California Regional Water Quality Control Board
North Coast Region
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Arnold Schwarzenegger
Governor

ORDER NO. R1-2011-0002
NPDES NO. CA0024490
WDID NO. 1B82084OHUM

WASTE DISCHARGE REQUIREMENTS FOR THE MCKINLEYVILLE COMMUNITY SERVICES DISTRICT

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Table 1. Discharger Information

Discharger	McKinleyville Community Services District
Name of Facility	Wastewater Management Facility
Facility Address	675 Hiller Road
	McKinleyville CA 95519
	Humboldt County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharges by the McKinleyville Community Services District from the discharge points identified below are subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary treated effluent	40 º, 55', 28" N	124 º, 7', 13" W	Mad River
002	Secondary treated effluent	40 º, 55', 41" N	124 º, 7', 38" W	Groundwater (Percolation Ponds)
003	Secondary treated effluent	40 º, 55', 50" N	124 º, 7', 20" W	Land Discharge (Lower Fisher Ranch)
004	Secondary treated effluent	40 º, 56' N	124 º, 7', 20" W	Land Discharge (Upper Fisher Ranch)
005	Secondary treated effluent	40 º, 56', 35" N	124 º, 7' W	Land Discharge (Hiller Storm Water Treatment Wetland)
006	Secondary treated effluent	40 º, 55', 35" N	124 º, 7' W	Land Discharge (Pialorsi Ranch)

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Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	January 27, 2011
This Order shall become effective on:	January 27, 2011
This Order shall expire on:	January 26, 2016
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:.	**180 days prior to the Order expiration date July 15, 2015**

IT IS HEREBY ORDERED, that this Order supersedes Order No. R1-2008-0039 upon the effective date specified in Table 3. This action in no way prevents the Regional Water Quality Control Board from taking any enforcement action for past violations of the previous permit. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the discharger shall comply with the analogous portions of Order No. R1-2008-0039, which shall remain in effect for all purposes during the pendency of the stay.

I, Catherine Kuhlman, Executive Officer, do hereby certify that this Order with all its attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on **January 27, 2011**.

_____

Catherine Kuhlman
Executive Officer

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Table 4. Facility Information

Discharger	McKinleyville Community Services District
Name of Facility	Wastewater Management Facility
Facility Address	675 Hiller Road
	McKinleyville CA 95519
	Humboldt County
Facility Contact, Title, and Phone	Norman Shopay, General Manager, (707) 839-3251
Mailing Address	PO Box 2037, McKinleyville CA 95519
Type of Facility	Aerated ponds followed by polishing wetland marsh
Facility Design Flow	1.61 million gallons per day

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II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds:

A. **Background.** The McKinleyville Community Services District (hereinafter Discharger) is currently discharging under Order No. R1-2008-0039 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024490.. On September 7, 2010 the Discharger submitted a request for modification of the MRP to revise and clarify sampling and analyses requirements entitled *Updated Request for Revisions to the Monitoring and Reporting Program for the McKinleyville Community Services District Wastewater Management Facility*. On October 6, 2010, the Discharger submitted a request for modification of final copper effluent limitations and supporting documentation entitled *Performance of Ceriodaphnia dubia Toxicity Testing in Support of Development of a Copper Water-Effect Ratio (WER) for Application to the McKinleyville Community Services District M-001 Effluent*. Considering the nature of the proposed modification and expiration date for Order No. R1-2008-0039, it was decided that the issuance of a new NPDES permit was appropriate. 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 treatment facility. The treatment system consists of four aerated ponds followed by a two-stage polishing wetland marsh. During the discharge season, which extends from October 1 through May 14, wastewater is discharged from Discharge Point 001 to the Mad River, a water of the United States within the Blue Lake hydrologic area 109.10 and to percolation ponds adjacent to the Mad River Estuary when the flow in the Mad River is less than 200 cubic feet per second (cfs). During summer, a portion of the wastewater treatment plant effluent is polished in the Hiller storm water treatment marsh where it provides moisture to sustain wetland vegetation through the dry season. Runoff producing rainfall events cause the Hiller storm water treatment marsh to overflow into an unnamed tributary to the Mad River estuary. Prior to the onset of the wet season and storm water overflows from the marsh, the wastewater application to the treatment marsh is ceased and the treatment marsh is allowed to dry through evaporation and evapotranspiration. Attachment B provides a topographic map of the area around the facility. Attachment C provides a flow schematic of the facility.

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

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through F, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Water Code section 13389.

F. **Technology-based Effluent Limitations***.* Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40, the Code of Federal Regulations (CFR), require that permits include conditions meeting applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR 133. 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) requires 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) may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the North Coast Basin (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, 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 the Mad River and its tributaries are as follows:

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Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	**Mad River**	**<u>Existing:</u>** **Municipal and domestic water supply (MUN); agricultural supply (AGR), industrial service supply (IND), industrial process supply (PRO), ground water recharge (GWR), freshwater replenishment (FRESH), navigation (NAV), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), estuarine habitat (EST), aquaculture (AQUA), and native American culture (CUL).** **<u>Potential:</u>** **Marine habitat (MAR).**

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

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

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

J. **State Implementation Policy.** On March 2, 2000, 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 for 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.

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K. **Compliance Schedules and Interim Requirements.**

Not Applicable

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 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 Regional Water Board Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16.

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

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 biochemical oxygen demand (BOD), total suspended solids (TSS), pH and pathogens (total coliform). This Order's technology-based pollutant restrictions exceed the minimum, applicable federal technology-based requirements by requiring advanced treatment of wastewater, as required by the Basin Plan. The rationale for including these limitations is explained in sections IV.B and IV.D of the Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes water-quality based effluent limitations for pH that are more stringent than applicable federal standards, but that are necessary to meet numeric objectives and protect beneficial uses.

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 for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were

approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH) and the General Objective regarding antidegradation were approved by USEPA on March 4, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section13241, in establishing these requirements.

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. New effluent limitations for total residual chlorine have been established in this Order. The new limitations are numerical and expressed as a monthly maximum limitation of 0.01 mg/L and a maximum daily limitation of 0.02 mg/L. In the previous Order, the effluent limitation was expressed as "nondetect" with a detection method of 0.1 mg/L. The new limitations, although no longer expressed as "nondetect," are in effect more stringent limitations because the discharge is required to achieve an effluent concentration of total residual chlorine that is numerically lower than was required to be demonstrated by the previous Order.

P. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. **Monitoring and Reporting.** Federal regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 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.

R. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR 122.41and 122.42, apply to all NPDES discharges and must be included in every

NPDES permit, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable to 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).

S. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, VI.C.2.d, and VI.C.2.e of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.

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

III. DISCHARGE PROHIBITIONS

A. The discharge of any waste not disclosed by the Discharger or not within the reasonable contemplation of the Regional Water Board is prohibited.

B. Creation of pollution, contamination, or nuisance, as defined by Water Code section 13050 is prohibited.

C. The discharge of sludge or digester supernatant is prohibited, except as authorized under Section V. C.5.c of this Order (Solids Disposal and Handling Requirements).

D. The discharge or reclamation of untreated or partially treated waste from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Prohibition III.I and Attachment D, Standard Provision I.G (Bypass).

E. The discharge of waste to land that is not owned by or subject to an agreement for use by the Discharger is prohibited.

F. The discharge of treated wastewater from the wastewater treatment facility to the Mad River or its tributaries is prohibited during the period May 15 through September 30 of each year. This prohibition shall not be interpreted to prohibit discharge to the Hiller storm water treatment wetlands (Discharge Point 005) or to percolation ponds (Discharge Point 002).

G. The reclamation and polishing of treated wastewater from the wastewater treatment facility to the Hiller storm water treatment wetlands (Discharge Point 005) is prohibited during the period from September 21 through June 21 of the following calendar year.

H. During the period of October 1 through May 14 of each year, treated wastewater may be discharged to the Mad River only when the flow of the river as measured at the Highway

299 overpass (USGS Gage No. 11-4810.00) is both greater than 100 times the waste flow and greater than 200 cubic feet per second.

I. Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land that creates a pollution, contamination, or nuisance as defined in Water Code section 13050(m) is prohibited.

J. Discharge of more than 3.3 million gallons per calendar day is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001 (Mad River)

1. Final Effluent Limitations – Discharge Point 001 (Mad River)

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Locations M-001, as described in the attached Monitoring and Reporting Program (Attachment E):

Table 6. Effluent Limitations for Discharge Point 001 (Mad River)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	45	65	--	--	--
	lbs/day	441	637	--	--	--
Total Suspended Solids	mg/L	83	--	--	--	--
	lbs/day	931	--	--	--	--
pH	pH Units	--	--	--	6.5	8.5
Settleable Matter	mL/L	0.1	--	0.2	--	--
Chlorine Residual	mg/L	0.01	--	0.02	--	--
Nitrate as Nitrogen	mg/L	10	--	--	--	--
[2]			--		--	--
Lead [1]	ug/L	*See Table E-14*	--	*See Table E-14*	--	--
α-BHC	ug/L	0.0039	--	0.0078	--	--
4,4'-DDT	ug/L	0.00059	--	0.0012	--	--
bis(2-ethylhexyl) phthalate	ug/L	1.8	--	3.6	--	--

[1] Final effluent limitations for lead are dependent on the hardness of the receiving water and shall be determined at each time that effluent is monitored in accordance with Table E-14 contained in Appendix E of the Order.

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 65 percent.

c. **Acute Toxicity**. There shall be no acute toxicity in the effluent. The Discharger will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with the following:

i. Minimum for any one bioassay: 70 percent survival
ii. Median for all bioassays during any calendar month: at least 90 percent survival

d. **Disinfection**. The disinfected effluent shall not contain concentrations of total coliform bacteria exceeding the following concentrations:

i. The median concentration shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, for samples collected during any calendar month.

ii. No sample shall exceed an MPN of 230 total coliform bacteria per 100 milliliters.

B. Land Discharge Specifications – Discharge Point 002 (Percolation Ponds)

1. The discharge of secondary treated wastewater shall maintain compliance with the following limitations at Discharge Point 002, with compliance measured at Monitoring Location M-001 as described in the attached Monitoring and Reporting Program (Attachment E).

Table 8. Effluent Limitations for Discharge Point 002 (Percolation Ponds)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly			
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	45	65			
Total Suspended Solids	mg/L	83	--			
Nitrate as Nitrogen	mg/L	10	--			

a. Disinfection: The disinfected effluent shall not contain concentrations of total coliform bacteria exceeding the following concentrations:

i. The median concentration shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, for samples collected during any calendar month.

ii. No sample shall exceed an MPN of 230 total coliform bacteria per 100 milliliters.

C. Reclamation Specifications – Discharge Points 003, 004, 005, 006

1. The Discharger shall comply with applicable state and local requirements regarding the production and use of reclaimed wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and Department of Health Services regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria).

2. The Discharger shall maintain compliance with the following limitations at Discharge Points 003, 004, 005, and 006, with compliance measured at Monitoring Locations M-001, as described in the attached MRP.

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Table 9. Effluent Limitations for Discharge Points 003, 004, 005, and 006 (Water Reclamation)

Parameter	Units	Discharge Specifications		
		Average Monthly	Maximum Daily	Average Annual
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	45	--	--
Total Suspended Solids	mg/L	83	--	--

3. Disinfection: The disinfected effluent shall not contain concentrations of total coliform bacteria exceeding the following concentrations:
   i. The median concentration shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, for samples collected during any calendar month.
   ii. No sample shall exceed an MPN of 230 total coliform bacteria per 100 milliliters.

4. The use of recycled water shall not create a condition of pollution or nuisance as defined in Water Code section 13050(m).

5. Recycled water and airborne spray shall not be allowed to escape from the authorized recycled water use area(s). [CCR title 22, section 60310(e)]

6. Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities. [CCR title 22, section 60310(e)(2)]

7. Disinfected secondary treated recycled water shall not be irrigated within 100 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified in CCR title 22, section 60310(a) have been met and approved by DHS.

8. Disinfected secondary treated recycled water shall not be irrigated with 200 feet of the change in grade between the upper and lower Fisher Ranch irrigation areas. Best management practices shall also be developed and implemented to prevent the creation of runoff that leads to the discharge of recycled water to the Backswamp Wetland.

9. All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in Title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road.

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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 Mad River, in the Mad River tributary receiving overflow from the Hiller storm water treatment wetland, or in the Fisher backswamp wetland:

1. The waste discharge shall not cause the dissolved oxygen concentration of the receiving waters to be depressed below 7 mg/l. In the event that the receiving waters are determined to have dissolved oxygen concentration of less than 7 mg/l, the discharge shall not depress the dissolved oxygen concentration below the existing level.

2. The discharge shall not cause the specific conductance (micromhos[1]) concentration of the receiving waters to increase above 150 micromhos 50 percent of the time, or above 300 micromhos more than 10 percent of the time.

3. The discharge shall not cause the total dissolved solids concentration of the receiving waters to increase above 90 mg/l more than 50 percent of the time, or above 160 mg/l more than 10 percent of the time.

4. The discharge shall not cause the pH of the receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from normal ambient pH levels. If the pH of the receiving water is less than 6.5, the discharge shall not cause a further depression of the pH of the receiving water. If the pH of the receiving water is greater than 8.5, the discharge shall not cause a further increase in the pH of the receiving water.

5. The discharge shall not cause the turbidity of the receiving waters to be increased more than 20 percent above naturally occurring background levels.

6. The discharge shall not cause the receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

7. The discharge shall not cause the receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

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[1] Measured at 77º F.

8. The discharge shall not cause coloration of the receiving waters that cause nuisance or adversely affects beneficial uses.

9. The discharge shall not cause bottom deposits in the receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

10. The discharge shall not contain concentrations of biostimulants that promote objectionable aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses of the receiving waters.

11. The discharge shall not cause the receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth abnormalities, bioassays of appropriate duration, or there appropriate methods, as specified by the Regional Water Board.

12. The discharge shall not cause a measurable temperature change in the receiving waters.

13. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentration in bottom sediments or aquatic life to levels that are harmful to human health.

14. The discharge shall not cause the receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2, of the Basin Plan.

15. The discharge shall not cause the receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water that cause nuisance or that otherwise adversely affect beneficial uses.

16. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Permit in accordance with the more stringent standards.

17. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in Title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the California Code of Regulations.

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B. Groundwater Limitations

1. The collection, storage, and use of wastewater or recycled water shall not cause or contribute to a statistically significant degradation of groundwater quality.

VI. PROVISIONS

A. Standard Provisions

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

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following Regional Water Board standard provisions.

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

   b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, reclamation specification, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board orally[2] within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

   c. 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. (Water Code section 1211.)

B. Monitoring and Reporting Program Requirements

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[2] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services at (800) 852-7550 or the Regional Water Board spill officer at (707) 576-2220.

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

C. Special Provisions

1. Reopener Provisions

a. **Standards Revisions.** If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.

b. **Reasonable Potential.** The Regional Water Board may modify, or revoke and reissue, this Order if present or future investigations demonstrate that the discharge governed by this Order has the reasonable potential to cause or contribute to excursions above any applicable priority pollutant criterion or objective or adversely impacting water quality and/or the beneficial uses of receiving waters.

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 a numeric chronic toxicity water quality objective is adopted by the State Water Board; this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

d. **303(d)-Listed Pollutants.** If an applicable TMDL program is adopted, this Order may be reopened and the effluent limitations for the pollutant or pollutants that are the subject of the TMDL modified or an effluent concentration limitation imposed to conform this Order to the TMDL requirements. If the Regional Water Board determines that a voluntary offset program is feasible for and desired by the Discharger, then this Order may be reopened to reevaluate the effluent limitations for the pollutant or pollutants that are the subject of the TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program.

e. **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 iron, manganese, and aluminum. The Discharger performed a study to determine a site-specific WER for copper. The study concluded that a site specific WER of 30.5 for total recoverable copper and 10.5 for dissolved copper apply to the discharge. If the Discharger performs additional 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.

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f. **Recycled Water Policy.** The State Water Board is developing a statewide policy for recycled water. If the policy includes requirements and/or limitations for salts, nutrients, or other constituent for which water quality objectives exist for the protection of drinking water supplies, this Order may be reopened and modified to include appropriate requirements and/or effluent limitations, as necessary, to require compliance with the policy.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Whole Effluent Toxicity.**

In addition to a limitation for whole effluent acute toxicity, the MRP of this Order requires routine monitoring for whole effluent chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity. As established by the MRP, if either the acute toxicity effluent limitation or a chronic toxicity monitoring trigger of 1.0 TUc (where TUc = 100/NOEC)[3] is exceeded, the Discharger shall conduct accelerated toxicity monitoring as specified in section V. of the MRP. Results of accelerated toxicity monitoring will indicate a need to conduct a Toxicity Reduction Evaluation (TRE), if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE Workplan prepared by the Discharger pursuant to Section VI.C.2.b of this Order, below.

b. **Toxicity Reduction Evaluations (TRE) Workplan.**

The Discharger shall prepare and maintain a TRE Workplan This plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The workplan shall describe the steps the discharger intends to follow if toxicity is detected, and should include at least the following items:

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

ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices.

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

c. **Toxicity Reduction Evaluations (TRE).**

[3] This Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

The TRE shall be conducted in accordance with the following:

i. The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test, required by Section V of the MRP, observed to exceed either the acute or chronic toxicity parameter.

ii. The TRE shall be conducted in accordance with the Discharger's workplan.

iii. The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B-99/002.

iv. The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.

v. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. As guidance, the Discharger shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

vi. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.

vii. Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of such programs may be acceptable to comply with requirements of the TRE.

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

3. Best Management Practices and Pollution Prevention

a. **Best Management Practices**

i. Backswamp Wetland

The Discharger shall develop and implement best management practices (BMPs) to prevent to the extent practicable the creation of runoff that leads to the discharge of reclaimed water to the Backswamp Wetland. BMPs shall

include, but not be limited to, irrigation setback distances in excess of 100 feet, where necessary to prevent discharge of reclaimed water to the Backswamp Wetland, timely inspections of the Backswamp Wetland and the reclaimed water use areas in accordance with section IX.A of the MRP, and routine inspections of existing structural BMPs, when installed. The Discharger shall implement or supplement the best management practices as needed to improve the quality of reclaimed water discharges, to reduce the risk of reclaimed water discharges to state waters, reduce contamination of reclaimed water after it is produced, or when directed by the Regional Water Board Executive Officer.

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b. **Pollutant Minimization Program**

The Discharger shall, as required by the Executive Officer, develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

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

ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

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

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

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

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

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

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

1. All PMP monitoring results for the previous year;

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

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

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

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4. Construction, Operation and Maintenance Specifications

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

b. The Discharger shall maintain an updated Operation and Maintenance (O&M) Manual for the Facility. The Discharger shall update the O&M Manual, as necessary, to conform with changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite. The O&M Manual shall include the following:

   i. Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.

   ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

   iii. Description of laboratory and quality assurance procedures.

   iv. Process and equipment inspection and maintenance schedules.

   v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.

   vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

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5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems

i. Statewide General WDRs for Sanitary Sewer Systems

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

In addition to the coverage obtained under Order 2006-0003, the Discharger's collection system is also 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 § 122.41(e)), report any non-compliance (40 CFR § 122.41(l)(6) and (7)), and mitigate any discharge from the collection system in violation of this Order (40 CFR § 122.41(d)).

ii. Sanitary Sewer Overflows

The Discharger shall continue electronic and/or telefax reporting of sanitary sewer overflows (SSOs) pursuant to Provision D.15 and General Monitoring and Reporting Requirement G.2 of Order No. 2006-0003-DWQ and Monitoring and Reporting Program No. 2006-0003-DWQ. Oral reporting[4] of SSOs as specified below in this subsection shall continue through the term of this Order.

SSOs shall be reported orally and in writing to the Regional Water Board staff in accordance with the following:

a. SSOs in excess of 1,000 gallons or any SSO that results in sewage reaching surface waters, or if it is likely that more than 1,000 gallons has escaped the collection system, shall be reported immediately by telephone. A written description of the event shall be submitted with the monthly monitoring report.

[4] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services at (800) 852-7550 or the Regional Water Board spill officer at (707) 576-2220.

b. SSOs that result in a sewage spill between 100 gallons and 1,000 gallons that do not reach a waterway shall be reported orally within 24 hours. A written description of the event shall be submitted with the next monthly monitoring report.

c. Information to be provided orally includes:

1) Name and contact information of caller.
2) Date, time and location of SSO occurrence.
3) Estimates of spill volume, rate of flow, and spill duration.
4) Surface water bodies impacted.
5) Cause of spill.
6) Cleanup actions taken or repairs made.
7) Responding agencies.

d. Information to be provided in writing includes:

1) Information provided in verbal notification.
2) Other agencies notified by phone.
3) Detailed description of cleanup actions and repairs taken.
4) Description of actions that will be taken to minimize or prevent future spills.

b. Source Control Program

The Discharger shall perform source control functions, to include the following:

i. Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.

ii. If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system of Facility.

iii. Conduct a waste survey once every five years, or more frequently if required by the Regional Water Board Executive Officer, to identify all industrial dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility.

iv. Perform ongoing industrial inspections and monitoring, as necessary, to ensure adequate source control.

c. Sludge Disposal and Handling Requirements

i. Sludge, as used in this document, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated

during preliminary treatment. Biosolids refers to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

ii. All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and state regulations.

iii. The use and disposal of biosolids shall comply with all the requirements in 40 CFR 503, which are enforceable by the USEPA, not the Regional Water Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, the Regional Water Board may also initiate enforcement where appropriate.

iv. Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as landfill daily cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Discharger shall include the amount of sludge or biosolids disposed of, and the landfill(s) which received the sludge or biosolids.

v. The beneficial use of biosolids by application to land as soil amendment is not covered or authorized by this Permit. Class B biosolids that are applied to land as soil amendment by the Discharger within the North Coast Region shall comply with State Water Board Water Quality Order No. 2000-10-DWQ (General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order) or other WDRs issued by the Regional Water Board.

vi. The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood of adversely affecting human health or the environment.

vii. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

viii. The solids and sludge treatment and storage site shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm.

ix. The discharge of sewage sludge, biosolids and other waste solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.

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d. Operator Certification

Supervisors and operators of municipal WWTFs shall possess a certificate of appropriate grade pursuant to title 22, California Code of Regulations, chapter 26, division 3.

e. Adequate Capacity

If the WWTF or effluent disposal areas will reach capacity within four years, the Discharger shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest monthly flow. The Discharger shall demonstrate that adequate steps are being taken to address the capacity problem. The Discharger shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Water Board, or within 120 days after receipt of Regional Water Board notification, that the WWTF will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR Title 23, Section 2232]

f. Statewide General WDRs for Discharge of Biosolids to Land

For the discharge of biosolids from the wastewater treatment plant, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Resources Control Board Water Quality Order No. 2004-0012–DWQ General Waste Discharge Requirements For The Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Discharger shall submit a notice of intent for coverage under Order No. 2004-0012–DWQ prior to removal of biosolids from either the aerated treatment ponds or the polishing wetlands marsh.

6. **Other Special Provisions**

Not Applicable

7. **Compliance Schedules**

Not Applicable

VII. COMPLIANCE DETERMINATION

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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 an effluent limitation 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) associated with the minimum level (ML) specified in the MRP (Attachment E.) See Attachment A for definitions of ML and RL.

B. Multiple Sample Data.

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

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

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

C Average Monthly Effluent Limitation (AMEL).

When less than daily monitoring is required, the monthly average shall be determined by summing the daily values and dividing by the number of days during the calendar month when monitoring occurred. If only one sample is collected in a calendar month, the value of the single sample shall constitute the monthly average.

D. Average Weekly Effluent Limitation (AWEL).

When less than daily monitoring is required, the weekly average shall be determined by summing the daily values and dividing by the number of days during the calendar week when monitoring occurred. If only one sample is collected in a calendar week, the value of the single sample shall constitute the weekly average. For any one

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calendar week during which no sample is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge (or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger 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, 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).

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ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

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

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

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

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration). The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day. For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

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

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

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

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

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

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

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

where:

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

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

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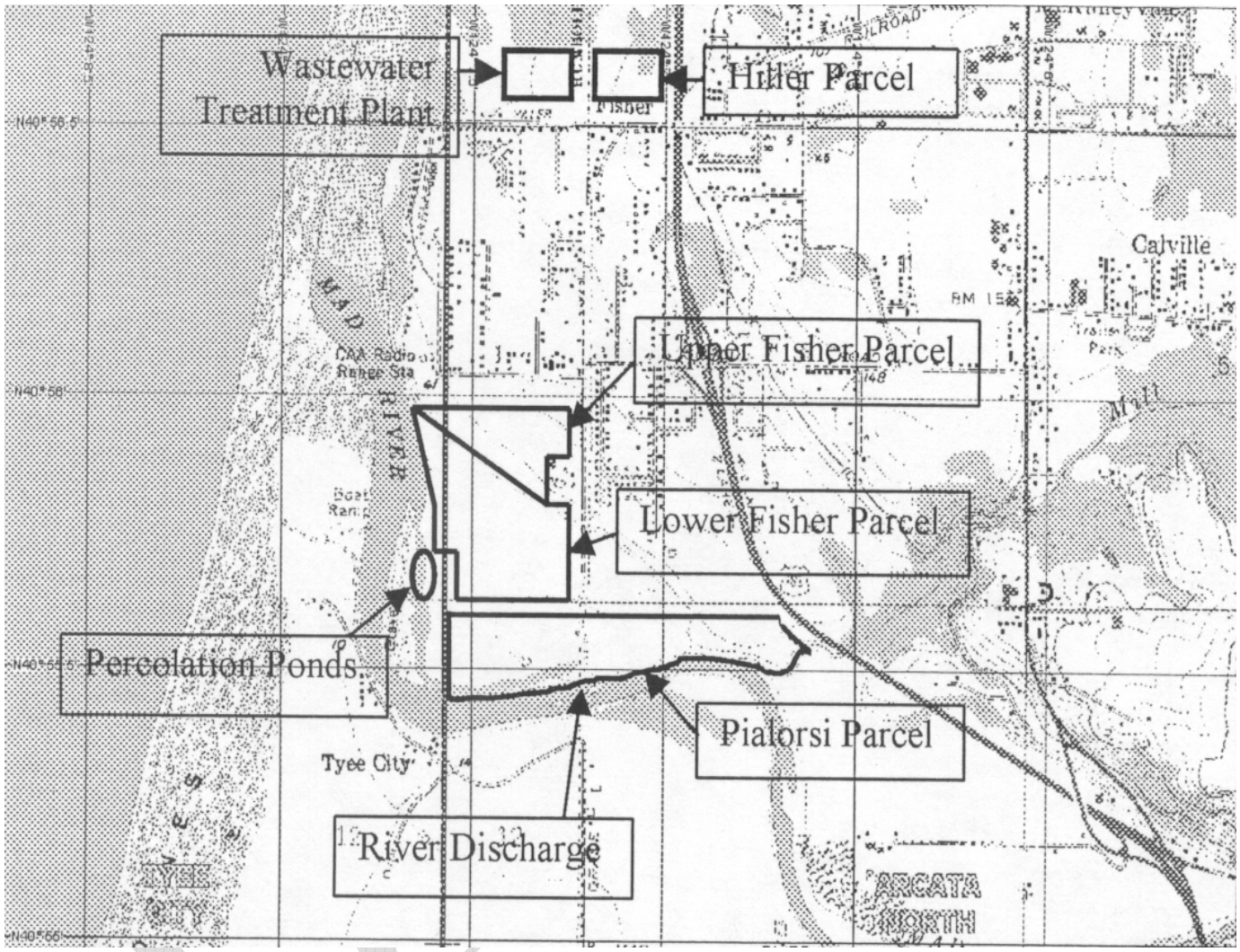
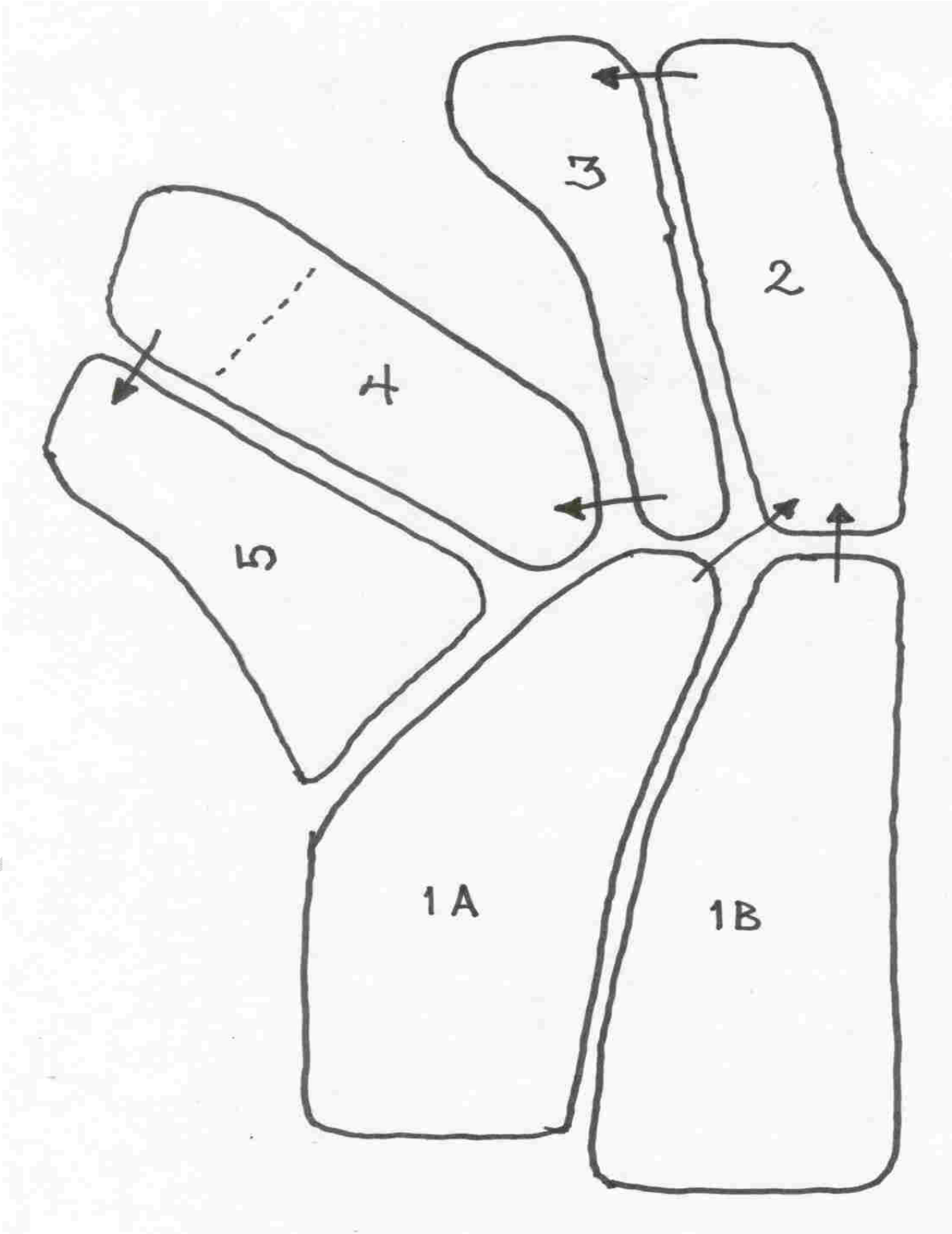
ATTACHMENT B – TOPOGRAPHIC MAP



ATTACHMENT C – 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)*].

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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 (RWQCB), State Water Resources Control Board (SWRCB), 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)*].

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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 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 Provision – 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 [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed

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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 paragraph H.2 of this section 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 [*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

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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, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, 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, SWRCB, 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, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*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)*];

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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, SWRCB, 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, SWRCB, 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, SWRCB 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

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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 SWRCB 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)*]:

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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)*].

c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

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 subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].

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

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or SWRCB 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)].*

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H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*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, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

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

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

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

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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 (RWQCB) 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. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

B. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR 136 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 monthly and annual discharger monitoring reports.

C. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. Compliance and reasonable potential monitoring, analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no ML value is below the effluent limitation, the lowest ML shall be selected as the RL. Table E-1 lists the test methods the Discharger may use for compliance and reasonable potential monitoring to analyze priority pollutants with effluent limitations.

Table E-1. Test Methods and Minimum Levels for Priority Pollutants

CTR #	Constituent Types of Analytical Methods Minimum Levels (µg/L)	Types of Analytical Methods **Minimum Levels (µg/L)**		
		Gas Chromatography (GC)	Gas Chromatography/Mass Spectroscopy (GCMS)	Inductively Coupled Plasma/Mass Spectrometry
7	Lead	---	---	0.5
91	α-BHC	---	1	---
108	4,4'-DDT	---	5	---
7	bis(2-ethylhexyl) phthalate	0.01	---	---

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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-2. Summary of Discharge Points and Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-INF	Treatment facility headworks
All	M-001	Chlorine contact chamber following dechlorination
001	M-002	Outfall to the Mad River under the Hammond Trail railroad bridge
002	M-003	Outfall to Mad River percolation ponds
003	M-004	Recycled wastewater irrigation of Lower Fisher Ranch Backswamp Wetland
004	M-005	Discharge to land on Upper Fisher Ranch
005	M-006	Recycled wastewater flooding of Hiller Storm Water Treatment Wetland
006	M-007	Recycled wastewater irrigation of Pialorsi Ranch
--	M-008	Overflow from the Hiller Storm Water Treatment Wetland
--	R-001	Mad River at Highway 101 Bridge
--	R-002	North bank of Mad River as close as possible to the discharge point under the Hammond Trail bridge
--	R-003	Fisher Ranch backswamp wetland upstream of the manually-operated slide gate
--	R-004	Storm water entering the Hiller storm water treatment wetland at the discharge of culvert under highway 101
--	R-005	Hiller storm water treatment wetland as close as possible above final discharge structure
--	W-001	Well M-1 adjacent to Fisher Road
--	W-002	Well M-2 on the SW corner of the intersection of School and Fisher Roads
--	W-006	Well M-6 south of W-9 and west of W-7
--	W-007	Well M-7 in the upper portion of the Fisher parcel
--	W-008	Well M-8 400 feet west of the intersection of School and Fisher roads
--	W-009	Well M-9 adjacent to School Road
--	W-014	Well downgradient of the Hiller Storm Water Treatment Wetland irrigation area
--	W-015	Well within the Lower Fisher Ranch irrigation area
--	W-016	Well within the Pialorsi Ranch irrigation area

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-INF

1. The Discharger shall monitor influent to the facility at M-INF as follows:

Table E-3. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Waste flow	gallon	meter	continuous	meter
Biochemical Oxygen Demand	mg/L	24-hour composite	weekly	SM 5210B
Total Suspended Solids	mg/L	24-hour composite	weekly	SM 2540D

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IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001

1. The Discharger shall monitor dechlorinated effluent at the end of the treatment process at M-001 as follows:

Table E-4. Effluent Monitoring for Monitoring Location M-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Waste flow	gallon	meter	continuous	meter
Total Chlorine Residual	mg/L	grab	Daily [1]	[2]
Hydrogen Ion	pH units	grab	daily	40CFR136
Temperature	°C	grab	daily	40CFR136
Settleable Matter	mL/L	grab	weekly	SM 2540F
Total Suspended Solids	mg/L	24-hour composite	weekly	SM 2540D
Biochemical Oxygen Demand	mg/L	24-hour composite	weekly	SM 5210B
Total Coliform Organisms	MPN	grab	weekly	SM 9221
Total Dissolved Solids	mg/L	grab	monthly	SM 2540C
Ammonia as Nitrogen	mg/L	grab	monthly	40CFR136
Nitrate as Nitrogen	mg/L	grab	monthly	40CFR136
Boron	ug/L	grab	monthly	40CFR136
Copper [3], [4]	ug/L	grab	monthly [5]	40CFR136
Lead [3], [4]]	ug/L	grab	monthly [5]	40CFR136
bis(2-Ethylhexyl) phthalate [4]	ug/L	grab	monthly [5]	40CFR136
4,4'-DDT [4]	ug/L	grab	monthly [5]	40CFR136
a-Hexachloro-cyclohexane [4]	ug/L	grab	monthly [5]	40CFR136
Dioxins [4]	pg/L	grab	Annually[5]	EPA 1613
Bromoform [4]	ug/L	grab	quarterly	40CFR136
Chlorodibromomethane [4]	ug/L	grab	quarterly	40CFR136
Dichlorobromomethane [4]	ug/L	grab	quarterly	40CFR136
Chloroform [4]	ug/L	grab	quarterly	40CFR136
CTR Pollutants [4]	ug/L	grab	Annually[6]	40CFR136

[1] Monitoring samples for effluent total chlorine residual (TRC) shall be collected daily when discharging to the Mad River (Discharge Point 001).

[2] Until January 1, 2009, the Discharger may demonstrate compliance with the effluent limitation for TRC using a minimum detection limit of 0.1 mg/L. Beginning January 1, 2009, the Discharger shall employ a method sensitive to and accurate at the permitted level of 0.01 mg/L.

[3] Final effluent limitations and/or the relative toxicity to aquatic organisms for copper and lead are dependent on the hardness of the receiving water. To determine compliance and/or relative toxicity, measured effluent concentrations must be compared to receiving water hardness at the time effluent samples are monitored. Effluent limitations shall be determined in accordance with Table E-14, which is attached to this MRP.

[4] Analytical methods shall achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP; and in accordance with Section 2.4.1 of the SIP, the Discharger shall report the Reporting Level (RL) and the Method Detection Limit (MDL) with each sample result.

[5] Monitoring samples shall be collected at least once per calendar year when discharging to the Mad River (Discharge Point 001).

[6] The Discharger shall collect the annual sample in a month not previously sampled.

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B. Monitoring Location M-002

1. The Discharger shall monitor effluent discharged to the Mad River at M-002 as follows:

Table E-5. Effluent Monitoring for Monitoring Location M-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Waste flow	gallon	meter	daily	meter

C. Monitoring Location M-008

1. The Discharger shall monitor overflow from the Hiller storm water treatment wetland as follows:

Table E-6. Effluent Monitoring for Monitoring Location M-008

Parameter	Units	Sample Type	Minimum Sampling Frequency [1]	Required Analytical Test Method
Visual	---	---	Monthly	---

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall conduct acute toxicity testing to determine compliance with the effluent limitations established in Section IV.A.1.c of the Order. The Discharger shall meet the following acute toxicity testing requirements in any month when there is a discharge to the Mad River:

1. **Test Frequency**. The Discharger shall conduct monthly acute toxicity testing.

2. **Sample Type**. For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be a 24-hour composite and shall be representative of the volume and quality of the discharge. Effluent samples shall be collected at Monitoring Location M-001.

3. **Test Species**. Test species for acute testing shall be with an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Oncorhynchus mykiss*, for at least the first discharge season (October 1 to May 14) after the effective date of the Order. After this screening period, monitoring shall be conducted monthly using the most sensitive species. At least once every five years, the Discharger shall re-screen

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with the two species listed above and continue routine monitoring with the most sensitive species.

4. **Test Methods**. The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

   Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control the pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location M-001, when discharging to surface waters.

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

7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival) and the testing meets all test acceptability criteria, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the initial sample result. If any of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with Section VI.C.2.c of the Order. If the two additional samples are in compliance with the acute toxicity requirement and the testing meets all test acceptability criteria, then a TRE will not be required. If the discharge has ceased before the additional samples could be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

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

9. **Reporting**. Test results for acute toxicity tests shall be reported according to the acute toxicity manual Chapter 12 (Report Preparation) or in an equivalent format that clearly

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demonstrates that the Discharger is in compliance with effluent limitations and other permit requirements.

B. Chronic Toxicity Testing

The Discharger shall conduct chronic toxicity testing to demonstrate compliance with the monitoring requirements for chronic toxicity. The Discharger shall meet the following chronic toxicity testing requirements when discharging to the Mad River:

1. **Test Frequency.** The Discharger shall routine conduct chronic toxicity testing two times during the first discharge season (October 1 to May 14) after the effective date of the permit and annually thereafter.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the samples shall be 24-hour composite and shall be representative of the volume and quality of the discharge. The effluent sample shall be collected at Monitoring Location M-001.

3. **Test Species.** Test species for chronic testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth test), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green alga, *Selanastrum capricornutum* (growth test).

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, 4th or subsequent editions).

   Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control the pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the receiving water measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent effluent. Control and dilution water should be receiving water at Monitoring Location R-001. Laboratory water may be substituted for receiving water, as described in the manual, upon approval by the Regional Water Board Executive Officer. Specifically, for the *Selenastrum capricornutum* test, synthetic laboratory water with a hardness similar to the receiving water shall be used as the

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control and dilution water. If the dilution water used is different from the culture water, a second control using culture water shall be used.

6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

8. **Notification.** The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger.

9. **Accelerated Monitoring Requirements**. If the result of any chronic toxicity test exceeds the chronic toxicity trigger of 1.0 TUc and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples, one test conducted approximately every week, over a four–week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity effluent limitation. If the discharge will cease before the additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the chronic toxicity effluent limitation. The following protocol shall be used for accelerated monitoring and TRE implementation:

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

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

   c. If the result of any accelerated toxicity test exceeds an effluent limitation or trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding

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the effluent limitation during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
iii. A schedule for these actions.

C. Chronic Toxicity Reporting

1. **Routine Reporting**. Test results for chronic tests shall be reported according to the acute and chronic manuals and the Monitoring and Reporting Program and shall be attached to the self-monitoring report. Test results shall include, at a minimum, for each test:

   a. sample date(s)
   b. test initiation date
   c. test species
   d. end point values for each dilution (e.g., number of young, growth rate, percent survival)
   e. NOEC value(s) in percent effluent
   f. IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent
   g. TUc values (100/NOEC)
   h. Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable)
   i. NOEC and LOEC values for reference toxicant test(s)
   j. IC50 or EC50 value(s) for reference toxicant test(s)
   k. Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia), including adjustments to test conditions to maintain or adjust water quality parameters
   l. Statistical methods used to calculate endpoints.
   m. The statistical output page, which includes the calculation of percent minimum significant difference (PMSD)

2. **Quality Assurance Reporting**. Because the permit requires sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002), with-in test variability must be reviewed for acceptability, and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test

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methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

3. **Compliance Summary**: 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 (routine, accelerated, or TRE). The final report shall clearly demonstrate that the Discharger is in compliance with effluent limitations and other permit requirements.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location M-003

1. The Discharger shall monitor effluent discharged to the Mad River percolation ponds at Monitoring Location M-003 as follows:

Table E-7. Effluent Monitoring for Monitoring Location M-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gallon	meter	daily	meter

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Locations M-004, M-005, M-006, M-007

1. The Discharger shall monitor recycled wastewater at M-004, M-005, M-006, and M-007 as follows:

Table E-8. Effluent Monitoring for Monitoring Locations M-004, M-005, M-006, M-007

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gallon	meter	daily	meter
Overflow	Yes/no	Visual observation	daily	Visual observation

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location R-001

1. The Discharger shall monitor the Mad River at R-001 as follows:

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Table E-9. Receiving Water Monitoring Requirements for Monitoring Location R-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Mad River Flow	Cubic feet per second or MGD	Gage	daily	USGS gage No. 11-4810.00
Temperature [1]	°C	Grab	Monthly	40CFR136
Hydrogen Ion [1]	s.u.	Grab	Monthly	40CFR136
Dissolved Oxygen	mg/L	Grab	Monthly	40CFR136
Specific Conductance	umhos/cm [2]	Grab	Monthly	40CFR136
Total Dissolved Solids	mg/L	Grab	Monthly	SM 2540C
Ammonia as Nitrogen	mg/L	Grab	Monthly	40CFR136
Hardness [3]	mg/L as $CaCO_3$	Grab	Monthly	40CFR136
Turbidity	NTU	Grab	Monthly	SM 2130B
CTR Pollutants [4]	ug/L	Grab	1X/ Permit Term	40CFR136

[1] pH and temperature monitoring must coincide with monthly monitoring for ammonia.
[2] Measured in micromhos/cm at 25 ºC.
[3] Receiving water hardness monitoring must coincide with effluent monitoring for metals.
[4] Those pollutants identified by the California Toxics Rule at 40 CFR 131.38. Monitoring shall occur simultaneously with effluent monitoring for CTR pollutants required by Section IV.A.1 of the MRP. Analytical methods shall achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP; and in accordance with Section 2.4.1 of the SIP, the Discharger shall report the Reporting Level (RL) and the Method Detection Level (MDL) with each sample result.

B. Monitoring Location R-002

1. The Discharger shall monitor the Mad River at R-002 as follows:

Table E-10. Receiving Water Monitoring Requirements for Monitoring Location R-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature [1]	°C	Grab	Monthly	40CFR136
Hydrogen Ion [1]	pH	Grab	Monthly	40CFR136
Dissolved Oxygen	mg/L	Grab	Monthly	40CFR136
Specific Conductance	umhos/cm [2]	Grab	Monthly	40CFR136
Total Dissolved Solids	mg/L	Grab	Monthly	SM 2540C
Ammonia as Nitrogen	mg/L	Grab	Monthly	40CFR136
Hardness [3]	mg/L as $CaCO_3$	Grab	Monthly	40CFR136
Turbidity	NTU	Grab	Monthly	SM 2130B

[1] pH and temperature monitoring must coincide with monthly monitoring for ammonia.
[2] Measured in micromhos/cm at 25 ºC.
[3] Receiving water hardness monitoring must coincide with effluent monitoring for metals.

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C. Monitoring Location R-003

1. The Discharger shall monitor the discharge from the backswamp wetlands on the Lower Fisher Ranch at R-003 as follows:

Table E-11. Receiving Water Monitoring Requirements for Monitoring Location R-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Visual Observations	---	---	Monthly	---

D. Monitoring Locations R-004 and R-005

1. The Discharger shall monitor the Hiller Storm Water Treatment Wetlands at R-004 and R-005 as follows:

Table E-12. Receiving Water Monitoring Requirements for Monitoring Locations R-004 and R-005

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Visual Observations	---	---	Monthly	---

E. Monitoring Locations W-001, W-002, W-006, W-007, W-008, W-009, W-014, W-015, W-016

1. The Discharger shall monitor groundwater wells at W-001, W-002, W-006, W-007, W-008, W-009, W-014, W-015, and W-016 as follows:

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Table E-13. Groundwater Monitoring Requirements for Monitoring Wells W-001, W-002, W-006, W-007, W-008, W-009, W-014, W-015, W-016

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids	mg/L	Grab	quarterly	SM 2540C
Nitrate as Nitrogen	mg/L	Grab	quarterly	40CFR136
Groundwater Elevation	inches	Observation	quarterly	Above sea level

IX. OTHER MONITORING REQUIREMENTS

A. Visual Monitoring of Discharge (M-001, M-002, M-003, M-004, M-005, M-006, M-007 and M-008) and Receiving Water (R-001, R-002, R-003, R-004 and R-005)

Visual observations of the discharge and the receiving water shall be recorded monthly and on the first day of each intermittent discharge. Visual monitoring shall include observations for floating materials, coloration, objectionable aquatic growths, oil and grease films or any other noticeable changes in water quality, and identification of nuisance odors. Visual observations shall be recorded and included in the Discharger's monthly monitoring reports.

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.

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. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly and annual summary SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

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Table E-14. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	February 1, 2011	All	First day of second calendar month following month of sampling
X / hour	February 1, 2011	Hourly	First day of second calendar month following month of sampling
X / day	February 1, 2011	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling
X / week	February 1, 2011	Sunday through Saturday	First day of second calendar month following month of sampling
X / month	February 1, 2011	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
X / quarter	January 1, 2011	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
X / semi-annual period	January 1, 2011	January 1 through June 30 July 1 through December 31	August 1 February 1
X / year	January 1, 2011	January 1 through December 31	March 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.
   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols.
   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

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d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:
   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median or other computation. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment. During periods of land discharge, the reports shall certify "land discharge".
   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
      (1) Facility name
      (2) WDID number
      (3) Applicable period of monitoring and reporting
      (4) Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation)
      (5) Corrective actions taken or planned; and
      (6) The proposed time schedule for corrective actions.
   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

      North Coast Regional Water Quality Control Board
      5550 Skylane Blvd, Suite A
      Santa Rosa, CA 95403

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:

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Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

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

D. Other Reports

1. The Discharger shall report the results of any special studies required by Special Provisions VI.C.2 (Special Studies) and VI.C.7 (Compliance Schedules) of this Order.
2. Annual Report. The Discharger shall submit an Annual Report to the Regional Water Board for each calendar year. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following.
   a. Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
   b. A comprehensive discussion of the facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.

Table E-15 Final Effluent Limitations for Hardness Dependent Metals

Hardness (mg/L as $CaCO_3$)			Lead		Hardness (mg/L as $CaCO_3$)			Lead	
			AMEL (µg/L)	MDEL (µg/L)				AMEL (µg/L)	MDEL (µg/L)
5 – 9			0.06	0.12	180 – 184			5.5	11
10 – 14			0.14	0.28	185 – 189			5.7	11
15 – 19			0.23	0.47	190 – 194			5.9	12
20 – 24			0.33	0.67	195 – 199			6.1	12
25 – 29			0.45	0.89	200 – 204			6.3	13
30 – 34			0.56	1.1	205 – 209			6.5	13
35 – 39			0.68	1.4	210 – 214			6.7	13
40 – 44			0.81	1.6	215 – 219			6.9	14
45 – 49			0.94	1.9	220 – 224			7.1	14
50 – 54			1.1	2.2	225 – 229			7.3	15
55 – 59			1.2	2.4	230 – 234			7.5	15
60 – 64			1.4	2.7	235 – 239			7.7	15
65 – 69			1.5	3.0	240 – 244			7.9	16
70 – 74			1.7	3.3	245 – 249			8.1	16

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Hardness (mg/L as $CaCO_3$)			Lead		Hardness (mg/L as $CaCO_3$)			Lead	
			AMEL (µg/L)	MDEL (µg/L)				AMEL (µg/L)	MDEL (µg/L)
75 – 79			1.8	3.6	250 – 254			8.3	17
80 – 84			2.0	3.9	255 – 259			8.6	17
85 – 89			2.1	4.2	260 – 264			8.8	18
90 – 94			2.3	4.6	265 – 269			9.0	18
95 – 99			2.4	4.9	270 – 274			9.2	18
100 – 104			2.6	5.2	275 – 279			9.4	19
105 – 109			2.8	5.6	280 – 284			9.6	19
110 – 114			2.9	5.9	285 – 289			9.9	20
115 – 119			3.1	6.2	290 – 294			10	20
120 – 124			3.3	6.6	295 – 299			10	21
125 – 129			3.5	6.9	300 – 309			11	21
130 – 134			3.6	7.3	310 – 319			11	22
135 – 139			3.8	7.6	320 – 329			11	23
140 – 144			4.0	8.0	330 – 339			12	24
145 – 149			4.2	8.4	340 – 349			12	25
150 – 154			4.4	8.7	350 – 359			13	26
155 – 159			4.5	9.1	360 – 369			13	27
160 – 164			4.7	9.5	370 – 379			14	28
165 – 169			4.9	9.9	380 – 389			14	29
170 – 174			5.1	10	390 – 399			15	29
175 – 179			5.3	10	≥400			15	30

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Attachment F – Fact Sheet

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1B82084OHUM
Discharger	McKinleyville Community Services District
Name of Facility	Waste Water Management Facility
Facility Address	675 Hiller Road
	McKinleyville CA 95519
	Humboldt County
Facility Contact, Title and Phone	Norman Shopay, General Manager (707)839-3251
Authorized Person to Sign and Submit Reports	SAME
Mailing Address	PO Box 2037, McKinleyville CA 95519
Billing Address	SAME
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	N
Reclamation Requirements	Producer and User
Facility Permitted Flow	3.02 million gallons per day
Facility Design Flow	1.61 million gallons per day
Watershed	Mad River Blue Lake hydrologic area 109.10
Receiving Water	Mad River
Receiving Water Type	River and fresh water wetlands

A. The McKinleyville Community Services District (hereinafter Discharger) is the owner and operator of McKinleyville Wastewater Management Facility (hereinafter Facility) a publicly-owned treatment works (POTW).

B. The Facility discharges wastewater to the Mad River and adjacent estuarine wetlands, a water of the United States and is currently regulated by Order R1-2008-0039. The POTW also provides treated wastewater for reclamation use on neighboring agricultural land

C. The Discharger submitted a Report of Waste Discharge, dated January 24, 2006, and applied for a NPDES permit renewal to discharge up to 3.3 million gallons per day (MGD) of treated wastewater from the McKinleyville Wastewater Management Facility, hereinafter Facility. The application was deemed complete on February 27, 2006. On

September 7, 2010 the Discharger submitted a request for modification of the MRP to revise and clarify sampling and analyses requirements entitled *Updated Request for Revisions to the Monitoring and Reporting Program for the McKinleyville Community Services District Wastewater Management Facility*. On October 6, 2010, the Discharger submitted a request for modification of final copper effluent limitations and supporting documentation entitled *Performance of Ceriodaphnia dubia Toxicity Testing in Support of Development of a Copper Water-Effect Ratio (WER) for Application to the McKinleyville Community Services District M-001 Effluent*. Considering the nature of the proposed modification and expiration date for Order No. R1-2008-0039, it was decided that the issuance of a new NPDES permit was appropriate.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger provides wastewater collection and treatment for approximately two-thirds of the estimated 14,000 residents of the unincorporated town of McKinleyville. Dry weather flows have been slightly less than one-million gallons per day, and wet weather flows reached two-million gallons per day during the winter of 2005-2006. Municipal wastewater is collected at five lift stations for pumping to a combined headworks comminuter at the wastewater treatment plant. Flows from the headworks enter two parallel facultative primary aeration ponds. The primary aeration ponds overflow to a series of two secondary aeration ponds followed by three emergent bullrush marshes for effluent polishing and a chlorine contact chamber for disinfection. Effluent is dechlorinated by sulfur dioxide prior to discharge to the Mad River. No sludge has been removed from the pond system.

B. Discharge Points and Receiving Waters

When Mad River flow exceeds 200 cubic feet per second at the USGS highway 299 bridge gage, effluent is discharged to the river under the old Hammond Lumber Company railroad bridge. During dry weather, effluent is discharged to percolation ponds downstream of the railroad bridge or reclaimed for dry-weather maintenance of the Hiller storm water treatment wetland or irrigation of the Mad River flood plain. The Discharger also has the option of reclaiming effluent through irrigation on the elevated northern portion of the former Fisher parcel north of the railroad bridge, on the lower Fisher Ranch, and on the Pialorsi Ranch.

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

Effluent limitations contained in the existing Order for discharges to the Mad River (Monitoring Location M-002) and representative monitoring data from the term of the previous Order are as follows:

Table F-2a. Historic Effluent Limitations and Monitoring Data Discharge Point 001 (Mad River)

Parameter/Units	Effluent Limitations			Monitoring Data (From August 2008 – May 2010)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Daily	No. of Violations
BOD (20°C, 5-day) mg/L	45	65	---	31	54	54	0
BOD (20°C, 5-day) lbs/day	441	637	---	463	532	---	1
BOD Removal Efficiency	65	---	---	82[1]	---	---	0
Total Suspended Solids (TSS) mg/L	83	---	---	59	67	67	1
Total Suspended Solids (TSS) lbs/day	931	---	---	569	---	---	---
TSS Removal Efficiency	65	---	---	71[1]	---	---	0
Settleable Solids mL/L	< 0.1	---	<0.1	<0.1	---	<0.1	0
Total Coliform Organisms MPN/100mL	23[2]	---	230	91[2]	---	1600	Monthly - 1 Daily - 1
Chlorine Residual mg/L	---	---	<0.1	---	---	0	0
Hydrogen Ion pH	---	---	6.5-8.5	---	---	6.5 – 7.2	0
Nitrate as Nitrogen mg/L	10	---	---	0	---	---	0
Copper µg/L	---	---	38.0	---	---	26	0
Lead µg/L	---	---	0.60	---	---	0.4	0
α-BHC µg/L	---	---	0.099	---	---	0	0
4,4'-DDT µg/L	---	---	0.031	---	---	0.53	2
Bis(2-ethylhexyl) phthalate µg/L	---	---	4.0	---	---	4.0	0

[1] Minimum Reported

[2] Median

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Parameter/Units	Effluent Limitations			Monitoring Data (From August 2008 – May 2010)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Daily	No. of Violations
2,3,7,8-TCDD equivalents pg/L[3]	---	---	0.094	---	---	0	0

Table F-2b. Historic Effluent Limitations and Monitoring Data Discharge Points 002, 003, 004, 005, and 006

Parameter/Units	Effluent Limitations			Monitoring Data (From November 2007 – August 2010)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Result	Highest Average Weekly Result	Highest Daily Result	No. of Violations
BOD (20°C, 5-day) mg/L	45	65	---	52.4	72	---	Monthly – 2 Weekly - 2
Total Suspended Solids (TSS) mg/L	83	---	---	44	---	---	0
Nitrogen as Nitrate mg/L	10	---	---	0	---	---	0
Hydrogen Ion pH	---	---	6.0-9.0	---	---	6.5-7.4	1

D. Compliance Summary

Treatment performance has improved steadily since 2006, with marked improvement in compliance with effluent limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS) since 2007. Groundwater under the former Fisher parcel irrigated with reclaimed wastewater has nitrate concentrations exceeding the human health threshold. The relative contribution of nitrogen in the reclaimed wastewater has not been determined with respect to nitrogen in manure from former dairy cattle grazing on the parcel.

E. Planned Changes

No significant changes are planned in the next five years.

[3] Interim effluent limitations presented in this table for Copper, Lead, α-BHC, 4,4'-DDT, bis(2-ethylhexyl) phthalate, and 2,3,7,8-TCDD equivalents applied through May 18, 2010. The Discharger has not used Discharge Location 001 between May 2010 and the writing of this permit.

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III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the Water Code. It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260) for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the North Coast Basin (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, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal and domestic supply. Beneficial uses applicable to the surface waters within the Mad River Hydrologic Unit are as follows:

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Table F-3. Basin Plan Beneficial Uses for the Mad River

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Mad River	**Existing:** **Municipal and domestic water supply (MUN); agricultural supply (AGR), industrial service supply (IND), industrial process supply (PRO), ground water recharge (GWR), freshwater replenishment (FRESH), navigation (NAV), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), estuarine habitat (EST), aquaculture (AQUA), and native American culture (CUL).** **Potential:** **Marine habitat (MAR).**

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coast Basin. For the Mad River and its tributaries, no point source waste discharges are allowed during the period of May 15 through September 30 and all other periods when the receiving stream's flow is less than 100 times greater than the waste flow.

The Basin Plan also contains a narrative water quality objective for toxicity that states:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassay of appropriate duration or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for 'experimental water' as described in *Standard Methods for the Examination of Water and Wastewater* 18th Edition (1992). At a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluent will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data becomes available, and source control of toxic substances will be required.

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Requirements of this Order implement the Basin Plan.

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

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

4. **State Implementation Policy.** On March 2, 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 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 Boards 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 May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 12, 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.

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

6. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water

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Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16. Section IV.D.2 of this Fact Sheet discusses how the requirements of this Order satisfy the Antidegradation Policy.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations Section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Section IV.D.1 of this Fact Sheet provides a detailed discussion on how the requirements of this Order satisfy anti-backsliding requirements.

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 Water Code authorize the Regional Water Boards 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.

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

1. Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303 (d) List of Impaired Waterbodies, to USEPA by April of each even numbered year. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303 (d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303 (d) listed pollutant and water body contaminant. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

2. The Mad River is listed as an impaired water body for temperature, turbidity, and sedimentation/siltation pursuant to section 303(d) of the CWA. A Total Maximum Daily Load has not been established to address temperature, turbidity, and sedimentation/siltation loadings.

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3. An analysis of the Discharger's discharge determined that the discharge is not of sufficient temperature to have reasonable potential to cause, or contribute to increases in temperature levels in the Mad River. The Regional Water Board considered the fact that this facility cannot directly discharge to the Mad River between May 15 and September 30 of each year when water temperatures are seasonally highest, and during the rest of each year, cannot account for more than one percent of the flow of the Mad River. This conclusion is based in part on increased monitoring and reporting requirements to confirm compliance with Receiving Water Limitation D.12.

4. An analysis of the Discharger's discharge determined that the discharge may have reasonable potential to contribute to increases in turbidity levels in the Mad River. This potential is minimized because effluent cannot account for more than one percent of Mad River flow. Receiving Water Limitation D.5. prohibits measurable turbidity increases in the Mad River.

5. No analytical techniques have been identified to measure sedimentation or siltation in effluent samples. The monitoring and reporting program for this permit includes analyses to measure material which may subsequently be determined to contribute to sedimentation and siltation. This permit may be reopened if these measurements indicate the Discharger contributes significantly to sedimentation or siltation in the Mad River.

E. Other Plans, Polices and Regulations

1. On April 17, 1997, the State Water Board adopted State Water Board Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. The Discharger does not have storm water discharges associated with industrial activities, category "ix" as defined in 40 CFR Section 122.26(b)(14). Storm water falling within the wastewater treatment facility either percolates into the ground or is retained within the pond treatment system.

2. On May 2, 2006, the State Water Board adopted State Water Board Order 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage under State Water Board's Order 2006-0003-DWQ was November 2, 2006. The Discharger has enrolled for coverage under, and is subject to the requirements of Order 2006-0003-DWQ and any future revisions thereto for operation of its wastewater collection system.

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3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Order requires the Discharger to obtain coverage under Order No. 2004-0012-DWQ prior to removal of biosolids from either the aerated treatment ponds or the polishing wetlands marsh.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: Section 122.44(a) requires that permits include applicable technology-based limitations and standards; and Section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where the discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, but numeric water quality objectives have not been established, WQBELs may be established using one or more of three methods described at 40 CFR 122.44 (d) (vi). First, WQBELs may be established using a calculated water quality criterion, such as a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion. Second, WQBELs may be established on a case-by-case basis using USEPA criteria guidance published under CWA Section 304(a). Third, WQBELs may be established using an indicator parameter for the pollutant of concern.

A. Discharge Prohibitions

1. **Discharge Prohibition III. A. The discharge of any waste not disclosed by the Discharger or not within the reasonable contemplation of the Regional Water Board is prohibited.**

   This prohibition is based on the Basin Plan, previous Order, and State Water Resources Control Board Order WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order WQO 2002-0012, the State Water Board found that this prohibition is acceptable in permits, but should be interpreted to apply only to constituents that are either not disclosed by the discharger or are not reasonably anticipated to be present in the discharge, but have not been disclosed by the discharger. It specifically does not apply to constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

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The State Water Board has stated that the only pollutants not covered by this prohibition are those which were "disclosed to the permitting authority and . . . can be reasonably contemplated." (In re the Petition of East Bay Municipal Utilities District et al., (State Water Board 2002) Order No. WQ 2002-0012, p. 24.) The case cited in that order by the State Water Board reasoned that the Discharger is liable for discharges "not within the reasonable contemplation of the permitting authority . . . , whether spills or otherwise . . . ." (Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 268 F.3d 255, 268.) Thus, State Water Board authority provides that, to be permissible, the constituent Discharged (1) must have been disclosed by the discharger and (2) can be reasonably contemplated by the Regional Water Board.

The Regional Water Board has the authority to determine whether the discharge of a constituent is "reasonably contemplated." The Piney Run case makes clear that the Discharger is liable for discharges "not within the reasonable contemplation of the permitting authority . . . , whether spills or otherwise . . . ." (268 F.3d 255, 268 [italics added].) In other words, whether or not the Discharger reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Discharger disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of permit adoption.

2. **Discharge Prohibition III.B. Creation of a pollution, contamination, or nuisance, as defined by Section 13050 of the Water Code is prohibited.**

   This prohibition is based on Water Code section 13050.

3. **Discharge Prohibition III.C. The discharge of sludge is prohibited, except as authorized under Section VI.C.6.d. Solids Disposal and Handling Requirements.**

   This prohibition is based on restrictions on the disposal of sewage sludge found in federal regulations (40 CFR Part 503 (Biosolids) Part 527 and Part 258) and California Code of Regulations, title 27.

4. **Discharge Prohibition III.D. The discharge [or reclamation] of untreated or partially treated waste from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Prohibition III.I and Attachment D, Standard Provision G [Bypass Provision].**

   This Prohibition has been retained from Order No. R1-2001-60 and is based on the need to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued an

Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 CFR 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by this Order.

5. **Discharge Prohibition III.E. The discharge of waste to land that is not owned by or under agreement to use by the Discharger is prohibited.**

   This prohibition is based on California Code of Regulations, title 22 regarding recycled water.

6. **Discharge Prohibition III. F. The discharge of wastewater effluent from the wastewater treatment facility to the Mad River or its tributaries is prohibited during the period May 15 through September 30 each year. This prohibition shall not be interpreted to prohibit discharge to the Hiller storm water treatment wetlands (Discharge Point 005) or to percolation ponds (Discharge Point 002).**

   This prohibition is required by the Basin Plan. The Basin Plan prohibits discharges to the Mad River and its tributaries during the period May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The explanation regarding storm water treatment wetlands is to avoid confusion about wastewater reclamation to sustain Hiller wetland rushes through the summer. The explanation regarding percolation ponds is intended to clarify the Regional Water Board's historical interpretation of discharges to percolation ponds in river flood plain alluvium.

7. **Discharge Prohibition III. G. The reclamation of treated wastewater from the wastewater treatment facility to the Hiller storm water treatment wetlands (Discharge Point 005) is prohibited during the period from September 21 through June 21 of the following calendar year.**

   This prohibition is intended to reduce release of residual pollutants to Mad River tributaries following wastewater reclamation to sustain Hiller storm water treatment wetland rushes through each summer. Reclamation of wastewater during wetter seasons may impair storm water treatment efficiency of the wetlands. This prohibition corresponds to a reclaimed water wetland flooding schedule suggested by McKinleyville Community Services District.

8. **Discharge Prohibition III. H. During the period of October 1 through May 14, treated wastewater may be discharged to the Mad River only when the flow in the River as measured at the Highway 299 overpass (USGS Gage No. 11-**

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4810.00) is both greater than 100 times the waste flow and greater than 200 cubic feet per second.

This prohibition is required by the Basin Plan (Chapter 4 Implementation Plans, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan prohibits discharges to the Mad River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. The 200 cubic feet per second limitation is carried forward from the expired NPDES permit.

9. **Prohibition III.I. Any SSO that results in a discharge of untreated or partially treated wastewater to (a) waters of the United States, (b) groundwater, or (c) land that creates a pollution, contamination, or nuisance as defined in CWC section 13050(m) is prohibited.**

   This prohibition applies to spills related to sanitary sewer overflows (SSOs) and is based on State standards, including Water Code section 13050 and the Basin Plan. This prohibition is consistent with the States' antidegradation policy as specified in State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining high Quality of Waters in California) in that the prohibition imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than that prescribed in State Water Board or Regional Water Board plans and policies.

   This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that create a nuisance. This prohibition of this Order further prohibits any SSO that results in the discharge of untreated or partially treated wastewater to groundwater due to the prevalence of high groundwater in this Region and this Region's reliance on groundwater as a drinking water source.

10. **Prohibition III.J. Discharge of more than 3.3 million gallons per calendar day is prohibited.**

    This prohibition is included for consistency with the report of waste discharge.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

Regulations promulgated in 40 CFR 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 40 CFR 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.

Following publication of the secondary treatment regulations, legislative history indicates that Congress was concerned that USEPA had not "sanctioned" the use of certain biological treatment techniques that were effective in achieving significant reductions in BOD_5 and TSS for secondary treatment. Therefore to prevent unnecessary construction of costly new facilities, Congress included language in the 1981 amendment to the Construction Grants statues [Section 23 of Pub. L. 97-147] that required USEPA to provide allowance for alternative biological treatment technologies such as trickling filters or waste stabilization

ponds. In response to this requirement, definition of secondary treatment was modified on September 20, 1984 and June 3, 1985, and published in the revised secondary treatment regulations contained in 40 CFR 133.105. These regulations allow alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for "equivalent to secondary treatment." These "equivalent to secondary treatment" limitations are *up to* 45 mg/L (monthly average) and *up to* 65 mg/L (weekly average) for BOD_5 and TSS.

Therefore, POTWs that use waste stabilization ponds, identified in 40 CFR 133.103, as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved, can qualify to have their minimum levels of effluent quality for TSS adjusted upwards.

Furthermore, in order to address the variations in facility performance due to geographic, climatic, or seasonal conditions in different States, the Alternative State Requirements (ASR) provision contained in section 133.105(d) was written. ASR allows States the flexibility to set permit limitations above the maximum levels of 45 mg/L (monthly average) and 65 mg/L (weekly average) for TSS from lagoons. However, before ASR limitations for suspended solids can be set, the effluent must meet the BOD limitations as prescribed by 40 CFR 133.102(a). Presently, the maximum TSS value set by the State of California for lagoon effluent is 95 mg/L. This value corresponds to a 30-day consecutive average or an average over duration of less than 30 days.

In order to be eligible for equivalent-to-secondary limitations, a POTW must meet all of the following criteria:

- The principal treatment process must be either a trickling filter or waste stabilization pond.
- The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L BOD_5 and TSS.
- Water quality is not adversely affected by the discharge. (40 CFR 133.101(g).)

The treatment works as a whole provides significant biological treatment such that a minimum 65 percent reduction of BOD_5 is consistently attained (30-day average).

2. Applicable Technology-Based Effluent Limitations

McKinleyville Community Services District uses wastewater treatment ponds as the principal process providing significant biological treatment of municipal wastewater. In accordance with 40 CFR 133.105, a facility that consists of a pond or a trickling filter system and cannot meet the secondary standards after proper

operation and maintenance may be allowed to meet treatment equivalent to secondary limits. An analysis was done with the data from January 2006 through December 2007 to determine the 95th percentile value for TSS.
The statistical analysis of 2-year TSS data looked at the normal, lognormal, Weibull and 3-Parameter Weibull distributions of the available TSS data. The 3-Parameter Weibull distribution gives the best fit (0.994 correlation coefficient) to the available data and returns a 95th percentile value of 83 mg/L.

TSS Data:

40	78	100	75	65	65	60	57	56	18	14	18	34	38	73	80
48	33	56	71	81	70	69	42	50	18	67	74	69	63	54	17
61	72	98	65	42	60	55	34	45	49	20	20	36	52	48	45
27	29	18	26	33	33	28	22	26	51	47	30	23	24	17	25
30	30	27	24	21	38	7.6	10	70	38	62	19	60	42	51	28

Goodness-of-Fit:

Distribution	Anderson-Darling ((adj)	Correlation Coefficient
Normal	0.796	0.986
Lognormal	0.999	0.976
Weibull	0.622	0.992
3-Parameter Weibull	0.554	0.994

Table of Percentiles:

Distribution	Percent	Percentile	Standard Error	95% Confidence Interval Lower	Upper
Normal	95	78.6328	3.49068	71.7912	85.4744
Lognormal	95	93.0249	8.40824	77.9223	111.055
Weibull	95	80.5079	4.29938	72.5073	89.3913
3-Parameter Weibull	95	82.9374	6.37714	71.3346	96.4273

The McKinleyville Community Services District effluent concentrations for BOD and TSS that are consistently achievable, based on the 95th percentile value, exceed the minimum level for secondary treatment effluent limitations and the minimum level for treatment equivalent to secondary for BOD and TSS. Because the Discharger is eligible for alternative limits for treatment equivalent to secondary, this permit includes the maximum allowable technology based effluent limitations for minimum level of effluent quality (45/65/65) for BOD by facilities eligible for treatment equivalent to secondary treatment attainable by wastewater treatment ponds. Because the Alternative State Requirement for TSS concentration by wastewater treatment ponds in California provides for a 30-day TSS effluent limitation up to 95 mg/L, the 95th percentile effluent value of 83 mg/L is established in this permit as the average monthly final TSS effluent limitation.

An average weekly effluent limitation for TSS has not been established in the Permit as required by 40 CFR 122.45(d)(2), which states that effluent limitations for POTWs must be expressed as average weekly and average monthly limitations unless impracticable. The average weekly limitation would be calculated by multiplying the average monthly limitation of 83 mg/L by 1.5 to obtain a result of 124.5 mg/L, which is greater than is allowable by the ASR for California.

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Mass limitations for the average monthly limitations for BOD and TSS were retained from the previous permit in accordance with the antibacksliding provisions of 40 CFR 122.44(l). The actual value of the limitations was based on the best professional judgment (BPJ) of the permit writer and calculated from the concentration limits and the design flow of the waste treatment system at the time (1.18 mgd) using the equations: (concentration limit)(8.434)(design flow) = mass limit.

Table F-4. Summary of Technology-based Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
BOD (20°C, 5-day)	mg/L	45	65	--
	lbs/d	441	637	--
Total Suspended Solids	mg/L	83	--	--
	lbs/d	931	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains water quality-based effluent limitations for pH that are more stringent than secondary treatment requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section IV.C.3 of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard.
Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as

specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. Beneficial Uses. Applicable beneficial uses are discussed in Finding II.H. of the Order and section III.C.1 of this Fact Sheet.

b. Basin Plan Water Quality Objectives. In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including the Mad River.

c. State Implementation Policy (SIP), CTR and NTR.

Water quality criteria applicable to discharges to the Mad River are included in the NTR and the CTR, which contain numeric criteria for the protection of aquatic life and human health for most of the 126 priority, toxic pollutants. The CTR further indicates that such criteria will be developed for the remaining priority pollutants at a future date.

Aquatic life freshwater and saltwater criteria are further identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or one-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the reasonable potential analysis (RPA), and for the calculation of effluent limitations for pollutants that showed reasonable potential.

Human health criteria are further identified as “water and organisms” and “organisms only.” The criteria from the “water and organisms” column of CTR were used for the RPA because the Basin Plan identifies that the receiving water, the Mad River, is a source of municipal and domestic drinking water supply. The human health criteria are used to calculate human health effluent limitations.

The SIP, which is described in Finding II.J. of the Order and section III.C.4 of the Fact Sheet, includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

3. **Determining the Need for WQBELs**

NPDES regulations at 40 CFR 122.44 (d) require effluent limitations to control all pollutants which 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.

a. Non-Priority Pollutants

i. **Nitrate.** The Basin Plan requires waters designated as domestic or municipal supply (MUN) not contain concentrations of chemical constituents in excess of limits specified in title 22, division 4, chapter 15, articles 4 and 5.5 of the California Code of Regulations. Table 3-2 of the Basin Plan contains concentration limits for inorganic and organic constituents and fluoride. The maximum allowable concentration of nitrate is 45 mg/L as nitrate (10 mg/L as nitrogen).

ii. **pH.** The Basin Plan includes a water quality objective for pH for the Mad River Hydrologic Unit that requires pH to be maintained with the range of pH 6.5 to pH 8.5. Federal technology-based requirements prescribed in 40 CFR 133 are not sufficient to meet these Basin Plan water quality standards.

iii. **Total Coliform Bacteria.** Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order retains the effluent limitations for total coliform bacteria from the previous permit. These effluent limitations will ensure that water quality objectives for bacteria, as established by Chapter 3 of the Basin Plan, will be maintained. The specific limitations are based on requirements established by the Department of Health Services at title 22 of the California Code of Regulations, division 4, chapter 3 (Water Recycling Criteria) - those levels of bacteria required for the reclamation use of treated wastewater for surface irrigation of (i) pasture used for animals producing milk for human consumption and (ii) any nonedible vegetation where access is controlled.

iv. **Settleable Solids**. Effluent limitations for settleable solids are retained from the previous Order and reflect levels of treatment attainable by secondary treatment facilities. This limitation is based on the water quality objective prohibiting bottom deposits for all surface waters of the North Coast Region established by the Basin Plan.

v. **Chlorine Residual.** The Basin Plan establishes a narrative water quality objective for toxicity, stating that "[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." The Regional Water Board considers any chlorinated discharge as having

the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity, and therefore, the Order establishes effluent limitations for chlorine. USEPA has established the following criteria for chlorine-produced oxidants for protection of fresh water aquatic life. [Quality Criteria for Water 1986 (The Gold Book, 1986, EPA 440/5/-86-001)]

Chronic Criterion	Acute Criterion
0.011 mg/L	0.019 mg/L

The water quality criteria recommended by USEPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual in this Order. The new effluent limitations established in this Order are numerically lower than the minimum detection limit for the final effluent limitation for chlorine from the previous Order that required no detectable level of chlorine in effluent at the point of discharge.
To allow the Discharger the time to comply with final effluent limitations in the Order, the Discharger may demonstrate that there is no detectable level of chlorine in effluent using a minimum detection limit of 0.1 mg/L. Beginning January 1, 2009, the Discharger shall employ a method sensitive to and accurate at the permitted level of 0.01 mg/L.

b. Priority Pollutants

The SIP, statewide policy that became effective on May 22, 2000, establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above State water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.
The SIP Section 1.3 requires the Regional Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis. With its Report of Waste Discharge, the Discharger indicates that effluent has been sampled three times and the receiving stream twice for analysis of the CTR pollutants. Regional Water Board staff performed additional analyses for certain priority pollutants during routine compliance inspections. A summary of this effluent data was included in the Report of Waste Discharge and has been used to perform a reasonable potential analysis.

Some freshwater water quality criteria for metals are hardness dependent; i.e., as hardness decreases, the toxicity of certain metals increases, and the applicable water quality criteria become correspondingly more stringent. For this reasonable potential analysis Regional Board staff has used a receiving water hardness concentration of 39 mg/L $CaCO_3$, which was the lowest hardness concentration measured by the Discharger in receiving water

samples collected between November 2003 and February 2004. Use of the lowest observed hardness concentration assures that water quality criteria for hardness dependent metals will be protective of all conditions in receiving waters.

To conduct the reasonable potential analysis, the Regional Water Board identified the maximum observed effluent (MEC) and background (B) concentrations for each priority, toxic pollutant from receiving water and effluent data provided by the Discharger and compared this data to the most stringent applicable water quality criterion (C) for each pollutant from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

Trigger 1. If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

Trigger 2. If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

Trigger 3. After review other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303 (d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

During the term of Order No. R1-2008-0039 the Discharger conducted an individual WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The study was conducted in accordance with applicable USEPA guidance for Streamlined Procedure EPA-822-R-01-005 and concluded that a site specific WER of 30.5 for total recoverable copper and 10.5 for dissolved copper apply to the discharge.

Using the lowest measured hardness collected from the receiving water between December 2008 and March 2010 of 44 mg/L $CaCO_3$, the USEPA recommended dissolved-total translator of 0.96, and the site-specific WER, the applicable chronic criterion (maximum 4-day average concentration) was adjusted to 135 ug/L and the applicable acute criterion (maximum 1-hour average concentration) was adjusted to 189 ug/L, as total recoverable copper. The maximum effluent concentration (MEC) measured for total copper was 27 ug/L, based samples collected from December 2008 through March 2010. All effluent copper concentrations measured in accordance with Order No. R1-2008-0039 are below the applicable criteria. Based on new WER information, effluent copper concentrations do not demonstrate reasonable potential to exceed water quality criteria for copper.

The modified reasonable potential analysis for McKinleyville Community Services District demonstrated reasonable potential for discharges to cause or contribute to exceedances of applicable water quality criteria for, lead, alpha-BHC, 4,4-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD. The following table summarizes the reasonable potential analysis for each priority, toxic pollutant that has been measured in effluent based on the Discharger's Report of Waste Discharge. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above non-detect (ND) concentrations.

Pollutant	C	MEC	B	RPA Result
Antimony	6.0 µg/L – Title 22 MCL	0.15 µg/L (Feb 02)	0.1 µg/L (Feb 04)	No
Arsenic	50 µg/L – Title 22 MCL	0.6 µg/L (Feb 02)	0.9 µg/L (Feb 04)	No
Total Chromium	50 µg/L – Title 22 MCL	0.8 µg/L (Feb 02)	6.8 µg/L (Feb 04)	No
Hexavalent Chromium	16 and 11 µg/L – acute and chronic, freshwater aquatic life criteria from the CTR	2.0 µg/L (Nov 03)	ND	No
Copper	189 and 135 µg/L – acute and chronic, freshwater aquatic life criteria from the CTR based on hardness @ 44 mg/L $CaCO_3$	27 µg/L (Feb 09)	4.1 µg/L (Feb 04)	No MEC<C
Lead	25 and 1.0 µg/L - acute and chronic, freshwater aquatic life criteria from the CTR based on hardness @ 39 mg/L $CaCO_3$	0.6 µg/L (Feb 02)	1.2 µg/L (Feb 04)	Yes B>C and MEC>ND
Mercury	0.05 µg/L – human health criterion of the CTR for consumption of water and organisms	0.0396 µg/L (Feb 02)	0.0154 µg/L (Feb 04)	No
Nickel	210 and 24 µg/L – acute and chronic, freshwater aquatic life criteria from the CTR based on hardness @ 39 mg/L $CaCO_3$	3.0 µg/L (Feb 02)	11.3 µg/L (Feb 04)	No
Selenium	5.0 µg/L – chronic, freshwater aquatic life criterion from the CTR	0.7 µg/L (Feb 02)	0.4 µg/L (Nov 03)	No
Silver	0.80 µg/L – acute, freshwater aquatic life criterion from the CTR based on hardness @ 39 mg/L $CaCO_3$	0.27 µg/L (Feb 04)	ND	No
Zinc	54 µg/L – acute and chronic, freshwater aquatic life criterion from the CTR	35 µg/L (May 04)	6.5 µg/L (Feb 04)	No

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Pollutant	C	MEC	B	RPA Result
alpha-BHC	0.0039 µg/L – human health criterion of the CTR for consumption of water and organisms	0.099 µg/L (Feb 04)	ND	Yes MEC>C
4,4-DDT	0.00059 µg/L – human health criterion of the CTR for consumption of water and organisms	0.031 µg/L (Feb 04)	ND	Yes MEC>C
Bis(2-Ethylhexyl) Phthalate	1.8 µg/L – human health criterion of the CTR for consumption of water and organisms	4.0 µg/L (Nov 03)	ND	Yes MEC>C
Diethyl Phthalate	23 mg/L – human health criterion of the CTR for consumption of water and organisms	2.0 µg/L (Feb 04)	ND	No
Chloroform	no criteria	3.5 µg/L (Nov 03)	ND	No
Toluene	150 µg/L – Title 22 MCL	6.4 µg/L (Nov 03)	ND	No
2,3,7,8-TCDD	1.3×10^{-8} – human health criterion of the CTR for consumption of water and organisms	9.4×10^{-8} µg/L [a] (Dec 02)	ND	Yes MEC>C
p-Cresol	-	38 µg/L (May 05)	ND	No

[a] Based on concentrations of HpCDD and OCDD of 6.94×10^{-6} and 4.66×10^{-5} µg/L, respectively, and 2,3,7,8 TCDD toxic equivalency factors of 0.01 and 0.0001, respectively.

4. WQBEL Calculations

Final WQBELs for lead, alpha-BHC, 4,4-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD have been determined using the methods described in Section 1.4 of the SIP.

Step 1: For each water quality criterion/objective, an effluent concentration allowance (ECA) is calculated from the following equation to account for dilution and background levels of each pollutant.

ECA = C + D (C - B), where

C = the applicable water quality criterion (adjusted for receiving water hardness and expressed as total recoverable metal, if necessary)
D = the dilution credit
B = the background concentration

Because no credit is being allowed for dilution, D = 0, and therefore, ECA = C.

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Step 2: For each ECA based on aquatic life criterion/objective (lead), the long-term average discharge condition (LTA) is determined by multiplying the ECA times a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. When the data set contains less than 10 sample results, or 80 percent or more of the data are reported as non-detect (ND), the CV is set equal to 0.6. Derivation of the multipliers is presented in Section 1.4 of the SIP.
From Table 1 of the SIP, multipliers for calculating LTAs at the 99th percentile occurrence probability are 0.321 (acute multiplier) and 0.527 (chronic multiplier). LTAs are determined as follows.

Table F-6. Calculation of Long Term Averages for Lead

Pollutant	ECA		ECA Multiplier		LTA (µg/L)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Lead	25	1.0	0.321	0.527	8.025	0.527

Step 3: WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL) are calculated using the most limiting (the lowest) LTA. The LTA is multiplied times a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here, the CV is set equal to 0.6, and the sampling frequency is set equal to 4 (n = 4). The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP the MDEL multiplier is 3.11 and the AMEL multiplier is 1.55. Final WQBELs for lead are calculated as follows.

Table F-7. Calculations for Final WQBELs for Lead

Pollutant	LTA	MDEL Multiplier	AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Lead	0.527	3.11	1.55	1.6	0.82

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective (alpha-BHC, 4,4-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD), the AMEL is set equal to the ECA, and the MDEL is calculated by multiplying the ECA times the ratio of the MDEL multiplier to the AMEL multiplier. From Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.11, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.55. Final WQBELs for alpha-BHC, 4,4-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD are determined as follows.

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Table F-8. Calculations for Final WQBELs for the Protection of Aquatic Life

Pollutant	ECA	MDEL/AMEL Multiplier	AMEL (µg/L)	MDEL (µg/L)
alpha-BHC	0.0039	2.01 (3.11/1.55)	0.0039	0.0078
4,4-DDT	0.00059	2.01	0.00059	0.0012
bis(2-ethylhexyl)phthalate	1.8	2.01	1.8	3.6
2,3,7,8-TCDD	1.3×10^{-8}	2.01	1.3×10^{-8}	2.6×10^{-8}

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

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
alpha-BHC	**ug/L**	0.0039	--	0.0078
4,4-DDT	**ug/L**	0.00059	--	0.0012
bis(2-ethylhexyl)phthalate	**ug/L**	1.8	--	3.6
2,3,7,8-TCDD	**ug/L**	1.3×10^{-8}	--	2.6×10^{-8}

5. **Whole Effluent Toxicity (WET)**
This effluent limitation is derived from the CWA and the Basin Plan. The Basin Plan states that "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." 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 MRP (Attachment E, section V).

a. **Acute Aquatic Toxicity**.
The Order implements Federal guidelines (Regions 9 & 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring dischargers to conduct acute toxicity tests on a fish species and on an invertebrate to determine the most sensitive species. According to the USEPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/027F), the acceptable vertebrate species for the acute toxicity test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss.* The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*. The Discharger tests its effluent for acute toxicity on the rainbow trout, *Oncorhynchus mykiss*. The following table shows the results of acute toxicity tests on 100 percent effluent between January 15, 2002 and February 6, 2007:

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Table F-10. Summary of Acute Toxicity Test Results 2002-2007

Date	Percent Survival	Date	Percent Survival
01/15/02	100	03/07/05	0
02/12/02	65	04/11/05	5
03/04/02	100	11/07/05	5
04/22/02	90	11/14/05	100
01/13/03	80	01/01/06	100
02/24/03	0	02/07/06	35
03/17/03	100	02/15/06	100
11/12/03	65	03/08/06	95
12/10/03	75	04/05/06	100
02/02/04	0	05/09/06	5
02/12/04	0	05/18/06	100
03/04/04	80	11/14/06	100
05/03/04	0	12/12/06	100
11/30/04	50	01/09/07	100
02/07/05	0	02/06/07	100

The results of acute tests from 2002 to November 2005 indicate that the effluent was frequently toxic to rainbow trout during this period. Since the November 15, 2005 test, acute toxicity test results have improved significantly. The Discharger asserts that failures of acute tests on discharge samples analyzed prior to 2006 have been the result of inadequate pH and ammonia control by its contract laboratories. In passing tests, the contract laboratories' standard protocol is to adjust effluent pH to 7.0 with the addition of 5 grams/liter of 3-(N-Morpholino) propanesulfonic Acid (MOPS biological buffer) to reduce increases in pH due to photosynthetic activity of microorganisms in test water, aerate the sample for 1 hour, and make a final pH adjustment with the addition of up to 7.0 mL/L of 1 N sodium hydroxide. Although the freshwater chronic WET manual does not specify a method for controlling artificial ammonia toxicity in WET tests, a USEPA document, Memorandum Clarifications Regarding Flexibility in 40 CFR Part 136 WET Test Methods (April 10, 1996), provides some flexibility in the analysis when the source of toxicity can be demonstrated to be truly artificial. This Order authorizes the use of ammonia toxicity controlling procedures, but only to the extent that the procedures are consistent with the USEPA method and done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

Acute toxicity effluent limitations are included in the Order because effluent monitoring results from 2002 to 2007 indicate a reasonable potential for the discharge to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

b. **Chronic Aquatic Toxicity**.
The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin

Plan. The SIP requires that the Discharger demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum*. The Discharger began chronic toxicity testing in 2003 in accordance with its previous NPDES permit that required chronic testing using only *Ceriodaphnia sp.* Chronic testing using *Selenastrum capricornutum* began in 2006. Test results show passing tests for *Ceriodaphnia* for survival, but failing tests for fecundity. Chronic test results are as follows:

Table F-11. Summary of Chronic Toxicity Test Results 2003-2006

Date	*Ceriodaphnia*		*S. capricornutum*
	% Survival or TUc	**Reproduction**	**Growth**
05/12/03	100	Significantly reduced	--
05/03/04	100	Significantly reduced	--
05/09/05	1 TUc	--	--
05/09/06	1 TUc	2 TUc	1 TUc

Effluent monitoring results from 2003 to 2006 indicate reduced reproduction in *Ceriodaphnia* after short-term exposure to diluted effluent. However, chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in Basin Plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a Toxicity Reduction Evaluation (TRE) in the event that persistent toxicity is detected. Attachment E of this Order requires annual chronic WET monitoring after an initial screening phase for demonstration of compliance with the toxicity water quality objective.

Because no dilution has been granted for the chronic condition, chronic toxicity testing results exceeding 1.0 chronic toxicity unit (TUc) demonstrate the discharge is in violation of the narrative toxicity water quality objective. If accelerated sampling of the discharge demonstrates a pattern of toxicity exceeding the effluent limitation, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan to determine whether the discharge is contributing chronic toxicity to the receiving water. Special Provision VI.C.2.b requires the Discharger to submit to the Regional Water Board and maintain an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

c. **Ammonia-related Toxicity**.
Ammonia toxicity in water is due mostly to its unionized fraction which is primarily a function of the temperature and the pH of the water being tested. As the pH and temperature increase so does the toxicity of a given concentration of ammonia. In static WET tests, the pH in the test concentrations often increases (drifts) due to the loss of carbon dioxide (CO_2) from the test concentrations as the test chambers are incubated over the test period. This upward drift results in pH values in the test concentrations that often exceed those pHs that could reasonably be expected to be found in the effluent or in the mixing zone under ambient conditions. Unionized ammonia toxicity caused by pH drift is considered to be an artifact of test conditions and is not a true measure of the ammonia toxicity likely to occur as the discharge enters the receiving waters. In order to reduce the occurrence of artifactual unionized ammonia toxicity, it may be necessary to control the pH in toxicity tests, provided the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide. This Order authorizes the use of pH control procedures where the procedures are consistent with USEPA methods and do not significantly alter the test water chemistry so as to mask other sources of toxicity.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

This Order removes effluent limitations for copper and reduces monitoring frequency for Dioxin congeners, which results in limitations at least as stringent as the effluent limitations in the Order No. R1-2008-0039. Effluent limitations for copper have been modified based upon site-specific conditions at the MCSD facility. The new information provided by the Discharger indicates that based upon the relative bioavailability of copper to aquatic organisms, there is no reasonable potential for toxicity to those organisms from the copper in the effluent. The congener 2,3,7,8-TCDD has never been detected at any level and other less toxic congeners, when detected, have been reported well below ½ of the EPA Method 1613 ML. Monitoring for copper and Dioxin will continue under the modified conditions. Therefore, the protection afforded under the modified permit condition results in an equal protection of beneficial uses to the previous conditions of Order No. R1-2008-0039. Additionally, this Order is consistent with section 303 (d)(4)(B) of the Clean Water Act, which allows for changes to effluent limitations or other permitting standards provided that the quality of receiving waters equals or exceeds levels necessary to protect the beneficial uses for such waters and the change is consistent with the antidegradation policy. Consistency with the anti-degradation policy is addressed below.

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Other changes to the MRP including clarifications as well as reduced monitoring of storm water discharges and associated receiving water locations do not trigger antibacksliding requirements as these modifications are not associated with effluent guidelines promulgated under section 304(b) of the Clean Water Act. This Order is consistent with antibacksliding requirements pursuant to 40 CFR Sections 124.44.

2. Satisfaction of Antidegradation Policy

Pursuant to the antidegradation policy, the lowering of water quality can be allowed only if beneficial uses are protected, and if there is a maximum benefit to the people of the state. Adjusting the copper criterion using scientifically derived WER factors is predicated upon the protection of beneficial uses and therefore inherently complies with the requirement to protect those uses. In addition, the Discharger has evaluated potential sources in an effort to reduce copper concentrations in the effluent. Discharges regulated in accordance with this Order are for a publicly owned treatment works (POTW). The increased costs of additional treatment that would otherwise be required to remove low levels of copper are not in the best interest of the public given that beneficial uses are already shown to be protected. Therefore the allowance of an incremental increase in degradation is found to be in the best interest to the people of the state.

The activities allowed in accordance with these modifications to the waste discharge requirements apply to existing facilities. Discharges from the WWTF will be required to maintain protection of the beneficial uses of the receiving water and comply with applicable provisions of the Basin Plan. Modifications to the monitoring program do not authorize a new discharge nor any increase in the existing discharge and therefore are consistent with the Antidegradation Policy.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, total suspended solids, and pH. This Order's technology-based pollutant restrictions for BOD and TSS are based on requirements for treatment equivalent to secondary treatment as discussed in sections IV.B.1 and IV.B.2 of the Fact Sheet. This Order contains water quality-based effluent limitations for pH and settleable solids that are more stringent than the minimum, federal technology-based requirements because the technology-based requirements alone are not sufficient to meet water quality standards. These requirements are discussed in section IV.C.3. Effluent limitations for total coliform organisms are based on requirements for disinfected secondary recycled water found in title 22, California Code of Regulations, sections 60301 through 60355 (Water Reclamation Criteria) and are sufficient to ensure that the treated

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wastewater is adequately disinfected prior to discharge to protect water quality and public health.

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 for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH) and the General Objective regarding antidegradation) were approved by USEPA on, March 4, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are not more restrictive than required to implement the requirements of the CWA.

In addition, the Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section13241, in establishing these requirements.

E. Interim Effluent Limitations

Not Applicable

Infeasibility Studies

1. Priority Pollutants
   Section 2.1 of the SIP states that before compliance schedules can be authorized in a permit, the Discharger must provide: a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant(s) in the waste stream and the results of those efforts; b) documentation of source control and/or pollution minimization efforts currently underway or completed; c) a proposed schedule for additional or future source control measures; and d) a demonstration that the proposed schedule is as short as practicable.

The Discharger submitted a letter dated July 26, 2006 in response to a letter of notification from the Regional Water Board dated June 30, 2006, in which WQBELs were proposed for the priority pollutants copper, lead, alpha-BHC, 4,4-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD. The letter concluded that because the WWTP was not designed to remove these pollutants, it is infeasible for the City to meet the proposed final effluent limitations and requested that the Regional Water Board establish interim effluent limitations for these pollutants in the Discharger's renewed NPDES permit. Regional Water Board staff reviewed the Discharger's infeasibility request and determined that the Discharger had not shown satisfactory demonstration of a, b, and d, above, to justify a compliance schedule to meet final effluent limitations. The Discharger submitted a revised infeasibility request and proposed compliance schedule on May 9, 2008. The revised compliance schedule was accepted by Regional Water Board staff with modifications that were acceptable to the Discharger.

Interim Effluent Limitations
Not Applicable

F. Land Discharge Specifications

This Order includes the disinfection standard prescribed by the expired NPDES permit; a median total coliform count not to exceed a most probable number (MPN) of 23 per 100 mL of effluent with no single sample exceeding a MPN of 230 per 100 mL. This Order includes the monthly average biochemical oxygen demand effluent limitation of 45 mg/L for treatment equivalent to secondary from 40 CFR 133.105(a)(2) and a monthly average TSS effluent limitation of 83 mg/L for treatment consistently achievable by the Discharger's treatment processes, based on a 95th percentile TSS effluent concentration value.

G. Reclamation Specifications

The Reclamation Specifications found in section IV.C.1 through section IV.C.14 of this Order conform to regulations contained in the California Code of Regulations, title 22, division 4, chapter 3. Disinfected secondary treated effluent is considered suitable for land disposal. The draft permit includes the disinfection standard prescribed by the expired NPDES permit; a median total coliform count not to exceed a most probable number (MPN) of 23 per 100 mL of effluent with no single sample exceeding a MPN of 230 per 100 mL. Secondary treatment (or treatment equivalent to secondary) is considered adequate to prevent anaerobic conditions. This order includes the monthly average biochemical oxygen demand effluent limitation of 45 mg/L for treatment equivalent to secondary from 40 CFR 133.105(a)(2) and a monthly average total suspended solids effluent limitation of 83 mg/L for treatment consistently achievable by the Discharger's treatment processes, based on a 95th percentile effluent concentration value .

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA Section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional [Water] Board will apply to regional waters in order to protect the beneficial uses." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

2. State Water Board Resolution No. 68-16, requires, in part, that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality water will be maintained until it is demonstrated to the state that any changes will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses of such water, and will not result in water quality less than prescribed in the policies.

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

NPDES regulations at 40 CFR 133 define treatment equivalent to secondary to include 65 percent removal of BOD_5 and TSS during treatment. Monitoring of influent for these

pollutant parameters, in addition to effluent, is required to monitor compliance with this standard of performance.

The McKinleyville pond system allows temporary storage, so influent flow monitoring is required to monitor the water balance during treatment.

B. Effluent Monitoring

The draft MRP includes monitoring of the treated effluent for conventional and non-conventional pollutants prior to discharge to surface waters, percolation pond, land disposal or reclamation in order to determine compliance with technology-based and water quality-based effluent limitations. The monitoring and reporting of influent and discharge flow is required to demonstrate compliance with mass emission limitations and flow limitations.

Continuous measurement of waste flow is required when discharging to the Mad River (Discharge Point 001) to verify compliance with mass effluent limitations and percent removal effluent limitations. Flow measurements are also required to verify compliance with the 100:1 effluent dilution requirement in the Mad River. Flow measurements for discharges to the percolation pond and water reclamation areas are required to track the volumes of permitted waste flows.

Daily analyses of settleable matter and hydrogen ion (pH) are required when discharging to the Mad River (Discharge Point 001 to verify compliance with instantaneous, maximum daily, and average monthly effluent limitations. Measurement of temperature is required to assess attribution for any temperature changes observed in the Mad River.

Daily analyses of total residual chlorine with a minimum method detection limit of 0.01 mg/L are required when discharging to the Mad River (Discharge Point 001) to demonstrate compliance with maximum daily and average monthly effluent limitations. The Discharger may elect to use a continuous on-line monitoring system for measuring chlorine residual. Alternatively, the Discharger may use continuous sulfite monitoring or other dechlorinating chemical monitoring as a proxy for assuring that the discharge meets effluent limitations for total residual chlorine.

Weekly analyses of biochemical oxygen demand and total suspended solids are required to verify compliance with weekly average effluent limitations and for calculating the average monthly discharge for all discharge points. Weekly coliform counts are required to verify compliance with effluent limitations on the same frequency as similarly sized municipalities.

Analyses for pollutants with reasonable potential to exceed water quality objectives (nitrate, lead, bis(2-ethylhexyl)phthalate, 4,4'-DDT, and α-hexachlorocyclohexane (α-BCH) , are required at least monthly when discharging to the Mad River (Discharge Point 001) to verify compliance with monthly average and maximum daily effluent

limitations for these pollutants. The revised reasonable potential analysis using the discharger-specific WER indicates no reasonable potential for copper. However, monthly monitoring will continue to be required as no changes will be made to copper monitoring requirements at this time. Analyses are required at least quarterly when discharging to the Mad River (Discharge Point 001) for bromoform, chlorodibromomethane, dichlorobromomethane, chloroform, at least annually for dioxins (2,3,7-8 TCDD) and the remaining priority pollutants to assess compliance and reasonable potential for effluent limitations at the time of permit renewal.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period, and chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. This Order includes effluent limitations and monitoring requirements for acute toxicity; as well as monitoring requirements for chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity.

D. Receiving Water Monitoring

The monitoring and reporting (M&R) program includes monitoring of the Mad River for conventional pollutants, nutrients, toxic pollutants and acute and chronic toxicity in order to monitor effluent impacts on receiving water quality.

1. Surface Water

Compliance with receiving water limitations will be demonstrated by monthly grab samples taken upstream and downstream of Discharge Point 001. Monitoring is required when discharging to the Mad River to assess differences in upstream and downstream water quality. Monitoring is required during periods of no discharge to ascertain the origin and relative significance of any differences detected while discharging. Grab samples are required within and upstream of the Hiller storm water treatment wetlands to verify residual pollutants from reclaimed wastewater used during dry weather do not diminish water quality of wet weather overflow discharges from the wetland to the Mad River. Grab samples are required from the lower Fisher parcel backswamp wetland to assess both dry weather and wet weather water quality significance of incidental runoff from irrigation with reclaimed wastewater on the adjacent Pialorsi ranch and upper and lower Fisher parcels.

Temperature. Because the Mad River is impaired by elevated temperatures, monitoring of receiving water temperature, upstream and downstream of the point of discharge is required to assess the impact, if any, on the temperature of the receiving waters.
Hardness. Because the toxicity of certain metals is hardness dependent (i.e., as hardness decreases, metals toxicity increases), monitoring of hardness in the receiving water is required on a quarterly basis to allow calculation of water quality

objectives and effluent limitations that are hardness dependent. Monitoring of hardness in the receiving water should coincide with compliance monitoring for the hardness dependent metals (Cu, Pb, Ni, and Zn) with effluent limitations established by this Order.
CTR Pollutants. Water quality criteria for the CTR pollutants are applicable to Mad River, and therefore characterization of background conditions is necessary to assess impacts of the discharge. In addition, reasonable potential analyses, conducted in accordance with procedures established by the SIP, require characterization of background levels of the toxic pollutants.

2. Groundwater

Routine ground water monitoring is required by this Order. Ground water monitoring for nitrate nitrogen is required to verify nitrogen in reclaimed wastewater used for irrigation is effectively utilized by crops rather than percolating into groundwater in sufficient concentrations to exceed the Maximum Contaminant Level for nitrate nitrogen in domestic or municipal water supply. In addition, a Ground Water and Surface Water Study is required to assess the potential hydrologic connection of local ground water from the discharge prohibition period percolation ponds at Discharge Point 002 and the nearby Mad River estuary.

E. Other Monitoring Requirements

Visual observations are required at monitoring locations M-001 through M-008 and at receiving water monitoring locations R-001 through R-005 to provide a qualitative demonstration of compliance with permit prohibitions, effluent limitations and discharge specifications in lieu of more frequent quantitative monitoring (sample collection and analysis) and constitutes good operations and maintenance practice to comply with Federal Standard Provision D in Attachment D of the Order. Corrections to the MRP in accordance with Order No. R1-2011-0002 removing requirements for sample collection and analysis reflect Regional Water Board staff's original intent at the time of permit adoption.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either

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

B. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Discharger must comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

1. Order Provision VI.A.2.a identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g. sections 122.41(j)(5) and (k)(2) of 40 CFR).

2. Order Provision VI.A.2.b requires the Discharger to notify Regional Water Board staff, orally and in writing, in the event that the Discharger does not comply or will be unable to comply with any Order requirement. The Provision requires the Discharger to make direct contact with a Regional Water Board staff person.

3. Order Provision VI.A.2.c requires the Discharger to file a petition with, and receive approval from, the State Water Board Division of Water Rights 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. This requirement is mandated by Water Code section 1211.

C. Special Provisions

1. Reopener Provisions

a. **Standards Revisions (Special Provisions VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, which include the following:

i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised 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.

b. **Reasonable Potential (Special Provisions VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Discharger governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective or adversely impacting water quality and/or the beneficial uses of receiving waters.

c. **Whole Effluent Toxicity (Special Provisions VI.C.1.c).** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

d. **303(d)-Listed Pollutants (Special Provisions VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutant(s) that are the subject of any future TMDL action.

e. **Water Effects Ratios (WER) and Metal Translators (Special Provisions VI.C.1.e).** This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Discharger provide new information and justification for applying a water effects ratio or metal translator to a water quality objective for one or more priority pollutants.

f. **Recycled Water Policy** (**Special Provisions VI.C.1.f**). The State Water Board is developing a statewide policy for recycled water. If the policy includes requirements and/or limitations for salts, nutrients, or other constituent for which water quality objectives exist for the protection of drinking water supplies, this Order may be reopened and modified to include appropriate requirements and/or effluent limitations, as necessary, to require compliance with the policy.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluations (Special Studies VI.C.2.b and VI.C.2.c).** The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. Attachment E of this Order requires chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

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In addition to WET monitoring, Special Provisions VI.C.2.b. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

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:

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

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

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

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

5. *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.

6. *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.

7. *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.

8. *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.

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

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3. Best Management Practices and Pollution Prevention

a. **Best Management Practices.** Provision VI.C.3.a is included in this Order to prevent and detect violations of and conditions which may cause violations of this Order as a result of discharges of reclaimed water to the Backswamp wetlands and other reclaimed water use areas.

b. **Pollution Minimization Plan.** Provision VI.C.3.b is included in this Order as required by Section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation, and Maintenance Specifications

40 CFR 122.41 (e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of the Order, is an integral part of a well-operated and maintained facility.

5. Special Provisions for Municipal Facilities (POTWs Only)

The Regional Water Board includes special provisions in all NPDES Orders for municipal wastewater treatment facilities regarding wastewater collection systems, sanitary sewer overflows, source control, sludge handling and disposal, operator certification, and adequate capacity. These provisions assure efficient and satisfactory operation of municipal wastewater collection and treatment systems.

a. Wastewater Collection System (Provision VI.C.5.a)

1. Statewide General WDRs for Sanitary Sewer Systems.

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating

sanitary sewer overflows. Inasmuch as the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.

All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges (40 CFR 122.41(d)), to report non-compliance (40 CFR 122.41(1)(6) and (7)), and to properly operate and maintain facilities (40 CFR 122.41(e)). This provision is consistent with these federal requirements.

2. Sanitary Sewer Overflows.

Order No. 2006-0003-DWQ includes a Reporting Program that requires the Discharger, beginning May 2, 2007, to report SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and telefax reporting when the online SSO database is not available. The goal of these provisions is to ensure appropriate and timely response by the Discharger to sanitary sewer overflows to protect public health and water quality.

The Order also includes reporting provisions (Provision VI.C.5.(a)(ii) and Attachment D subsections I.C., I.D., V.E. and V.H.) to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities.

The Order establishes oral reporting limits for SSOs. SSOs less than 100 gallons are not required to be reported orally, while SSOs greater than or equal to 100 gallons must be reported orally to the Regional Water Board. Inevitably, minor amounts of untreated or partially treated wastewater may escape during carefully executed routine operation and maintenance activities. This Order establishes a reasonable minimum volume threshold for oral notifications. It has been the experience of Regional Water Board staff that SSOs to land that are less than 100 gallons are not likely to have a material effect on the environment or public health. Larger volumes in excess of 100 gallons may indicate a lack of proper operation and maintenance and due care, and pose more of a threat to the environment or public health. All SSOs, regardless of volume, must be electronically reported pursuant

to State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

b. Source Control Program (Provisions VI.C.5.b)

Because the average dry weather design flow of the Facility is less than 5.0 mgd, the Order does not require the Discharger to develop a pretreatment program that conforms to federal regulations. However, due to unexplained effluent deterioration beginning in 2002 and the identification of industrial priority pollutants in discharges from this primarily residential and commercial community, the proposed Order includes requirements for the Discharger to implement a source identification and reduction program. The Discharger's source identification and reduction program will need to address only those pollutants that continue to be detected at levels that trigger reasonable potential.

In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the WWTF, the safety of District staff, and to ensure that pollutants do not pass through the treatment facility to impair the beneficial uses of the receiving water. The proposed Order includes prohibitions for the discharge of pollutants that may interfere, pass through, or be incompatible with treatment operations, interfere with the use or disposal of sludge, or pose a health hazard to personnel.

c. Sludge Disposal and Handling (Provision VI.C.5.c)

The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27, California Code of Regulations. The Discharger has indicated that that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of off-site at a permitted land application site and at a municipal solid waste landfill in accordance with all applicable regulations. See Fact Sheet section II.A for more detail.

d. Operator Certification (Provision VI.C.5.d)

This provision requires the WWTF to be operated by supervisors and operators who are certified as required by title 23, California Code of Regulations, section 3680.

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e. Adequate Capacity (Provision VI.C.5.e)

The goal of this provision is to ensure appropriate and timely planning by the Discharger to ensure adequate capacity for the protection of public health and water quality.

f. Statewide General WDRs for Discharge of Biosolids to Land (Provision VI.C.5.f)

This provision requires the Discharger to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. Instead, the Discharger is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.

6. Other Special Provisions –

Not Applicable

7. Compliance Schedules

Not Applicable

VIII. Public Participation

The California Regional Water Quality Control Board, North Coast 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 McKinleyville Community Services District. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Discharger and interested agencies and persons have been notified of the Regional Water Board's intent to prescribe waste discharge requirements for the existing discharge and have been provided opportunities for public meetings and to submit their written views and recommendations. Notification was provided through posting on the Regional Water Board's Internet site at:
http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits

_and_wdrs.shtml and through publication in the Eureka Times-Standard on November 17, 2010. On January 27, 2011, after due notice to the Discharger and all other affected persons, the Regional Water Board conducted a public hearing and evidence was received regarding adoption of Order No. R1-2011-0002 replacing Order No. R1-2008-0039.

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 on Order No. R1-2011-0002 should be received at the Regional Water Board offices by 5:00 p.m. on December 17, 2010.

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: **January 27, 2011**
Time: **8:30 AM**
Location: **Regional Water Board Office**
5550 Skylane Blvd., Suite A
Santa Rosa, California

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/northcoast/ 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:

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State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

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 Lisa Bernard at lbernard@waterboards.ca.gov or (707) 576-2677.

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