluent flow limit is therefore set at 0.41 mgd.

n. **Pathogens.** Tertiary treatment is required during parts of the year to protect the beneficial uses of water contact recreation, municipal and domestic supply, and agricultural irrigation downstream of the discharge into the Sacramento River. The effluent limitation for total coliform organisms is intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of pathogen removal. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that specified in Title 22 and in other recommendations by the California Department of Health Services.

This permit does not apply Title 22 standards to the discharge. However, in assessing the discharge standards necessary to protect the site-specific beneficial uses of the Sacramento River, Title 22 standards were compared to the level of treatment required to protect the public health when in contact with treated wastewater. Title 22 states that, for reuse as irrigation water for food crops and to protect for nonrestricted contact recreation, it is necessary for wastewater to receive tertiary treatment resulting in coliform counts that do not exceed 2.2 MPN/100 mL as a 7-day median, 23 MPN/100 mL more than once in any 30 day period, and 240 MPN/100 mL ever.

Therefore, this Order includes tertiary effluent limitations during parts of the year based on protecting the beneficial uses of non-restricted contact recreation and irrigation in the Sacramento River.

o. **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 and are based on the Basin Plan objectives for pH.

p. **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." This Order contains average monthly and average daily effluent limitations for settleable solids.

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

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

r. **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. The Basin Plan includes an instantaneous maximum water quality objective of 20.02 µg/L total zinc at a hardness of 51 mg/L as $CaCO_3$ in the Sacramento River.

The observed zinc MEC was detected in a sample collected 1 October 2002 at a concentration of 53 µg/L. The observed MEC is greater than the water quality objective; therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for zinc. The Discharger has not requested a mixing zone or use of assimilative capacity for effluent limitations, therefore, effluent limitations are calculated assuming no dilution.

The SIP requires converting CTR chronic (four-day) and acute (one-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. Equations summarizing the conversion are shown below:

Assuming a hardness of 51 mg/L as $CaCO_3$.
Basin Plan (BP) Instantaneous Maximum (Acute) =

$$e^{[0.830\ln(hardness)-0.289]} / 0.978 = 20.02 \text{ µg/L (total zinc)}$$

$$CCC = e^{[0.8473\ln(hardness)+0.884]} = 67.7 \text{ µg/L (total zinc)}$$

$$CMC = e^{[0.8473\ln(hardness)+0.884]} = 67.7 \text{ µg/L (total zinc)}$$

Assuming no dilution.

$$AMEL = 1.55[\min(0.321BP, 0.321CMC, 0.527CCC)] = 9.96 \text{ µg/L}$$

$$MDEL = 3.11[\min(0.321BP, 0.321CMC, 0.527CCC)] = 20.0 \text{ µg/L}$$

This Order includes average monthly and maximum daily effluent zinc limitations.

2. **WQBEL Calculations**

a. Effluent limitations for copper, dichlorobromomethane, and zinc were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations.

b. **Assimilative Capacity.** The Discharger did not request the use of assimilative capacity.

c. **Dilution Ratios Calculation.**
The Discharger did not provide a mixing zone/dilution study.

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

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC \qquad ECA_{HH} = HH + D_{HH}\left(HH - B_{HH}\right)$$

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)
D_{HH} =		dilution ratio for human health, agriculture, or other long-term criterion/objective
HH =		human health, agriculture, or other long-term criterion/objective
B_{HH} =		background concentration for human health. (for carcinogens: arithmetic mean of R-1 concentrations, for non-carcinogens: observed maximum R-1 concentration; or lowest detection level if all results are non-detect)

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). The statistical multipliers were calculated using data shown in Table F-1.

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

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

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

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

e. **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.

Oxygen-demanding substances, persistent, bioaccumulative toxics, and constituents with an associated total maximum daily load require mass limitations to protect the beneficial uses of the receiving water. Regional Water Board staff have included mass limitations for persistent, bioaccumulative, toxics based on the 9 November 1998 Federal Register *Notice of Availability of Draft RCRA Waste Minimization PBT Chemical List*. This document does not contain a comprehensive list, however, and additional constituents may require mass limitations as information becomes available.

Mass-based effluent limitations were based upon a design treatment capacity of 0.41 mgd.

Table F-9. Summary of Water Quality-based Effluent Limitations - Discharge Point EFF-001
(16 November through 30 April)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Standard units				6.5	8.5
Settleable Solids	mL/L-hr	0.1		0.2		
BOD	mg/L	30	45	60		
	lbs/day[1]	103	154	205		
TSS	mg/L	30	45	60		
	lbs/day[1]	103	154	205		
Copper, Total Recoverable	µg/L	3.69		7.40		
Dichlorobromomethane	µg/L	0.56		1.13		
Zinc, Total Recoverable	µg/L	9.96		20.0		

a. **Total Residual Chlorine**: Effluent total residual chlorine shall not exceed the following:

   i. 0.01 mg/L as a four-day average; and
   ii. 0.02 mg/L as a one-hour average.

b. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

   i. 23 MPN/100 mL as a weekly median; and
   ii. 240 MPN/100 mL as a daily maximum.

c. **Average Dry Weather Flow**: the average dry weather discharge flow shall not exceed 0.41 million gallons per day.

Table F-10. Summary of Water Quality-based Effluent Limitations - Discharge Point EFF-001 (1 May through 14 June and 16 September through 15 November)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Standard units				6.5	8.5
Settleable Solids	mL/L-hr	0.1		0.2		
BOD	mg/L	10	15	20		
	lbs/day[1]	34	51	68		
TSS	mg/L	10	15	20		
	lbs/day[1]	34	51	68		
Copper, Total Recoverable	µg/L	3.69		7.40		
Dichlorobromomethane	µg/L	0.56		1.13		
Zinc, Total Recoverable	µg/L	9.96		20.0		

a. **Total Residual Chlorine**: Effluent total residual chlorine shall not exceed the following:

   i. 0.01 mg/L as a four-day average; and
   ii. 0.02 mg/L as a one-hour average.

b. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

   i. 2.2 MPN/100 mL as a weekly median; and
   ii. 23 MPN/100 mL as a daily maximum.

c. **Average Dry Weather Flow**: the average dry weather discharge flow shall not exceed 0.41 million gallons per day.

3. **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 investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Toxicity**: The Basin Plan further states that "…*effluent limits based upon acute biotoxicity tests of effluents will be prescribed*…". Effluent limitations for acute toxicity are included in this Order. This Order includes the following limitation for 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.) Based on annual whole effluent chronic toxicity testing performed by the Discharger from 2000 through 2005, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective.

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

E. 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 of 0.41 mgd.

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 copper, dichlorobromomethane, 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 coliform, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in Attachment F, Section IV.C.3, above.

3. Satisfaction of Anti-Backsliding Requirements.

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

4. Satisfaction of Antidegradation Policy

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-11. Summary of Final Effluent Limitations - Discharge Point EFF-001 (16 November through 30 April)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	30	45	60		
	lbs/day	102	154	205		
Total Suspended Solids	µg/L	30	45	60		
	lbs/day	102	154	205		
pH	standard units				6.5	8.5
Settleable Solids	mL/L-hr	0.1		0.2		
Copper, Total Recoverable	µg/L	3.69		7.40		
Dichlorobromo methane	µg/L	0.56		1.13		
Zinc, Total Recoverable	µg/L	9.96		20.0		

a. **Percent Removal**: The average monthly percent removal of BOD 5-day biochemical oxygen demand (BOD) 20°C and total suspended solids (TSS) shall not be less than 85 percent.

b. **Total Residual Chlorine**: Effluent total residual chlorine shall not exceed the following:

   i. 0.01 mg/L as a four-day average;
   ii. 0.02 mg/L as a one-hour average; and

c. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

   i. 23 MPN/100 mL as a weekly median; and
   ii. 240 MPN/100 mL as a daily maximum

d. **Average Dry Weather Flow**: the average dry weather discharge flow shall not exceed 0.41 million gallons per day.

Table F-12. Summary of Final Effluent Limitations - Discharge Point EFF-001 (1 May through 14 June and 16 September through 15 November)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20		
	lbs/day	34	51	68		
Total Suspended Solids	µg/L	10	15	20		
	lbs/day	34	51	68		
pH	standard units				6.5	8.5
Settleable Solids	mL/L-hr	0.1		0.2		
Copper, Total Recoverable	µg/L	3.69		7.40		
Dichlorobromo methane	µg/L	0.56		1.13		
Zinc, Total Recoverable	µg/L	9.96		20.0		

a. **Percent Removal**: The average monthly percent removal of BOD 5-day biochemical oxygen demand (BOD) 20°C and total suspended solids (TSS) shall not be less than 85 percent.

b. **Total Residual Chlorine**: Effluent total residual chlorine shall not exceed the following:

   i. 0.01 mg/L as a four-day average;
   ii. 0.02 mg/L as a one-hour average; and

c. **Total Coliform Organisms**: Effluent total coliform organisms concentrations shall not exceed the following:

   i. 2.2 MPN/100 mL as a weekly median; and
   ii. 23 MPN/100 mL as a daily maximum

d. **Average Dry Weather Flow**: the average dry weather discharge flow shall not exceed 0.41 million gallons per day.

F. Interim Effluent Limitations

1. **CTR Constituents -** As stated in the above Findings, the USEPA adopted the NTR and the CTR, which contains water quality standards applicable to this discharge and the SIP contains guidance on implementation of the NTR and CTR. 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; include interim compliance dates separated by no more than one year; and be included in the Provisions.

   The interim limitations for copper and dichlorobromomethane in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are ten 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*).

   When there are less than ten 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 ten 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 effluent 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 ten 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). Therefore, interim limitations in this Order are established as a monthly average effluent limitation equal to the maximum observed effluent concentration and a maximum daily effluent limitation equal to 3.11 times the maximum observed concentration.

   The Regional Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with NTR- and CTR-based 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. For example, USEPA states in the Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the Effluent Limitation can be achieved.

   Table F-14 summarizes the calculations of the interim effluent limitations for Copper and Dichlorobromomethane.:

Table F-14. Interim Effluent Limitation Calculation Summary

Parameter	Maximum Observed Effluent Concentration	Average Monthly Effluent Limit	Maximum Daily Effluent Limit
Copper, Total Recoverable	23.1	23.1	71.8
Dichlorbromomethane	2.4	2.4	7.5

G. **Land Discharge Specifications**

1. Anaerobic (lacking in oxygen) processes tend to produce aesthetically undesirable odors. To minimize production of undesirable odors, the Discharger is required to maintain some (at least 1.0 mg/L) dissolved oxygen in the upper one foot of the pond.

2. Pond levees can fail for a variety of reasons, typically, a lack of maintenance or overtopping due to wave action. The Order requires a minimum pond freeboard of two feet be maintained to prevent overtopping.

H. **Reclamation Specifications – Not Applicable**

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements and must meet the requirements of California Code of Regulations, Title 22.

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 ammonia, biostimulatory substances, color, dissolved oxygen, coliform, oil and grease, pH, radioactivity, settleable material, tastes and odors, temperature, toxicity, and turbidity.

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. **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.

b. **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.

c. **Dissolved Oxygen.** The Sacramento River 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 Basin Plan Sacramento River from Box Canyon Dam to Shasta Lake, 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. The dissolved oxygen concentrations shall not be reduced below the following minimum levels at any time: Waters designated WARM 5.0 mg/l; waters designated COLD 7.0 ml/l; waters designated SPWN 7.0 mg/l. "* This objective is included as a receiving water limitation in this Order.

d. **Fecal coliform.** The Sacramento River 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 200 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 400/100 ml*." This objective is included in this Order as a receiving water limitation.

e. **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.

f. **pH.** For all surface water bodies in the Sacramento River and San Joaquin River basins (except for Goose Lake), the Basin Plan includes water quality objectives stating 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.

g. **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.

h. **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.

i. **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.

j. **Temperature.** The Sacramento River has the beneficial uses of COLD. 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 5ºF above natural receiving water temperature*." This Order includes a receiving water limitation based on this objective.

k. **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.

l. **Turbidity.** The Basin Plan includes the following objective: "*Increases 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 10 NTUs, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTU.*
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent."

B. **Groundwater**

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

2. Basin Plan water quality objectives to protect the beneficial uses of groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity of groundwater, and taste and odor. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The chemical constituent objective states 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 Basin Plan requires the application of the most stringent objective necessary to ensure that groundwaters do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect municipal and domestic water supply, agricultural supply, or any other beneficial use.

3. State Water Resources Control Board (State Water Board) Resolution No. 68-16 (hereafter Resolution 68-16) requires the Regional Water Board in regulating discharge of waste to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies (*e.g.*, quality that exceeds water quality objectives). Resolution 68-16 requires that the discharge be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, 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 Monitoring and Reporting Program 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 (*i.e.*, 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 and groundwater.

C. Whole Effluent Toxicity Testing Requirements

The Basin Plan states 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. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances*." The Basin Plan requires that "[a]*s a minimum, compliance with this objective…shall be evaluated with a 96-hour bioassay*." This Order requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective.

The receiving surface water for the Facility is the Sacramento River, an inland surface water providing freshwater aquatic habitat. Beneficial uses of the Sacramento River include cold freshwater habitat (COLD); cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD). Given that the receiving stream has beneficial uses of cold freshwater habitat, cold migration of aquatic organisms, and cold spawning, reproduction, and/or early development, it is appropriate to use a cold/warm-water species such as *O. mykiss* (rainbow trout) for aquatic toxicity bioassays.

USEPA has approved test methods for of *Pimephales promelas, Selenastrum capricornutum,* and *Ceriodaphnia dubia* for assessing chronic toxicity in freshwater organisms.

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

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

D. **Receiving Water Monitoring**

1. **Surface Water**

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

2. **Groundwater**

a. This order does not require the Discharger to conduct groundwater monitoring. There is no current evidence to indicate that the operation of the wastewater treatment plant pose a threat to groundwater quality. If any information becomes available indicating adverse groundwater impacts, a groundwater investigation and subsequent monitoring may be required.

E. **Other Monitoring Requirements**

1. **Pond Monitoring**

Pond monitoring is required to assess compliance with land discharge specifications. Additional monitoring of all ponds located within the City of Dunsmuir WWTP is required to assess compliance with effluent and receiving water limitations.

2. **Biosolids Monitoring**

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

VII. RATIONALE FOR PROVISIONS

A. **Standard Provisions**

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

Title 40 CFR 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. 40 CFR 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 40 CFR Sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. **Special Provisions**

1. **Reopener Provisions**

a. Upon **adoption** of any applicable water quality standard for receiving waters by the Regional Water Board or the State Water Board pursuant to the CWA and regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

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

c. **Mixing Zone and Dilution Studies.** Section 1.4 of the SIP established procedures for calculating effluent limitations. Included in the procedures is determination of a dilution credit, which the Regional Water Board may approve or disapprove at its discretion. However, the Discharger has not developed the information needed to determine a dilution credit. Consequently, this Order establishes final effluent limitations based on zero dilution. This Order also has a reopener that allows new effluent limitations to be adopted is a mixing zone and dilution study demonstrates that dilution credits are appropriate.

2. **Special Studies and Additional Monitoring Requirements**

a. **CTR Compliance Schedule Justification Study.** The SIP, Section 2.1, 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 and/or pollution minimization 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 Order requires the Discharger to provide this information. The new water quality-based effluent limitations for copper and dichlorobromomethane become effective the first day of month following 60 days after adoption if a compliance schedule justification is not completed and submitted by the Discharger to the Regional Water Board. Otherwise, final water quality-based effluent limitations for copper and dichlorobromomethane become effective on 18 May 2010.

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

The provision requires accelerated monitoring consisting of four chronic toxicity tests every 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.

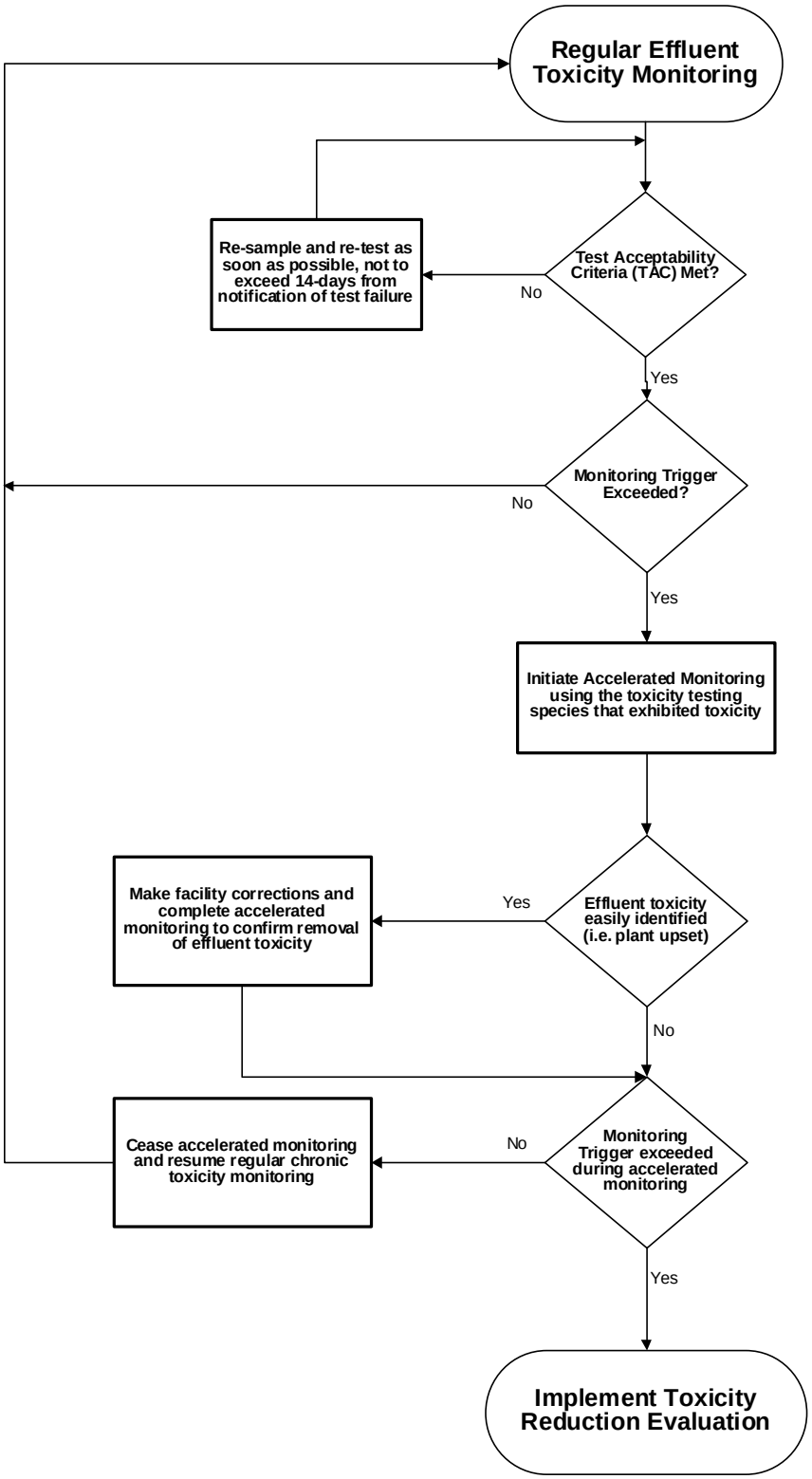
See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

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



3. **Best Management Practices and Pollution Prevention – Not Applicable**

4. **Construction, Operation, and Maintenance Specifications**

   a. **Requirements for Operator Certification**
   Tertiary or equivalent to tertiary treatment standards for Technology Based effluent limitations are contained within this Order. Therefore, a Grade 3 Wastewater Treatment Plant Operator must oversee operation of the plant between 1 May through 14 June and 16 September through 15 November. However, a Grade 3 operator is not required if the Facility does not use tertiary treatment (filters) to comply with tertiary treatment effluent limitations.

   b. **Treatment Pond Operating Requirements.**

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

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

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

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

      iv. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow.

      v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).

      vi. Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the volume necessary to comply with Land Discharge Specification IV.B.8.

5. **Special Provisions for Municipal Facilities (POTWs Only)**

   a. **Pretreatment Requirements** – Not Applicable

   b. **Sanitary Sewer Overflow Requirements**

      i. Sanitary sewer overflows consist of varying mixtures of domestic sewage, industrial wastewater, and commercial wastewater. This mixture depends on the pattern of land use in the sewage collection system tributary to the overflow. The chief causes of sanitary sewer overflows include lack of maintenance; blockages due to grease, roots, and debris; sewer line flood damage; manhole structure failures; vandalism; pump station mechanical failures; power outages; stormwater or groundwater inflow/infiltration; insufficient capacity; and contractor-caused blockages.

      ii. Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, and other pollutants. Sanitary sewer overflows can cause exceedance of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area.

      iii. The Discharger is responsible for all necessary steps to adequately maintain and operate its sanitary sewer collection system. This Order requires the Discharger to prepare and implement a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan.

      iv. Discharger shall apply for a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order 2006-0003 and any further revisions thereto. See section VI.C.5.e for additional information.

6. **Other Special Provisions**

   a. This Order requires the Discharger to use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.

   b. 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.

c. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, this Order requires the Discharger to notify the Regional Water Board by telephone (916) 464-3291 (or to the Regional Water Board staff engineer assigned to the facility) 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 Federal Standard Provision V.E.1 [*40 CFR §122.41(l)(6)(i)*].

d. 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 the Federal 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.

e. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger must obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

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 this office.

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 paragraph of Federal Standard Provision V.B.5 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 Schedule for Copper and Dichlorobromomethane.**

Justification for Interim Limits - This Order establishes effluent limitations based on water quality criteria contained in the CTR for copper and dibromochloromethane. The Discharger shall complete and submit justification for interim limits and a compliance time schedule **within 90 days** of the effective date of this Order. Justification for interim

limits and a compliance time schedules shall include all of the following items (from Section 2.1 of the SIP):

i. Documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;

ii. Documentation of source control and/or pollution minimization efforts currently underway or completed;

iii. A proposed schedule for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and

iv. A demonstration that the proposed schedule is as short as practicable.

If adequate justification for interim limits and a compliance time schedule are not completed and submitted by the Discharger, then the final effluent limits for copper and dibromochloromethane shall become effective immediately following **90 days** after the effective date of this Order. If adequate justification for interim limits and a compliance time schedules is submitted, then the interim effluent limits will become effective and the final effluent limits shall not become effective until **18 May 2010**. As this compliance time schedule is greater than one year, the Discharger shall submit annual progress reports by **15 July** of each year until the Discharger achieves compliance with the final effluent limits for dibromochloromethane.

Time Schedule - In accordance with CWC Section 13385(j)(3) this Order requires the Discharger to prepare and implement a pollution prevention plan pursuant to Section 13263.3(d)(3) of the CWC. Copper and dichlorobromomethane may be able to be reduced through source control measures.

The Discharger shall comply with the following time schedule for copper and dichlorobromomethane:

Table F-15. Compliance Time Schedule for Copper and Dichlorobromomethane

Task	Compliance Date
1. Identify potential sources by water quality monitoring of raw water, product water at various stages of treatment, and the various wastewater streams.	12 months after the effective date of this Order.
2. Prepare a Pollutant Minimization Plan	2 years after the effective date of this Order.
3. Implement pollutant minimization measures and evaluate treatment upgrades necessary to achieve compliance with final limitations.	3 years after the effective date of this Order.
4. Implement selected operational measures and/or treatment upgrades. Final effluent limitations become effective.	18 May 2010.

b. **Total Residual Chlorine Monitoring**

Within 24 months of the adoption of this Order, the Discharger shall install an electronic, real-time residual chlorine analyzer on the treatment plant effluent following the dechlorination process. The device shall continuously measure and record the chlorine residual and automatically notify the treatment plant operator of errors and effluent violations. The device shall have the sensitivity and accuracy to demonstrate compliance with the effluent limits for chlorine residual contained in this Order. Documentation of such installation shall be submitted to the Regional Board following completion of this task.

c. The Discharger shall submit to the Regional Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus 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 time schedule.

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 **City of Dunsmuir Wastewater Treatment Plant**. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through mailings and physical and internet posting.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should 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 22 October 2006.

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: 26 and 27 October 2006
Time: 8:30 A.M.
Location: Central Valley Regional Water Quality Control Board, Sacramento Office
11020 Sun Center Drive, #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/centralvalley 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 (530) 224-4845.

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 **Daniel L. Warner** at **530-224-4848**.