California Regional Water Quality Control Board

Central Valley Region

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Arnold Schwarzenegger
Governor

ORDER NO. R5-2006-0090-01
NPDES NO. CA0085189

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

Discharger	City of Fresno and Copper River Ranch, LLC, and Consolidated Land Company and Consolidated Industries, Inc., and Fresno Metropolitan Flood Control District
Name of Facility	North Fresno Wastewater Reclamation Facility (WWRF)
Facility Address	1660 E. Copper Avenue Fresno, CA 93720 Fresno County

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Disinfected tertiary, dechlorinated municipal wastewater	36 º, 53', 48" N	119º, 45', 09" W	San Joaquin River and groundwater underlying Fresno Metropolitan Flood Control District Basin DE
002	Disinfected tertiary recycled municipal wastewater	36º, 54', 00" N	119º, 44', 15" W	Groundwater underlying Copper River Country Club Golf Course

This Order was adopted by the Regional Water Board on:	**10 December 2009** **(Order No. R5-2006-0090 adopted on 21 September 2006)**
This Order shall become effective on:	**29 January 2010** **(Order No. R5-2006-0090 effective on 21 September 2006)**
The NPDES requirements of this Order shall expire on:	**21 September 2011**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a minor discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted therein and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted therein, the Discharger shall comply with the requirements in this Order.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 21 September 2006 and revised on 10 December 2009.

Original signed by:

PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 5, CENTRAL VALLEY REGION

ORDER NO. R5-2006-0090-01
NPDES NO. CA0085189

TABLE OF CONTENTS

I. Facility Information 1
II. Findings 1
III. Discharge Prohibitions 6
IV. Effluent Limitations and Discharge Specifications 6
A. Effluent Limitations – Discharge Point 001 6
B. Land Discharge Specifications – (Not Applicable) 8
C. Reclamation Specifications – Discharge Point 002 8
V. Receiving Water Limitations 9
A. Surface Water Limitations 9
B. Groundwater Limitations 10
VI. Provisions 11
A. Standard Provisions 11
B. Monitoring and Reporting Program Requirements 16
C. Special Provisions 16
1. Reopener Provisions 16
2. Special Studies, Technical Reports and Additional Monitoring Requirements 16
3. Best Management Practices and Pollution Prevention – (Not Applicable) 18
4. Compliance Schedules – (Not Applicable) 18
5. Construction, Operation and Maintenance Specifications 19
6. Special Provisions for Municipal Facilities (POTWs Only) 21
7. Special Provisions for the Fresno Metropolitan Flood Control District 23
8. Other Special Provisions 23
Attachment A – Definitions A-1
Attachment B – Topographic Map B-1
Attachment C – Flow Schematic C-1
Attachment D – Federal Standard Provisions D-1
Attachment E – Monitoring and Reporting Program (MRP) E-1
Attachment F – Fact Sheet F-1
Attachment G – Recycled Water Signage G-1

I. FACILITY INFORMATION

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

Discharger	City of Fresno and Copper River Ranch, LLC, and Consolidated Land Company and Consolidated Industries, Inc., and Fresno Metropolitan Flood Control District
Name of Facility	North Fresno Wastewater Reclamation Facility (WWRF)
Facility Address	1660 E. Copper Avenue Fresno, CA 93720 Fresno County
Facility Contact, Title, and Phone	Rene Ramirez, Director of Public Utilities, (559) 621-8600
Mailing Address	2600 Fresno Street Fresno, CA 93721
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	0.71 million gallons per day

II. FINDINGS

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

A. **Background**. Copper River Ranch, LLC submitted a Report of Waste Discharge on 29 July 2002 for authorization to discharge up to 0.71 million gallons per day of tertiary treated domestic wastewater from the North Fresno Wastewater Reclamation Facility (hereinafter WWRF) for Copper River Ranch, a 760-acre planned community development. On 20 January 2004, the City of Fresno submitted a revised Report of Waste Discharge and applied for a National Pollutant Discharge Elimination System (NPDES) permit for the WWRF. The application was again revised on 4 February 2005 and deemed complete on 12 May 2005. Copper River Ranch, LLC, the project developer, proposes to build the WWRF and plans to transfer ownership and operation of the WWRF and the sanitary sewer system to the City of Fresno as soon as possible after startup.

   On 11 May 2009, the City of Fresno formally requested that the Regional Water Board reopen Order No. R5-2006-0090 to include turbidity limitations consistent with Title 22, California Code of Regulations (CCR), Section 60301.320(a) for coagulated wastewater. Where there is a need to differentiate between the originally adopted Order No. R5-2006-0090 and this revised Order, the originally adopted Order shall be referred to as "Order No. R5-2006-0090" and this revised Order shall be referred to as "Order No. R5-2006-0090-01."

B. **Facility Description**. The treatment system will include headworks, sequencing batch reactors, an equalization tank, a coagulation system (operated most of the time), filtration, and chlorination. Effluent will be stored in a lined 12-acre-foot, onsite storage pond at the WWRF and subsequently recycled via irrigation on the Copper River Country Club golf course owned

and operated by Consolidated Land Company and Consolidated Industries, Inc. During the wet-weather months when evapotranspiration rates are low, recycled water in excess of turf needs will be dechlorinated and discharged from the onsite storage pond via Discharge 001 (see table on cover page) to the Fresno Metropolitan Flood Control District (FMFCD) Basin DE. Copper River Ranch, LLC, the City of Fresno, Consolidated Land Company, Consolidated Industries, Inc., and the FMFCD are hereinafter jointly referred to as Discharger. Wastewater discharged to Basin DE will be used to irrigate landscaped areas within the basin. Pollutants discharged to Basin DE have the potential to reach the San Joaquin River, a water of the United States, via pumping it through a series of FMFCD storm water basins and outfall. Sludge produced at the WWRF will be conveyed from the sequencing batch reactors to an aerated sludge holding tank. During off-peak hours, the sludge will be pumped into the City of Fresno's existing sanitary sewer system for transport to the Fresno-Clovis Metropolitan Regional Wastewater Reclamation Facility, which currently operates under Waste Discharge Requirements Order No. 5-01-254. Attachment F provides a detailed description of the WWRF and each discharge. Attachment B provides a topographic map of the area around the WWRF, and Attachment C provides a flow schematic of the WWRF.

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

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application and information provided in the City of Fresno's 11 May 2009 request to reopen Order No. R5-2006-0090. Attachment F, which contains background information and rationale for Order requirements, is hereby incorporated into this Order and, thus, constitutes part of the Findings for this Order. Attachments A through G are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA)**. The Regional Water Board has considered the Mitigated Negative Declaration (MND) prepared by the City of Fresno, and this Order incorporates the water quality mitigation measures identified in the MND. Compliance with the requirements of this Order will mitigate or avoid the significant impacts to water quality.

F. **Technology-based Effluent Limitations**. The Code of Federal Regulations (CFR) at 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on tertiary treatment that meet both the technology-based secondary treatment standards for Publicly Owned Treatment Works (POTW) and protect the beneficial uses of the receiving waters. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-based Effluent Limitations**. Section 122.44(d) of 40 CFR 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 numeric water quality objectives have not been established, 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

H. **Water Quality Control Plans**. The Regional Water Board adopted Water Quality Control Plans for the Sacramento and San Joaquin River Basins (hereinafter San Joaquin Basin Plan) and the Tulare Lake Basin (hereinafter Tulare Lake Basin Plan)(collectively referred to as Basin Plans) that designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters addressed through the plans. The San Joaquin Basin Plan designates present and potential uses for the San Joaquin River to which FMFCD Basin DE, via FMFCD Basins BZ and DK, is hydraulically connected. Thus, as discussed in detail in the Fact Sheet (Attachment F), discharges to the FMFCD Basin DE must be protective of the designated beneficial uses of the San Joaquin River. The Tulare Lake Basin Plan designates beneficial uses for the groundwater underlying FMFCD Basin DE and the Copper River Country Club golf course. The designated beneficial uses applicable to the San Joaquin River and groundwater underlying the Copper River Country Club golf course and FMFCD Basin DE are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	● San Joaquin River	Existing (surface water): Municipal and domestic supply (MUN); agricultural supply (AGR); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD).
	● Groundwater (FMFCD Basin DE)	Existing (groundwater): Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND).
002	Groundwater (Copper River Country Club golf course discharge)	Existing (groundwater): Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND).

Requirements of this Order specifically implement the applicable Basin Plans.

I. **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.

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 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 became effective on May 22, 2000. The SIP became effective on May 18, 2000 with respect to priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments on February 24, 2005 that became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

K. **Compliance Schedules and Interim Requirements**. Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plans, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations since the WWRF is a new discharge source.

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, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As described 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. **Anti-Backsliding Requirements**. Sections 402(o)(1) 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. This revised Order changes the turbidity effluent limitations to operational specifications. In addition, the operational specifications for turbidity in this revised Order are less stringent than the turbidity effluent limitations contained in the original Order (Order No. R5-2006-0090). As described in the Fact Sheet, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

N. **Monitoring and Reporting**. Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E. To meet the requirements of the SIP, priority pollutant data are needed to conduct a reasonable potential analysis. This Order also requires the discharger to provide a priority pollutant evaluation. A detailed rationale for the need of a priority pollutant evaluation is contained in the Fact Sheet (Attachment F).

O. **Standard and Special Provisions**. Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. This Order includes 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).

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

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

R. **Applicable Plans, Policies, and Regulations**. 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 CFR 131.21, 65 FR 24641, April 27, 2000). Under USEPA's new regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved 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.

S. **Finding for No More Stringent than Federal Law**. This Order contains restrictions on individual pollutants that are no more stringent than required by the federal Clean Water Act. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on flow, BOD, TSS, settleable solids, total coliform, total residual chlorine, ammonia, nitrate, and total nitrogen. Restrictions on flow, BOD, TSS, settleable solids, total coliform, turbidity, total residual chlorine, ammonia, nitrate, and total nitrogen are no more stringent than required by the Clean Water Act. 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 California Toxics Rule, the California Toxics Rule is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was

approved by USEPA on May 1, 2001. Beneficial uses and water quality objectives contained in the San Joaquin Basin Plan that were used in the development of water quality-based effluent limitations were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the Clean Water Act and the applicable water quality standards for purposes of the Clean Water Act.

T. **Sanitary Sewer System Requirements**. The State Water Board adopted the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. 2006-0003-DWQ) on 2 May 2006. The General Order prescribes waste discharge requirements for discharges from sanitary sewer systems greater than one mile in length that convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California. The Discharger is required to obtain coverage under General Order No. 2006-0003-DWQ.

III. DISCHARGE PROHIBITIONS

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

B. By-pass or overflow of wastes is prohibited, except as allowed by Standard Provision I.G. of Attachment D, Federal Standard Provisions.

C. The discharge or treatment that creates a nuisance as defined in Section 13050 of the California Water Code is prohibited.

D. Discharge to the eastern cell of Basin DE is prohibited if the eastern cell of Basin DE is within 500 feet of any public water supply well.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. The discharge of disinfected tertiary effluent shall maintain compliance with the following effluent limitations at Discharge Point 001:

Parameter	Units	Effluent Limitations					Compliance Monitoring Location[2]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	mgd	0.71	--	1.07	--	--	M-002
BOD 5-day @ 20ºC	mg/L	10	15	20	--	--	M-002
	lbs/day[1]	59	89	118	--	--	M-002
	% removal	90	--	--	--	--	M-INF, M-002

Parameter	Units	Effluent Limitations					Compliance Monitoring Location[2]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Total Suspended Solids	mg/L	10	15	20	--	--	M-002
	lbs/day	59	89	118	--	--	M-002
	% removal	90	--	--	--	--	M-INF, M-002
Settleable Solids	ml/L	--	--	0.1	--	--	M-002
pH	standard units	--	--	--	6.5	8.5	M-002
Ammonia Nitrogen, Total (as N)	mg/L	2	--	--	--	--	M-001
	lbs/day[1]	12	--	--	--	--	M-001
Nitrate Nitrogen, Total (as N)	mg/L	8	--	--	--	--	M-002
	lbs/day[1]	47	--	--	--	--	M-002
Nitrogen, Total (as N)	mg/L	10	--	--	--	--	M-002
	lbs/day[1]	59	--	--	--	--	M-002

[1] Based upon a design treatment capacity of 0.71 mgd (40 CFR 122.45(b)(1)).
[2] Refer to Monitoring and Reporting Program (Attachment E) for monitoring location descriptions.

b. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters. Compliance shall be determined at M-002 (see Monitoring and Reporting Program, Attachment E).

c. The maximum electrical conductivity (EC)(at 25°C) of the discharge shall not exceed the flow-weighted average EC (at 25°C) of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow-weighted average for the source water shall be the average for the most recent semi-annual period. When source water is from more than one source, the EC shall be a weighted average of all sources. Compliance shall be evaluated based on water supply monitoring and monitoring at M-002 (see Monitoring and Reporting Program, Attachment E).

d. The effluent total residual chlorine at Monitoring Location M-001 shall not exceed a 4-day average concentration of 0.01 mg/L, and shall not exceed a 1-hour average concentration of 0.02 mg/L. Compliance shall be determined at M-001.

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

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

Compliance shall be determined at M-001.

2. Interim Effluent Limitations - (Not Applicable)

B. Land Discharge Specifications – (Not Applicable)

C. Reclamation Specifications – Discharge Point 002

1. The discharge of disinfected tertiary recycled water shall maintain compliance with the following limitations at Discharge Point 002:

Parameter	Units	Effluent Limitations					Compliance Monitoring Location[2]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	mgd	0.71	--	1.07	--	--	M-002
BOD 5-day @ 20ºC	mg/L	10	15	20	--	--	M-002
	lbs/day[1]	59	89	118	--	--	M-002
	% removal	90	--	--	--	--	M-INF, M-002
Total Suspended Solids	mg/L	10	15	20	--	--	M-002
	lbs/day[1]	59	89	118	--	--	M-002
	% removal	90	--	--	--	--	M-INF, M-002
Settleable Solids	ml/L	--	--	0.1	--	--	M-002
pH	standard units	--	--	--	6.5	8.5	M-002
Nitrogen, Total (as N)	mg/L	10	--	--	--	--	M-002
	lbs/day[1]	59	--	--	--	--	M-002

[1] Based upon a design treatment capacity of 0.71 mgd.
[2] Refer to Monitoring and Reporting Program (Attachment E) for monitoring location descriptions.

2. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters. Compliance shall be determined at M-002 (see Monitoring and Reporting Program, Attachment E).

3. The maximum electrical conductivity (EC) (at 25°C) of the discharge shall not exceed the flow-weighted average EC (at 25°C) of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow-weighted average for the source water shall be the average for the most recent semi-annual period. When source water is from more than one source, the EC shall be a weighted average of all sources. Compliance shall be evaluated based on water supply monitoring and monitoring at M-002 (see Monitoring and Reporting Program, Attachment E).

4. Use of recycled water shall comply with all the terms and conditions of the most current Title 22 regulations.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

1. **Dissolved Oxygen**. Concentrations of dissolved oxygen to fall below 7 mg/L. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95th percentile concentration shall not fall below 75 percent of saturation.

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

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

4. **pH**. The ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.

5. **Temperature**. The natural receiving water temperature to increase more than 5ºF.

6. **Settleable Matter**. Substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

7. **Radioactivity**.

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

   b. Concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of section 64443 of Title 22 of the CCR.

8. **Toxicity**. Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

9. **Biostimulatory Substances**. Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

10. **Floating Material**. Floating material in amounts that cause nuisance or adversely affect beneficial uses.

11. **Suspended Sediment**. Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.

12. **Taste and Odor**. Taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.

13. **Turbidity**. Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:

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

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

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

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

14. **Pesticides**.

    a. Pesticides in individual or combined concentrations that adversely affect beneficial uses.

    b. Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.

    c. Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.

    d. Concentrations exceeding those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40CFR 131.12.)

    e. Concentrations exceeding the lowest levels technically and economically achievable.

    f. Concentrations exceeding the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

    g. Concentrations of thiobencarb in excess of 1.0 µg/L

15. **Salinity**. The electrical conductivity to exceed 150 µmhos/cm (90th percentile).

16. Esthetically undesirable discoloration.

17. Fungi, slimes, or other objectionable growths that adversely affect beneficial uses.

B. Groundwater Limitations

1. Groundwater affected by waste constituents released from any storage, treatment, or reuse component of the WWRF shall, in conjunction with the freshwater recharge sources identified and evaluated by this Order, comply with the following limitations concerning its physical properties and constituent concentrations:

Parameter	Units	Groundwater Limitations		
		Annual Average	Instantaneous Minimum	Instantaneous Maximum
Total Dissolved Solids[1]	mg/L	315	--	--
pH	pH Units	--	6.5	8.5

[1] A cumulative constituent comprised of dissolved matter consisting mainly of inorganic salts, small amounts of organic matter, and dissolved gases (e.g., ammonia, bicarbonate alkalinity, boron, calcium, chloride, copper, iron, magnesium, manganese, nitrate, phosphorus, potassium, sodium, silica, sulfate, total alkalinity).

VI. PROVISIONS

A. Standard Provisions

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

   In accordance with 40 CFR 123.25(a)(12), Regional Water Board enforcement of this permit will occur under the provisions established in Sections 13385, 13386, and 13387 of the CWC, as they are as stringent or more stringent than those in 40 CFR 122.41(a)(2), 122.41(a)(3), 122.41(j)(5), and 122.41(k)(2).

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

   a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by the California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 14.

   b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

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

      ii. Obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

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

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

      The causes for modification include:

      i. **New regulations.** New regulations have been promulgated under section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based

have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

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

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

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

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

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

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

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

ii. Controls any pollutant limited in the Order.

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

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

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

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

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

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

j. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the CWC Section 13050.

k. Safeguard to electric power failure:

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

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

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

l. The Discharger, upon written request of the Regional Water Board, shall file with the Regional Water Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

   The technical report shall:

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

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

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

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

m. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

i. Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste.

ii. Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.

iii. Significantly changing the method of treatment.

iv. Increasing the discharge flow beyond that specified in the Order.

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

o. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a

noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

Unless otherwise specified, all metals shall be reported as Total Metals.

Unless otherwise specified, all bioassays shall be performed in the following manner:

i. Acute bioassays shall be performed in accordance with guidelines approved by the Regional Water Board and the Department of Fish and Game or in accordance with methods described in USEPA's manual for measuring acute toxicity of effluents (EPA-821-R-02-012 and subsequent amendments).

ii. Short-term chronic bioassays shall be performed in accordance with USEPA guidelines (EPA-821-R-02-013 and subsequent amendments).

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

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

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

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

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

u. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or be imprisoned for not more than two years per violation, or by both.

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

B. Monitoring and Reporting Program Requirements

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

C. Special Provisions

1. Reopener Provisions

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

b. **Whole Effluent Toxicity**. As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board adopts a numeric chronic toxicity water quality objective, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

c. If after review of monitoring results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, this Order will be reopened and effluent and/or groundwater limitations added for the subject constituents.

d. **Dilution Credits**. No dilution has been granted in this Order, thus end-of-pipe effluent limitations for all pollutants and waste constituents are required. As discussed in the Fact Sheet, Section IV.C.2.b., the Discharger has not provided adequate information for the allowance of dilution credits. Should the Discharger present a thorough demonstration that seasonal dilution credits can be applied without adversely impacting water quality, this Order may be reopened and alternative effluent limitations considered.

e. This Order may be reopened and modified if information not available at the time of permit issuance becomes available, and the new information would have justified different permit conditions at the time of issuance.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity**. For compliance with the San Joaquin Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, this Provision requires the Discharger to

investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and also procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Toxicity Reduction Evaluation (TRE) Work Plan**. **By 21 March 2007**, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan shall be developed in accordance with EPA guidance[1] and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.

ii. **Numeric Monitoring Trigger**. The numeric toxicity monitoring trigger is > **1 TUc** (where TUc = 100/NOEC) for any test species. The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated monitoring to confirm effluent toxicity and initiate a TRE. The accelerated monitoring specifications are described in subsection iv below.

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

iv. **Accelerated Monitoring Specifications**. If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of three (3) monthly chronic toxicity tests using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

a) If the results of three (3) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the

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

accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

b) If the source(s) of the toxicity is easily identified (i.e. temporary facility upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until three (3) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

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

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

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

3) A schedule for these actions.

b. **Priority Pollutant Evaluation**. The Discharger shall submit **between 180 days and 365 prior to the expiration of this Order** a technical report that proposes effluent limits for all CTR constituents showing a reasonable potential to cause or contribute to an exceedance of a water quality objective in the San Joaquin River. The reasonable potential analysis shall be consistent with the State Implementation Policy for all detected constituents. The technical report shall document the reasonable potential analysis and all supporting calculations. Provision VI.C.8.e. requirements apply to the technical report.

c. **Post-Construction Report**. **At least 30 days prior to start-up**, the Discharger shall submit a post-construction report certifying that the WWRF was designed and constructed to operate in full compliance with the terms of this Order. The post construction report is subject to Provision VI.C.8.e. and shall clearly note any deviations from the WWRF design presented in the Report of Waste Discharge.

3. Best Management Practices and Pollution Prevention – (Not Applicable)

4. Compliance Schedules – (Not Applicable)

5. Construction, Operation and Maintenance Specifications

a. WWRF

i. The Discharger shall maximize, consistent with Construction, Operation and Maintenance Specification VI.C.5.c.xv, reclamation of wastewater so that discharges to Basin DE occur only when irrigation of the golf course is not necessary (i.e., saturated soil conditions) and storage capacity has been reached.

ii. All wastewater discharged shall be oxidized, coagulated (if necessary), filtered, and disinfected.

iii. The maximum filtration rate shall not exceed 6 gpm/ft^2.

iv. The chlorine disinfection process following filtration shall provide a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

v. Objectionable odors originating at the WWRF shall not be perceivable beyond the limits of the waste treatment areas and effluent storage pond at an intensity that creates or threatens to create nuisance conditions.

vi. The Discharger shall comply with all the terms and conditions of the most current Title 22 regulations pertaining to the production and use of recycled water.

vii. When coagulation is used, the effluent turbidity measured at F-002 (see Monitoring and Reporting Program, Attachment E) shall not exceed any of the following:

a). An average of 2 NTU within a 24-hour period;

b.) 5 NTU more than 5 percent of the time within a 24-hour period; and

c.) 10 NTU at any time.

viii. When coagulation is not used (i.e., direct filtration mode):

a.) The turbidity of the influent to the filtration unit measured at F-001 (see Monitoring and Reporting Program, Attachment E) shall not exceed 5 NTU for more than 15 minutes and never exceed 10 NTU.

b.) The effluent turbidity measured at F-002 (see Monitoring and Reporting Program, Attachment E) shall not exceed 2 NTU at any time.

b. Effluent Storage Pond Operating Requirements

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

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

b) Weeds shall be minimized.

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

d) Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the **April 1 to June 30** bird nesting season.

c. **Recycled Water Use Area Requirements**

i. Use of recycled water shall be limited to the Copper River Country Club golf course and the vegetated areas within Basin DE.

ii. Spray irrigation with recycled water when wind velocities either exceed 30 mph or cause recycled water to drift outside the recycled water use area is prohibited.

iii. Direct or windblown spray of recycled water shall be prevented from entering outdoor eating areas, dwellings, drinking water facilities, food handling facilities, and other locations where the public may be present.

iv. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors and to avoid creation of a public nuisance or health hazard.

v. Irrigation with recycled water shall not take place within 50 feet of any domestic water supply well.

vi. No domestic water supply wells shall exist within 100 feet of the effluent storage pond.

vii. Any irrigation runoff shall be confined to the recycled water use area.

viii. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

ix. 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”. Each sign shall display an international symbol similar to that shown in Attachment G.

x. Except as allowed under Section 7604 of Title 17, California Code of Regulations, no physical connection shall be made or allowed to exist between any reclaimed water system and any separate system conveying potable water.

xi. All recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All recycled water distribution system piping shall be purple or adequately wrapped with purple tape.

xii. The portions of the reclaimed water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the reclaimed water piping system in areas subject to public access.

xiii. Irrigation of the recycled water use area shall only occur between 9:00 p.m. and 6:00 a.m. and when weather conditions and agronomic needs dictate. Hand watering of the golf course, with a hose, using recycled water in conjunction with typical irrigation and irrigation system testing activities may be permitted during the day, provided that applications are supervised by appropriate golf course personnel and all golfers, pedestrians, and other members of the general public are precluded from entering irrigated areas until all applied recycled water has infiltrated the soil.

xiv. Workers shall be informed of the potential health hazards involved with contact or ingestion of recycled water, and shall be educated regarding proper hygienic procedures to ensure personal and public safety.

xv. Application of recycled water to the recycled water use area shall not exceed what is reasonably necessary for the grass, soil, climate, and management system (i.e., generally accepted agronomic rates).

xvi. Recycled water controllers, valves, etc., shall be affixed with recycled water warning signs, and the quick couplers and sprinkler heads shall be of a type, or secured in a manner that permits operation by authorized personnel only.

xvii. Score cards shall indicate that recycled water is used for irrigation.

xviii. All terms and conditions of the most current Title 22 regulations pertaining to the recycled water use area shall be met.

6. Special Provisions for Municipal Facilities (POTWs Only)

a. Sanitary Sewer System Overflow Requirements – (Not Applicable)

b. Sludge/Solid Wastes/Biosolids Requirements

Sludge 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 screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWRF. 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, horticulture, and land reclamation activities.

i. Sludge and solid waste shall be removed from screens, sumps, ponds, reactors, etc. as needed to ensure optimal plant operation.

ii. Treatment and storage of sludge generated by the WWRF shall be conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations.

iii. Any storage of residual sludge and solid wastes on property of the WWRF shall be temporary and controlled and contained in a manner that minimizes leachate

formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations.

iv. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27 of the California Code of Regulations. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, WWRF, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water board will satisfy this specification.

v. Use and disposal of biosolids should comply with the self-implementing federal regulations of 40 CFR 503, which are subject to enforcement 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.

c. **Pretreatment Program**

i. The City of Fresno shall implement and enforce its existing, approved POTW Pretreatment Program for the cities of Fresno and Clovis to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:

a) Wastes which create a fire or explosion hazard in the treatment works;

b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5, unless the works is specially designed to accommodate such wastes.

c) Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;

d) Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;

e) Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40 °C (104 °F), unless the treatment works is designed to accommodate such heat;

f) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and

h) Any trucked or hauled pollutants, except at points pre-designated by the Discharger.

ii. The City of Fresno shall implement and enforce its existing, approved POTW Pretreatment Program for the cities of Fresno and Clovis to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:

a) Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or

b) Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

7. Special Provisions for the Fresno Metropolitan Flood Control District

a. Notwithstanding the identification of Discharger in Finding II.B, the Fresno Metropolitan Flood Control District shall only be subject to the following components of this Order:

i. Discharge Prohibition III.A and III.C

ii. Receiving Water Limitations V.A

iii. Provisions VI.A, VI.C.5.c, and VI.C.8 (except c and d)

8. Other Special Provisions

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

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (559) 445-5116 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Federal Standard Provision V.E.1.

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

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

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

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

ATTACHMENT A – DEFINITIONS

Acute Toxic Unit (TU_a): the reciprocal of the effluent concentration that causes 50 percent of the organisms to die in an acute toxicity test ($TU_a = 100/LC_{50}$) (see LC_{50}).

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.

Chronic Toxic Unit (TU_c): the reciprocal of the effluent concentration that causes no observable effect on the test organisms in a chronic toxicity test ($TU_c = 100/NOEC$) (see NOEC)

Continuous Monitoring: continuous monitoring is defined as one data point or more every minute.

Daily Discharge: the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) for a constituent with limitations expressed in units of mass or the arithmetic mean measurement of the constituent over the calendar 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 calendar day or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the calendar day.

Effect Concentration: a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). A point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms is usually referred to as EC_{25}.

Inhibition Concentration (IC): a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g. reproduction or growth), calculated from a continuous model (e.g. Interpolation Method). IC_{25} is a point estimate of the toxicant concentration that would cause a 25 percent reduction in a non-lethal biological measurement.

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).

LC_{50}, Lethal Concentration, 50 percent: the toxic or effluent concentration that would cause death in 50 percent of the test organisms over a specified period of time.

LOEC, Lowest Observed Effect Concentration: the lowest concentration of an effluent or toxicant that results in adverse effects on the test organism (i.e. where the values for the observed endpoints are statistically different from the control).

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

NOEC, No Observed Effect Concentration: the highest tested concentration of an effluent or test sample whose effect is not different from the control effect, according to the statistical test used (see LOEC). The NOEC is usually the highest tested concentration of an effluent or toxic that causes no observable effects on the test organisms (i.e. the highest concentration of toxicity at which the values for the observed responses do not statistically differ from the controls).

Peak Dry Weather Design Flow: The arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as periods of little or no rainfall.

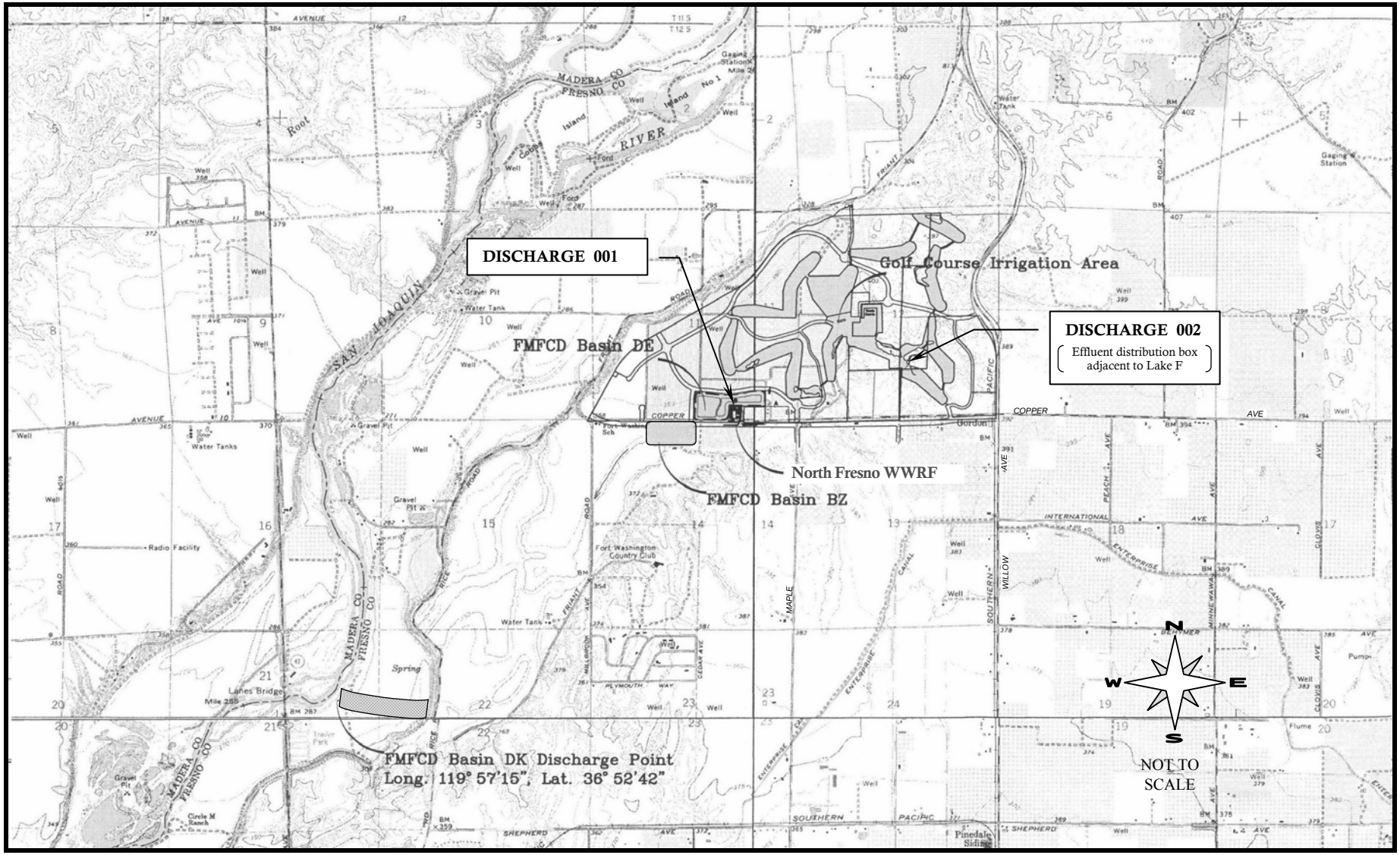
Sanitary Sewer Overflow: The intentional or unintentional diversion of flow from the sanitary sewer system.

Sanitary Sewer System: Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility.

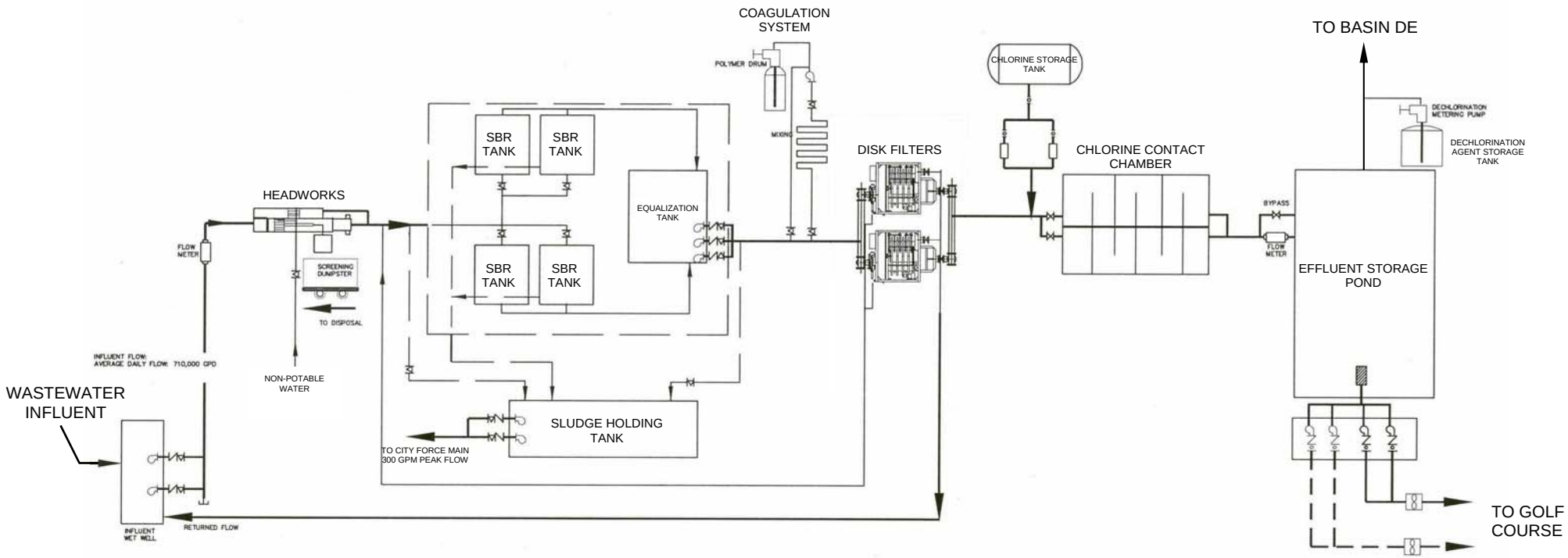
Toxicity Test: the procedure using living organisms to determine whether a chemical or an effluent is toxic. A toxicity test measures the degree of the effect of a specific chemical or effluent on exposed test organisms.

Toxic Unit: the measure of toxicity in an effluent as determined by the acute toxic units (TU_a) or chronic toxic units (TU_c) measured. The larger the TU, the greater the toxicity.

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)*].

E. Property Rights

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

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

F. Inspection and Entry

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

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

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

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

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

G. Bypass

1. Definitions

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

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

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 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 permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR 122.41(n)(1)*].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of 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 (see Section VI.C.8.d. of the permit). 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 136 or, in the case of sludge use or disposal, approved under 40 CFR 136 unless otherwise specified in 40 CFR 503, or as 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 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR 122.41(j)(2)*].

B. Records of monitoring information shall include:

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

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

1. The name and address of any permit applicant or Discharger [*40 CFR 122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR 122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with 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)*];

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

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

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in paragraph (2.) of this provision [*40 CFR 122.22(b)(1)*];

   b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be

either a named individual or any individual occupying a named position) [*40 CFR 122.22(b)(2)*]; and

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

4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [*40 CFR 122.22(c)*].

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

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

C. Monitoring Reports

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

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

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

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

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

   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 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 State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR 122.41(l)(2)]*.

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C., V.D., and V.E. 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, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR 122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT – (NOT APPLICABLE)

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR 122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR 122.42(a)(1)*]:

    a. 100 micrograms per liter (µg/L) [*40 CFR 122.42(a)(1)(i)*];

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR 122.42(a)(1)(ii)*];

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR 122.42(a)(1)(iii)*]; or

d. The level established by the Regional Water Board in accordance with 40 CFR 122.44(f) [*40 CFR 122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR 122.42(a)(2)*]:

a. 500 micrograms per liter (µg/L) [*40 CFR 122.42(a)(2)(i)*];

b. 1 milligram per liter (mg/L) for antimony [*40 CFR 122.42(a)(2)(ii)*];

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR 122.42(a)(2)(iii)*]; or

d. The level established by the Regional Water Board in accordance with 40 CFR 122.44(f) [*40 CFR 122.42(a)(2)(iv)*].

B. Publicly-Owned Treatment Works (POTWs)

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

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

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

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

Attachment E – Monitoring and Reporting Program – Table of Contents

Attachment E – Monitoring and Reporting Program (MRP) E-2
I. General Monitoring Provisions E-2
II. Monitoring Locations E-3
III. Influent Monitoring Requirements E-4
A. Monitoring Location M-INF E-4
IV. Effluent Monitoring Requirements E-4
A. Monitoring Location M-001 ..... E-4
B. Monitoring Location M-002 ..... E-5
V. Whole Effluent Toxicity Testing Requirements E-6
VI. Land Discharge Monitoring Requirements – (Not applicable) E-8
VII. Reclamation Monitoring Requirements E-8
A. Monitoring Location M-002 ..... E-8
B. Monitoring Location M-003 ..... E-8
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater E-8
A. Monitoring Location R-001 ..... E-8
B. Monitoring Location R-002 ..... E-9
C. Monitoring Location G-001, G-002, and G-003 ..... E-9
IX. Other Monitoring Requirements E-10
A. Turbidity Monitoring (F-001 and F-002) E-10
B. Filtration Rate Monitoring E-10
C. Water Supply Monitoring E-10
D. Effluent Storage Pond Monitoring E-11
E. Recycled Water Use-Area Monitoring E-11
F. FMFCD Basin DE Monitoring (DE-INF) E-11
X. Reporting Requirements E-12
A. General Monitoring and Reporting Requirements E-12
B. Self Monitoring Reports (SMRs) E-12
C. Discharge Monitoring Reports (DMRs) E-13
D. Other Reports E-14

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

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

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

C. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

1. "A Guide to Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)

2. "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)

3. "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

4. "NPDES Compliance Sampling Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

D. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

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

F. If a discharge is intermittent rather than continuous, the Discharger shall monitor and record data on the first day of each intermittent discharge and thereafter the frequencies in the schedule shall apply. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

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:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-INF	WWRF influent prior to any treatment.
001	M-001	Outlet of the effluent storage pond after dechlorination equipment and prior to discharge to Basin DE.
001 and 002	M-002	After all treatment units and prior to discharge to effluent storage pond.
002	M-003	After the effluent storage pond pumps and prior to discharge to the effluent distribution box at Copper River Country Club golf course Lake F.
--	R-001	With Regional Water Board staff concurrence, on the San Joaquin River, at a location representative of the water quality immediately upstream of the Drainage Area DK outfall.
--	R-002	With staff concurrence, on the San Joaquin River downstream of the Drainage Area DK outfall at a location representative of the influence of Drainage Area DK discharges.
--	G-001	Groundwater monitoring well MW-1.
--	G-002	Groundwater monitoring well MW-2.
--	G-003	Groundwater monitoring well MW-3.
001 and 002	F-001	After the equalization tank and prior to entering the filtration unit.
001 and 002	F-002	After the filtration unit and prior to entering the chlorine contact chamber.
--	DE-INF	Storm water inlet to Basin DE eastern cell.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-INF

1. The Discharger shall monitor influent to the WWRF at M-INF. Samples shall be collected at approximately the same time as effluent samples and shall be representative of the influent. Influent monitoring shall include at least the following:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Metered	Continuous	[1]
BOD 5-day @ 20ºC	mg/L	24-hour Composite[2]	1/Week	[1]
Total Suspended Solids	mg/L	24-hour Composite[2]	1/Week	[1]
Settleable Solids	ml/L	Grab	1/Week	[1]
pH	standard units	Grab	1/Day	[1]
Electrical Conductivity @ 25ºC	µmhos/cm	24-hour Composite[2]	3/Week	[1]

[1] Samples shall be analyzed using the methods and procedures described in the Code of Federal Regulations, Title 40, Part 136. The Discharger shall use a Department of Health Services licensed laboratory capable of providing method detection limits and minimum levels sufficient to determine compliance with effluent limitations.
[2] Composite samples must be flow-proportioned and consist of at least 8 individual aliquots.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001

1. The Discharger shall monitor effluent from the WWRF effluent storage pond to Basin DE at M-001 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Metered	Continuous	[1]
Chlorine, Total Residual	mg/L	Grab	1/Day	[1]
Temperature	ºC or ºF	Grab	1/Day	[1]
pH	standard units	Grab	1/Day	[1]
Ammonia Nitrogen, Total (as N)[2]	mg/L	24-hour Composite[5]	1/Week	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	[1]
Acute Toxicity[3,4]	% survival	24-hour Composite[5]	1/Quarter	[1]
Oil and Grease	mg/L	Grab	1/Month	[1]
MBAS	µg/L	Grab	1/Semi-annual period	[1]

[1] Samples shall be analyzed using the methods and procedures described in the Code of Federal Regulations, Title 40, Part 136. The Discharger shall use a Department of Health Services licensed laboratory capable of providing method detection limits and minimum levels sufficient to determine compliance with effluent limitations.
[2] pH and temperature shall be determined at the time the sample is taken for ammonia analysis.
[3] The acute bioassays samples shall be analyzed using methods in EPA-821-R-02-012, Fifth Edition, or later amendment with Board staff approval. Temperature and pH shall be recorded at the time of bioassay sample collection. Test species shall be fathead minnows.
[4] The Discharger shall notify the Regional Water Board within 24-hrs from the time the Discharger becomes aware of an exceedance of the acute toxicity effluent limitation.
[5] Composite samples must be flow-proportioned and consist of at least 8 individual aliquots.

B. Monitoring Location M-002

1. The Discharger shall monitor effluent at M-002 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Metered	Continuous	[1]
Total Coliform	MPN/100 ml	Grab	1/Day	[1]
Settleable Solids	ml/L	Grab	1/Day	[1]
pH	standard units	Grab	1/Day	[1]
BOD 5-day @ 20ºC	mg/L	24-hour Composite[7]	3/Week[2]	[1]
	lbs/day	Calculation	3/Week[2]	[1]
	% removal	Calculation	3/Week[2]	[1]
Total Suspended Solids	mg/L	24-hour Composite[7]	3/Week[2]	[1]
	lbs/day	Calculation	3/Week[2]	[1]
	% removal	Calculation	3/Week[2]	[1]
Chlorine, Total Residual[8]	mg/L	Metered	Continuous	[1]
Electrical Conductivity @ 25ºC	µmhos/cm	24-hour Composite[7]	3/Week[2]	[1]
Total Dissolved Solids (TDS)	mg/L	24-hour Composite[7]	1/Week	[1]
Nitrogen, Total (as N)	mg/L	24-hour Composite[7]	1/Week	[1]
Nitrate Nitrogen, Total (as N)	mg/L	24-hour Composite[7]	1/Week	[1]
Chlorodibromomethane	µg/L	Grab	1/Quarter[9]	[1]
Dichlorobromomethane	µg/L	Grab	1/Quarter[9]	[1]
Chloroform	µg/L	Grab	1/Quarter[9]	[1]
Bromoform	µg/L	Grab	1/Quarter[9]	[1]
Standard Minerals[3]	mg/L	Grab	1/Semi-annual period[4]	[1]
Priority Pollutants[5]	µg/L	Grab	1/Semi-annual period[4]	[1]
Dioxin[6]	µg/L	Grab	1/Year	[1]

[1] Samples shall be analyzed using the methods and procedures described in the Code of Federal Regulations, Title 40, Part 136. The Discharger shall use a Department of Health Services licensed laboratory capable of providing method detection limits and minimum levels sufficient to determine compliance with effluent limitations.

[2] Non-consecutive days

[3] Standard minerals shall include: total dissolved solids, all major cations and anions, and a verification that the analysis is complete (i.e. cation/anion balance).

[4] November and April

[5] Detection limits shall be equal to or less than the lowest minimum level published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan).

[6] The Discharger shall test effluent for each of the 17 TCDD congeners listed in Table 4, *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). The Discharger shall report the analytical results of the effluent monitoring for each congener, including the minimum quantifiable level (ML) and the minimum detection level (MDL), and the measured or estimated concentration. The Discharger shall multiply each measured or estimated congener concentration by its respective toxicity equivalence factor (TEF) value and report the sum of these values. Reporting shall conform with SIP Reporting Requirements Section 2.4 et seq.

[7] Composite samples must be flow-proportioned and consist of at least 8 individual aliquots.

[8] The minimum total chlorine residual concentration for each calendar day shall be reported in the monthly self monitoring reports. The CT values (the product of total chlorine residual and modal contact time measured at the

same point) for the following conditions shall be reported in the monthly self monitoring reports for each calendar day: (1) the modal contact time at the peak daily flow rate and the corresponding chlorine residual at that time; (2) the minimum total chlorine residual concentration and the corresponding modal contact time; (3) the maximum total residual chlorine concentration and the corresponding modal contact time; and (4) the modal contact time at the minimum daily flow rate and the corresponding total chlorine residual concentration.

[9] Quarterly monitoring for this constituent is only required for the first year of WWRF operation. Subsequent monitoring for this constituent shall be conducted as part of the priority pollutant monitoring requirements.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

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

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

2. *Sample Types* – Effluent samples shall be 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location M-001. The control shall be laboratory water.

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

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

   - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
   - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
   - The green alga, *Selenastrum capricornutum* (growth test).

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

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

7. *Dilutions* – The chronic toxicity testing shall be performed using the dilution series identified in Table E-1, below. The laboratory water control shall be used as the diluent.

8. *Test Failure* – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days from the time the Discharger becomes aware of the test failure. A chronic toxicity test fails if:

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

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

Table E-1
Chronic Toxicity Testing Dilution Series

SAMPLE	Dilutions (%)					Control
	100	75	50	25	12.5	Laboratory Water[1]
% Effluent	100	75	50	25	12.5	0
% Laboratory Water[1]	0	25	50	75	87.5	100

[1] Laboratory water shall meet EPA protocol requirements.

B. WET Testing Notification Requirements. The Discharger shall notify the Regional Water Board within 24-hrs from the time the Discharger becomes aware of the test results exceeding the monitoring trigger during regular or accelerated monitoring.

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

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

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

   b. The statistical methods used to calculate endpoints;

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

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

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

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

2. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.
3. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:
   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
   c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – (NOT APPLICABLE)

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Location M-002

1. The Discharger shall monitor disinfected tertiary recycled water at M-002 as follows:

   See Section IV.B.1.

B. Monitoring Location M-003

1. The Discharger shall monitor disinfected tertiary recycled water at M-003 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Metered	Continuous	

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location R-001

1. Samples shall be grab samples. The Discharger shall monitor the San Joaquin River at Monitoring Location R-001 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	standard units	Grab	1/Semi-annual period[2]	[1]
Temperature	°C or °F	Grab	1/Semi-annual period[2]	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Semi-annual period[2]	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Semi-annual period[2]	[1]
Priority Pollutants[3]	µg/L	Grab	1/Semi-annual period[2]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Dissolved Oxygen	mg/L	Grab	1/Semi-annual period[2]	[1]
Turbidity	NTU	Grab	1/Semi-annual period[2]	[1]
Fecal Coliform	MPN/100 mL	Grab	1/Semi-annual period[2]	[1]

[1] Samples shall be analyzed using the methods and procedures described in the Code of Federal Regulations, Title 40, Part 136

[2] Sampling is required when there are discharges from Drainage Area DK and shall be concurrent with sampling at R-002. If there are no discharges from Drainage Area DK during a calendar year, at least one sample per calendar year shall be collected and analyzed for the constituents listed in the above table.

[3] Detection limits shall be equal to or less than the lowest minimum level published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan).

B. Monitoring Location R-002

1. Samples shall be grab samples. The Discharger shall monitor the San Joaquin River at Monitoring Location R-002 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Dissolved Oxygen	mg/L	Grab	1/Semi-annual period[2]	[1]
Turbidity	NTU	Grab	1/Semi-annual period[2]	[1]
Fecal Coliform	MPN/100 mL	Grab	1/Semi-annual period[2]	[1]
pH	standard units	Grab	1/Semi-annual period[2]	[1]
Temperature	°C or °F	Grab	1/Semi-annual period[2]	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Semi-annual period[2]	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Semi-annual period[2]	[1]

[1] Samples shall be analyzed using the methods and procedures described in the Code of Federal Regulations, Title 40, Part 136

[2] Sampling is only required when there are discharges from Drainage Area DK and shall be concurrent with sampling at R-001.

C. Monitoring Location G-001, G-002, and G-003

1. The Discharger shall monitor groundwater at G-001, G-002, and G-003. Prior to sampling, the depth to groundwater shall be measured and the wells shall be purged of at least three well volumes until pH and electrical conductivity have stabilized. Samples shall be collected using standard USEPA methods. If additional groundwater monitoring wells are installed, they will be automatically added to the monitoring and reporting program and shall be monitored as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Groundwater Elevation[1]	feet	Calculation	1/Quarter	[4]
Depth to Groundwater[1]	feet	Measurement	1/Quarter	[4]
pH	standard units	Grab	1/Quarter	[4]
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Quarter	[2, 4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[4]
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter	[4]
Nitrogen, Total (as N)	mg/L	Calculated	1/Quarter	[4]
Boron	mg/L	Grab	1/Quarter	[4]
Standard Minerals[3]	mg/L	Grab	1/Quarter	[4]

[1] Groundwater elevation shall be expressed in feet (to the nearest hundredth of a foot) relative to mean sea level and shall be used to calculate the direction and gradient of groundwater flow. The depth to groundwater shall be measured prior to purging the wells and shall be measured to the nearest one-hundredth of a foot.

[2] A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions.

[3] Standard minerals shall include: total dissolved solids, all major cations and anions, and a verification that the analysis is complete (i.e. cation/anion balance).

[4] Samples shall be analyzed using USEPA-approved methods, Standard Methods, or ASTM methods. Any other proposed methods are subject to Executive Officer approval. The Discharger shall use a Department of Health Services licensed laboratory capable of providing method detection limits and minimum levels sufficient to determine compliance with groundwater limitations.

IX. OTHER MONITORING REQUIREMENTS

A. Turbidity Monitoring (F-001 and F-002)

1. The Discharger shall monitor effluent at F-001 and F-002 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency
Turbidity	NTU	Metered	Continuous

2. The Discharger shall report the following in the monthly self monitoring reports:

   a. The maximum influent turbidity measurement (monitored at F-001) for each calendar day.

   b. The maximum effluent turbidity measurement (monitored at F-002) for each calendar day.

B. Filtration Rate Monitoring

The Discharger shall monitor the filtration rate through the tertiary treatment system and report the maximum daily filtration rate 1/day.

C. Water Supply Monitoring

The Discharger shall monitor the municipal water supply for the area served by the WWRF. Sampling stations shall be established where representative samples of each municipal water supply source can be obtained. The water supply monitoring shall include at least the following for each sampling station:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Electrical Conductivity @ 25°C[1]	µmhos/cm	Grab	1/Semi-annual period	[3]
Standard Minerals[1,2]	mg/L	Grab	1/Semi-annual period	[3]

[1] If the water supply is from more than one source, the EC and TDS shall be reported as a weighted average and include copies of supporting calculations.
[2] Standard minerals shall include: total dissolved solids, all major cations and anions, and a verification that the analysis is complete (i.e. cation/anion balance).
[3] Samples shall be analyzed using USEPA-approved methods, Standard Methods, or ASTM methods. Any other proposed methods are subject to Executive Officer approval.

D. Effluent Storage Pond Monitoring

The Discharger shall inspect the condition of effluent storage pond once per month and write visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; and whether burrowing animals or insects are present. The Discharger shall also note observations of the liner condition and any conditions that may compromise the integrity of the liner.

E. Recycled Water Use-Area Monitoring

Applications of water and/or recycled water (in acre-feet) and chemical and/or organic fertilizers (in pounds of nitrogen per acre) to the Recycled Water Use-Area shall be measured and reported to the Regional Water Board (see Section X.D.1 below).

F. FMFCD Basin DE Monitoring (DE-INF)

Samples shall be grab samples and representative of storm water entering Basin DE. The Discharger shall monitor the storm water runoff entering the eastern cell of Basin DE for one storm event per month during the wet weather season (October 15 – April 15). A storm event is defined as precipitation generating enough storm water runoff volume to collect a grab sample for the constituents listed in the table below. If no storm event occurs that meets this definition during a calendar month, the first storm event of the following month shall be monitored. The Discharger shall monitor the storm water runoff entering the eastern cell of Basin DE at DE-INF as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency[4]	Required Test Method
Total Coliform	MPN/100 ml	Grab	1/Month	[1]
pH	standard units	Grab	1/Month	[1]
Temperature	°C or °F	Grab	1/Month	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1]
Ammonia Nitrogen, Total (as N)[2]	mg/L	Grab	1/Month	[1]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency[4]	Required Test Method
Chlorine, Total Residual	mg/L	Grab	1/Month	[1]
Total Kjeldahl Nitrogen	mg/L	Grab	1/Month	[1]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month	[1]
Priority Pollutants[3]	µg/L	Grab	1/Year	[1]

[1] Samples shall be analyzed using the methods and procedures described in the Code of Federal Regulations, Title 40, Part 136.
[2] Temperature and pH shall be determined at the time of sample collection.
[3] Detection limits shall be equal to or less than the lowest minimum level published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan).
[4] This monitoring frequency applies during the wet weather season (October 15 – April 15) when a storm event, as defined above, occurs.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

3. Reports shall be submitted whether or not there was a discharge during the reporting period. Failure to submit a report in a timely manner will result in an assessment of a Minimum Mandatory Penalty pursuant to CWC Section 13385.

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. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly, quarterly, semiannual, annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 1st day of the second month following the end of each calendar month; Quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter; Semi-annual reports shall be due on August 1 and February 1 following each semi-annual period; Annual reports shall be due on February 1 following each calendar year**.**

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

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Initial discharge date	All	First day of second calendar month following month of sampling
1 / Day	Initial discharge date	Midnight through 11:59 PM	First day of second calendar month following month of sampling
1 / Week 3 / Week	Initial discharge date	Sunday through Saturday	First day of second calendar month following month of sampling
1 / Month	Initial discharge date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1 / Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) initial discharge date except for groundwater monitoring which shall begin on the permit effective date.	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / Semi-annual period	Closest of January 1 or July 1 following initial discharge date	January 1 through June 30 July 1 through December 31	August 1 February 1
1 / Year	January 1 following initial discharge date	January 1 through December 31	February 1

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 136.

5. 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.

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

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

   Central Valley Regional Water Quality Control Board
   Fresno Branch Office
   1685 "E" Street
   Fresno, CA 93706

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 self-

monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.

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

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

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

D. Other Reports

1. Annual Report (1/Year)

   By **1 February of each year**, the Discharger shall submit a written report to the Executive Officer containing the following:

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

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

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

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

   e. A summary of recycled water applications to the Recycled Water Use-Area that includes monthly and annual totals of applied (a) fresh water (af/acre), (b) recycled water (af/acre), (c) total nitrogen (lbs/acre) from all sources (i.e., recycled water, synthetic, etc.) and (d) TDS (lbs/acre).

2. **Quarterly** (1/Quarter) groundwater monitoring reports shall be submitted under separate cover to the Regional Water Board and shall include the following:

   a. Tabular summary of groundwater monitoring results.

   b. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum.

   c. An assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends, if any.

   d. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).

   e. A comparison of the monitoring data during the reporting period to numerical groundwater limitations in the WDRs and an explanation of any exceedances of limitations.

   f. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring (reference to previous submitted report(s) describing standard sampling procedures is acceptable).

   g. Field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged.

   h. Summary data tables of historical and current water table elevations and analytical results.

   i. Copies of laboratory analytical report(s) for groundwater monitoring.

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

Attachment F – Fact Sheet – Table of Contents

Attachment F – Fact Sheet F-3
I. Permit Information F-3
II. Facility Description F-4
A. Description of Wastewater and Biosolids Treatment or Controls F-4
B. Discharge Points and Receiving Waters F-5
C. Summary of Existing Requirements and Self-Monitoring Report Data (Not Applicable) F-6
D. Compliance Summary (Not Applicable) F-6
E. Planned Changes (Not Applicable) F-6
III. Applicable Plans, Policies, and Regulations F-6
A. Legal Authorities F-7
B. California Environmental Quality Act (CEQA) F-7
C. State and Federal Regulations, Policies, and Plans F-7
D. Impaired Water Bodies on CWA 303(d) List F-10
IV. Rationale For Effluent Limitations and Discharge Specifications F-10
A. Discharge Prohibitions F-11
B. Technology-Based Effluent Limitations F-11
1. Scope and Authority. F-11
2. Applicable Technology-Based Effluent Limitations F-12
C. Water Quality-Based Effluent Limitations (WQBELs) F-17
1. Scope and Authority F-17
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-17
3. Determining the Need for WQBELs F-17
4. WQBEL Calculations F-18
5. Whole Effluent Toxicity (WET) F-20
D. Final Effluent Limitations F-20
1. Satisfaction of Anti-Backsliding Requirements F-20
E. Interim Effluent Limitations (Not Applicable) F-24
F. Land Discharge Specifications (Not Applicable) F-24
G. Reclamation Specifications F-24
V. RATIONALE FOR RECEIVING WATER LIMITATIONS F-27
A. Surface Water F-27
B. Groundwater F-29
VI. Rationale for Monitoring and Reporting Requirements F-35
A. Influent Monitoring F-36
B. Effluent Monitoring F-36
C. Whole Effluent Toxicity Testing Requirements F-37
D. Receiving Water Monitoring F-37
1. Surface Water F-37
2. Groundwater F-37
E. Other Monitoring Requirements F-38
VII. Rationale for Provisions F-38
A. Standard Provisions F-38
B. Special Provisions F-39
1. Reopener Provisions F-39

2. Special Studies and Additional Monitoring Requirements F-39
3. Best Management Practices and Pollution Prevention F-42
4. Compliance Schedules – (Not Applicable) F-42
5. Construction, Operation, and Maintenance Specifications F-42
6. Special Provisions for Municipal Facilities (POTWs Only) – (Not Applicable) F-43
7. Special Provisions for the Fresno Metropolitan Flood Control District F-43
8. Other Special Provisions F-43
VIII. Public Participation F-43
A. Notification of Interested Parties F-43
B. Written Comments F-44
C. Public Hearing F-44
D. Waste Discharge Requirements Petitions F-44
E. Information and Copying F-45
F. Register of Interested Persons F-45
G. Additional Information F-45

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.

WDID	5D101129001
Discharger	City of Fresno and Copper River Ranch, LLC and Consolidated Land Company and Consolidated Industries, Inc. and Fresno Metropolitan Flood Control District
Name of Facility	North Fresno Wastewater Reclamation Facility (WWRF)
Facility Address	1660 E. Copper Avenue Fresno, CA 93720 Fresno County
Facility Contact, Title and Phone	Rene Ramirez, Director of Public Utilities, (559) 621-8600
Authorized Person to Sign and Submit Reports	Stephen Hogg, Assistant Director, City of Fresno, Department of Public Utilities, (559) 621-5100
Mailing Address	2600 Fresno Street Fresno, CA 93721
Billing Address	2600 Fresno Street Fresno, CA 93721
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	Producer and User
Facility Permitted Flow	0.71 million gallons per day (average monthly) and 1.07 million gallons per day (maximum daily)
Facility Design Flow	0.71 million gallons per day (average monthly) and 1.07 million gallons per day (maximum daily)
Watershed	Fresno Hydrologic Area (551.30)
Receiving Water	San Joaquin River / Groundwater underlying Copper River Country Club Golf Course
Receiving Water Type	River / Groundwater

Copper River Ranch, LLC proposes to build the North Fresno Wastewater Reclamation Facility (hereinafter WWRF), a POTW. Shortly after start-up, Copper River Ranch, LLC intends to transfer ownership and operation of the WWRF and the sanitary sewer system to the City of Fresno. Effluent from the WWRF will be recycled on the Copper River Country Club golf course, which is owned by Consolidated Land Company and Consolidated Industries, Inc. During the wet-weather months when irrigation demand from the golf course is low, excess effluent will discharge into the Fresno Metropolitan Flood Control District (FMFCD) Basin DE (Basin DE), which is hydraulically connected to the San Joaquin River, a water of the United States. Excess effluent discharged to Basin DE will also be used for irrigation of the park space

within the basin. Together Copper River Ranch, LLC, the City of Fresno, Consolidated Land Company, Consolidated Industries, Inc., and the Fresno Metropolitan Flood Control District are hereinafter referred to as Discharger.

Copper River Ranch, LLC, filed a Report of Waste Discharge on 29 July 2002 for authorization to discharge up to 0.71 million gallons per day of tertiary treated domestic wastewater from the North Fresno Wastewater Reclamation Facility (hereinafter WWRF) for Copper River Ranch, a planned community. On 20 January 2004, the City of Fresno submitted a revised Report of Waste Discharge and applied for a National Pollutant Discharge Elimination System (NPDES) permit for the WWRF. Supplemental information was requested on 4 November 2004 and received on 4 February 2005. The application was deemed complete on 12 May 2005.

On 11 May 2009, the City of Fresno formally requested that the Regional Water Board reopen Order No. R5-2006-0090 to include turbidity limitations consistent with Title 22, California Code of Regulations (CCR), Section 60301.320(a) for coagulated wastewater. Where there is a need to differentiate between the originally adopted Order No. R5-2006-0090 and this revised Order, the originally adopted Order shall be referred to as "Order No. R5-2006-0090" and this revised Order shall be referred to as "Order No. R5-2006-0090-01."

II. FACILITY DESCRIPTION

The Report of Waste Discharge indicates the WWRF will provide sewerage service for Copper River Ranch, a 760-acre planned community development in northwest Fresno with an estimated population of 8,500 to 10,000 residents. The planned community will consist of 2,837 homes and approximately 60 acres of mixed-use commercial development. The City of Fresno Surface Water Treatment Facility, which obtains its water from the Friant-Kern Canal and the Kings River via the Enterprise Canal, will provide the primary source of water supply for the development. The development will not include any significant industrial users. The only anticipated pretreatment oversight will be for restaurant grease traps. Copper River Ranch, LLC, anticipates that full buildout may take up to 15 years. The Copper River Ranch development will surround the existing Copper River Country Club, which includes an 18-hole golf course, a clubhouse, and a tennis complex.

The WWRF is in Section 11, Township 12 South, Range 20 East, Mount Diablo Base and Meridian, as shown on Attachment B.

A. Description of Wastewater and Biosolids Treatment or Controls

The WWRF is designed to provide tertiary treatment for up to 0.71 million gallons per day (mgd) of municipal wastewater. The WWRF's treatment process, in order of operation, will consist of headworks, sequencing batch reactors, an equalization tank, a coagulation system (operated most of the time), filtration (cloth-media rotating disk filter), and disinfection. The Discharger proposes to operate the WWRF in a nitrification and partial denitrification mode. Effluent will be stored in a 12-acre-foot, onsite storage pond, which is to be lined with a 60-mil HDPE. The wastewater will be dechlorinated before discharging to Basin DE via Discharge 001.

Sludge will be conveyed from the sequencing batch reactors to an approximately 41,000-gallon aerated sludge holding tank. Sludge will then be pumped into the City of Fresno's existing sanitary sewer system and transported to the Fresno-Clovis Metropolitan Regional Wastewater Reclamation Facility, which currently operates under Waste Discharge Requirements Order No. 5-01-254. A general flow schematic for the WWRF is shown in Attachment C.

B. Discharge Points and Receiving Waters

1. Discharge 001

Discharges to Basin DE via Discharge 001 (latitude 36 º 53' 48" N and longitude 119 º 45' 09" W) will occur when recycled water supplies exceed irrigation demand by the Copper River Country Club golf course and storage capacity provided by the WWRF effluent storage pond. The Report of Waste Discharge indicates that during an average rainfall year, approximately 189 acre-feet of effluent will be discharged to Basin DE between the months of November and April. During rainfall years with a return frequency of 25 years and 100 years, an estimated 284 acre-feet and 314 acre-feet of effluent, respectively, will be discharged to Basin DE. No effluent discharges via Discharge 001 are expected between May and the end of October.

Basin DE is adjacent to the WWRF and has a design storage capacity of 228 acre-feet. The basin's primary function is to detain storm water runoff from surrounding development. However, the FMFCD approved two secondary functions for Basin DE. The secondary functions include recreation and groundwater recharge. Surface water, delivered via the Enterprise Canal and Phillips Ditch, will be intentionally recharged in Basin DE during the summer months. Basin DE covers approximately 23 acres and has two distinct areas with different invert depths (1) a storage and groundwater recharge area about 26 feet deep (eastern cell), and (2) a storage and public recreational area with an average depth of around 15 feet (western cell). The FMFCD plans to irrigate the vegetated area (approximately 19 acres) of Basin DE using water impounded in the eastern cell of the basin. Discharge 001 will occur in the eastern cell of the basin just north of the WWRF effluent storage pond.

Should Basin DE exceed operational levels, FMFCD will pump water to FMFCD Basin BZ. At the discretion of FMFCD, water in Basin BZ is pumped to FMFCD Drainage Area DK. Drainage Area DK is a large open channel with a weir on the downgradient end. When Drainage Area DK reaches its capacity, water spills over the weir to the San Joaquin River (latitude 36° 52' 42" N and longitude 119° 47' 15" W). Therefore, pollutants discharged to Basin DE have the potential to impact the San Joaquin River, a water of the United States.

2. Discharge 002

Disinfected tertiary recycled water will be used to irrigate the Copper River Country Club golf course. The application area consists of approximately 172 acres. The WWRF, at maximum capacity, is expected to supply the entire golf course water demand for seven to eight months of the year. During the summer months, the WWRF, at maximum

capacity, is expected to provide at least 60 percent of the golf course water demand. Surface water will be used as the predominant source of supplemental irrigation supply via the Enterprise Canal to Phillips Ditch, then into an underground pipeline to golf course Lake B. Pumped groundwater will serve as the secondary source of supplemental irrigation supply. Recycled water will be pumped from the WWRF's effluent storage pond via closed conduit pipe to an effluent distribution box adjacent to Lake F on the Copper River Country Club golf course (Discharge 002). The inlet to the effluent distribution box is considered the discharge point for Discharge 002 (latitude 36º 54' 00" N and longitude 119º 44' 15" W). Recycled water will be distributed during the night hours to the golf course through the sprinkler irrigation system and to buffer areas adjacent to the golf course through drip irrigation systems. Recycled water applied to the golf course will evaporate, be absorbed by vegetation, and percolate into local groundwater. Waste constituents will be taken up by vegetation, some will be transformed in the soil column, and some will percolate in concentrated form to groundwater. Attachment B shows the recycled water use areas.

The regional groundwater gradient is to the west-southwest. The Report of Waste Discharge presented January and February 2000 groundwater level data from wells in and around the Copper River Ranch project site. The data showed a groundwater mound beneath the project site, with groundwater depths ranging from 111.9 to 145.0 feet below ground surface. The mounding conditions likely exist because the golf course lakes have been used to recharge imported surface water supplies since the golf course's opening in 1995. On 20 November 2002, the depth to groundwater in eight wells on the project site ranged from 106 to 149 feet below ground surface.

An inorganic analysis of samples collected in the mid-1990's from water supply wells (includes public supply wells and irrigation wells) in and around the Copper River Ranch project site indicate groundwater is of good quality. The total dissolved solids concentration ranged from 160-355 milligrams per liter (mg/L) (approximate electrical conductivity of 250-555 µmhos/cm), and the nitrate concentration (as N) ranged from 3.2-6.5 mg/L. However, in 1990 and 1991, Dibromochloropropane (DBCP) concentrations in five wells on the project site were found to exceed the maximum contaminant level of 0.2 parts per billion. DBCP was used in the past as a soil fumigant and nematocide on crops.

C. Summary of Existing Requirements and Self-Monitoring Report Data (Not Applicable)

D. Compliance Summary (Not Applicable)

E. Planned Changes (Not Applicable)

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

The Regional Water Quality Control Board, Central Valley Region (Regional Water Board) has considered the Mitigated Negative Declaration (MND) prepared by the City of Fresno, and this Order incorporates the water quality mitigation measures in the MND. Compliance with the requirements of this Order will mitigate or avoid significant impacts to water quality.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Water Quality Control Plan for the Sacramento and San Joaquin River Basins, Fourth Edition, and the Water Quality Control Plan for the Tulare Lake Basin, Second Edition, are applicable to the discharge permitted in this Order and are collectively referred to as Basin Plans or individually as the San Joaquin Basin Plan and the Tulare Lake Basin Plan.

   As previously described, when FMFCD Basin DE reaches its operational capacity, water will be transferred to FMFCD Basin BZ and then through FMFCD Drainage Area DK. Drainage Area DK has an outfall to the San Joaquin River. The present and potential beneficial uses for the San Joaquin River are designated in the San Joaquin River Basin Plan. These beneficial uses of the San Joaquin River at the point Drainage Area DK drains to the river are municipal and domestic supply (MUN); agricultural supply (AGR); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD). Therefore, discharges from the WWRF to FMFCD Basin DE must be protective of the designated beneficial uses of the San Joaquin River.

   As described in Section II.B.1 above, FMFCD Basin DE also functions as a groundwater recharge basin. The WWRF, Basin DE, and the Copper River Country Club golf course are in Detailed Analysis Unit #234 (DAU 234) of the Kings Basin. The Tulare Lake Basin Plan designates beneficial uses of groundwater within DAU 234, and discharges from the WWRF to Basin DE and the golf course must be protective of those beneficial uses.

   The table below lists the designated beneficial uses for all the receiving waters associated with the WWRF's discharge.

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	• San Joaquin River	Existing (surface water): Municipal and domestic supply (MUN); agricultural supply (AGR); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD).
	• Groundwater (FMFCD Basin DE)	Existing (groundwater): Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND).
002	Groundwater (Copper River Country Club Golf Course Discharge)	Existing (groundwater): Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND).

2. **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.

3. **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 with respect to priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments on February 24, 2005 that became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.

4. **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. Although Resolution 68-16 preceded the federal policy, it is consistent with the federal antidegradation policy.

   In allowing a discharge, the Regional Water Board must comply with CWC Section 13263 in setting appropriate conditions. The Regional Water Board is required, relative to the groundwater that may be affected by the discharge, to implement the Tulare Lake

Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Regional Water Board need not authorize the full utilization of the waste assimilation capacity of the groundwater (CWC Section 13263(b)) but must consider other waste discharges and factors that affect that capacity.

Resolution 68-16 requires that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Resolution 68-16 establishes essentially a two-step process to comply with the policy. The first step is if a discharge will degrade high quality water, the discharge may be allowed if any change in water quality (a) will be consistent with maximum benefit to the people of the State, (b) will not unreasonably affect present and anticipated beneficial uses of such water, and (c) will not result in water quality less than that prescribed in State policies (e.g., water quality objectives in the San Joaquin Basin Plan and Tulare Lake Basin Plan). The second step is that any activities that result in discharges to such high quality waters are required to use the best practicable treatment or control (BPTC) of the discharge necessary to avoid a pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the State.

In authorizing waste discharges, the Regional Water Board evaluates each case to determine whether degradation should be allowed and then either proscribes or limits the degradation on a constituent-by-constituent basis to that which complies with Resolution 68-16. If allowing water quality degradation, the Regional Water Board must first find that the degradation is at least balanced by the benefit to the public of the activity creating the discharge and that the discharge is undergoing BPTC. To facilitate this process and protect their interests, dischargers must provide material and relevant technical information that fully characterizes:

- site-specific hydrologic and hydrogeologic conditions
- background quality of the receiving water
- background quality of other waters that may be affected by the discharge
- all waste constituents to be discharged
- waste treatment and control measures
- how treatment and control measures qualify as BPTC
- the extent that each waste constituent after BPTC will degrade the quality of the receiving water
- how the expected degradation compares to water quality objectives
- how the expected degradation is consistent with maximum public benefit

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

6. **Storm Water Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from municipal sanitary sewer systems. Wastewater Treatment Plants are applicable industries under the storm water program and are obligated to comply with the Federal Regulations. Storm water discharges from the WWRF are not required to be regulated under the General Permit for Discharges of Storm Water Associated with Industrial Activities (State Water Resources Control Board, Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001) because the design flow rate is less than 1 mgd.

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

The San Joaquin River between the south Delta boundary and Mendota Pool is listed in accordance with Section 303(d) of the Clean Water Act for exceeding several water quality objectives, including salinity and boron objectives. The Clean Water Act requires the development of a Total Maximum Daily Load (TMDL) for waters identified on the 303(d) list. In September 2004, the Regional Water Board adopted a San Joaquin River Basin Plan amendment to implement a TMDL for salt and boron in the lower San Joaquin River. Regional Water Board staff is working on the second phase of the TMDL, which will propose new salinity and boron objectives for the San Joaquin River upstream of the Airport Way Bridge near Vernalis. The second phase will result in an amendment to the San Joaquin River Basin Plan, which is expected to be ready for the Regional Water Board's consideration by June 2006. While the San Joaquin River is not listed as a Section 303(d) impaired water body at the point where drainage area DK drains to the river, TMDLs developed for downstream sections of the river may affect upstream salt and boron sources.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of discharged pollutants is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: (1) technology based effluent limitations (TBELs) [40 CFR 122.44(a)] and (2) water quality-based effluent limitations (WQBELs) [40 CFR 122.44(d)]. The intent of TBELs is to require a minimum level of treatment based on currently available treatment technologies. WQBELs are necessary to attain and maintain applicable water quality criteria to protect the beneficial uses of the receiving water.

WQBELs can be based on either numeric or narrative water quality criteria. Pursuant to 40 CFR 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality*." 40 CFR 122.44(d)(1)(vi) further provides that "*[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion*

above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits."

The Basin Plans (page IV-16.00 in San Joaquin Basin Plan and page IV-21 in Tulare Lake Basin Plan) contain an implementation policy that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including EPA's published water quality criteria, a proposed state criterion (i.e., water quality objective), or an explicit state policy interpreting its narrative water quality criteria (i.e., the Regional Water Board's policy for the application of water quality objectives contained in the Basin Plans)(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). The Basin Plans contain a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." The Basin Plans require the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plans state that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective; and it limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as MUN, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plans further state that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

1. As stated in Section I.G of Attachment D, Federal Standard Provisions, this Order prohibits bypass from any portion of the WWRF. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. The State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation. In the case of United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that "*any bypass which occurs because of inadequate plant capacity is unauthorized…to the extent that there are 'feasible alternatives', including the construction or installation of additional treatment capacity*".

B. Technology-Based Effluent Limitations

1. **Scope and Authority**.

   a. 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.

Secondary treatment standards 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 (BOD5), total suspended solids (TSS), and pH. 40 CFR 133.105(f) requires more stringent limits for new facilities if it is determined that the treatment works, through proper operation and maintenance, can achieve more stringent limits than the maximum equivalent-to-secondary limits.

b. The California Department of Health Services (DHS) has established statewide reclamation criteria in Title 22 of the California Code of Regulations for use of reclaimed water and has developed guidelines for discharges to surface waters. The Regional Water Board consults with the DHS on reclamation discharges in accordance with the terms specified in a Memorandum of Agreement between DHS and the State Water Board.

2. **Applicable Technology-Based Effluent Limitations**

a. **BOD, TSS, and Settleable Solids.** Publicly owned wastewater treatment works must meet effluent limitations based on Secondary Treatment standards or any more stringent limitation necessary to meet water quality standards. 40 CFR 133.102 contains regulations describing the minimum level of effluent quality—for biochemical oxygen demand (BOD) and total suspended solids (TSS)—attainable by secondary treatment. For secondary treatment, the 30-day average BOD_5 and TSS concentrations each shall not exceed 30 mg/l, the 7-day average BOD_5 and suspended solids concentrations each shall not exceed 45 mg/l, and the 30-day average BOD_5 and suspended solids percent removal each shall not be less than 85 percent. 40 CFR 133.105(f) requires more stringent limits for new facilities if it is determined that the treatment works, through proper operation and maintenance, can achieve more stringent limits than the maximum equivalent-to-secondary limits. The WWRF will provide tertiary treatment as required by Title 22, Division 4, Chapter 3 of the California Code of Regulations (Title 22) for the reuse of wastewater on the Copper River Country Club golf course and the landscaped areas in Basin DE. Therefore, this Order contains effluent limitations for BOD and TSS that are more restrictive than the secondary treatment standards. This Order establishes effluent limitations for both BOD and TSS that are technically based on the capability of a tertiary system and are consistent with requirements established for other tertiary treatment systems.

This Order contains an effluent limit for settleable solids that is technically based on the level of treatment achievable with the proposed treatment train and are consistent with the "best practicable treatment or control" provision of State Water Board Resolution 68-16.

b. **Total Coliform and Turbidity**. The California Department of Health Services' (DHS) water recycling criteria in Title 22 require disinfected tertiary recycled water for spray irrigation of food crops, parks, playgrounds, schoolyards, unrestricted access golf courses, and other areas of similar public access. Disinfected tertiary recycled water must be adequately disinfected, oxidized, coagulated (in some cases), and filtered, and the effluent total coliform levels shall not exceed 2.2 MPN/100 mL

utilizing results of the last seven days for which analyses have been completed. The number of total coliform bacteria cannot exceed 23 MPN/100mL in more than one sample in any 30-day period and no sample shall exceed 240 MPN/100 mL. This Order contains total coliform effluent limitations consistent with the Title 22 requirements for disinfected tertiary recycled water for the discharge to Basin DE (Discharge 001). It is appropriate to apply the Title 22 total coliform criteria to Discharge 001 as the water available in the deep end of Basin DE will be used to irrigate publicly accessible landscaped areas within the basin.

During the development of Order No. R5-2006-0090, the Discharger proposed to operate the treatment system in a direct filtration mode (i.e., no coagulation). Pursuant to Title 22, CCR, Section 60304, coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 nephelometric turbidity units (NTU), the turbidity of the influent to the filters is continuously measured and does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes. Consequently, the turbidity limitations in the previous Order (Order No. R5-2006-0090) were based on these Title 22, CCR requirements

In a letter dated 11 May 2009, the City of Fresno indicated that it anticipates using the coagulation system "most of the time." For coagulated wastewater, Title 22, CCR, Section 60301.320(a) specifies that the turbidity of filtered wastewater cannot exceed (1) an average of 2 NTU within a 24-hour period, (2) 5 NTU more than 5 percent of the time within a 24-hour period, and (3) 10 NTU at any time.

The turbidity requirements in Title 22, CCR, Sections 60301.320(a) and 60304 are intended to ensure the filtration system produces a low solids effluent to allow for effective disinfection. The Title 22, CCR turbidity requirements are performance standards based on achievable filtration performance and do not necessarily assure a specific minimum level of pathogen removal. Thus, the turbidity requirements are essentially operational parameters set to provide verification that the filtration system is operating properly. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to process and identify high coliform concentrations.

The turbidity effluent limitations in the previous Order (Order No. R5-2006-0090) were not intended to regulate turbidity in the receiving water. For reasons described above, turbidity should be an operational parameter and not a WQBEL. In lieu of effluent limitations, this revised Order (Order No. R5-2006-0090-01) contains operational turbidity specifications (see Provision VI.C.5.a.) to be met prior to disinfection that cover either treatment scenario (i.e., coagulation or no coagulation). These specifications are consistent with the requirements of Title 22, CCR, Sections 60301.320(a) and 60304.

c. **Chlorine, Total Residual**. The Discharger proposes to use chlorine for disinfection of the effluent. COLD and WARM are beneficial uses of the San Joaquin River to which FMFCD Basin DE is hydraulically connected. Chlorine can cause toxicity to aquatic organisms when discharged to surface waters. USEPA recommends, in its Ambient Water Quality Criteria for the protection of fresh water aquatic life, maximum 1-hour average and 4-day average chlorine concentrations of 0.019 mg/L and 0.011 mg/L, respectively. The use of chlorine as a disinfectant presents a reasonable potential that it could be discharged in toxic concentrations. The Discharger proposes to de-chlorinate the disinfected tertiary recycled water as it flows from the WWRF's effluent storage pond to Basin DE. De-chlorination systems are capable of removing chlorine to the USEPA recommended criteria. This Order sets the USEPA recommended criteria as TBELs for total residual chlorine based on best professional judgment.

d. **Total Nitrogen, Nitrate, and Ammonia**. Untreated domestic wastewater contains nitrogenous compounds, typically in the form of organic nitrogen and ammonia. The Discharger plans to utilize nitrification and partial denitrification. Nitrification is a biological process than converts organic nitrogen and ammonia to nitrite and converts nitrite to nitrate in an aerobic environment. Denitrification is a biological process that converts nitrate to nitrogen gas under anoxic conditions. Nitrate and nitrite can cause adverse health affects in humans. The Basin Plan contains a Chemical Constituents water quality objective that states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses and, at a minimum, that water designated MUN shall not contain concentration of chemical constituents in excess of maximum contaminant levels (MCLs) (i.e., drinking water standards) published in Title 22, CCR for water designated MUN and to what will not adversely affect beneficial uses. MUN currently applies to the San Joaquin River and groundwater underlying Basin DE. The primary MCL for the protection of human health from nitrate is equal to 10 mg/L (measured as nitrogen). Title 22, CCR, Table 64431-A, also includes a primary MCL of 10 mg/L for nitrate measured as nitrogen. The discharge from the WWRF has a reasonable potential to cause or contribute to an exceedance of water quality objectives for nitrate because of the nitrification and denitrification processes.

Under certain conditions, ammonia can cause toxicity to aquatic organisms in surface waters. Untreated domestic wastewater typically contains ammonia at concentrations that, if not properly treated, are highly toxic to aquatic life. For this reason, the effluent has a reasonable potential to cause or contribute to a receiving water excursion above the San Joaquin Basin Plan's narrative toxicity objective. Ammonia toxicity in surface water is affected by the temperature and pH. No temperature and pH data exists for the effluent or receiving water. Therefore, this Order requires the discharger to collect the data necessary to determine the appropriate water quality based effluent limitations for ammonia.

Sequencing batch reactors are capable of significant removal of nitrogenous compounds. This Order establishes effluent limitations for total nitrogen, nitrate, and ammonia that are based on the consultant's (Provost & Pritchard Engineering Group, Inc.) predicted performance of the proposed wastewater treatment system. These

limitations are protective of the designated beneficial uses of the San Joaquin River and groundwater underlying Basin DE.

e. **Flow**. The WWRF is designed to provide tertiary level treatment for an average of 0.71 million gallons per day (mgd) and a maximum of 1.07 mgd. Therefore, this Order sets an average monthly flow limit of 0.71 mgd and a maximum daily flow limit of 1.07 mgd.

Table F-1
Summary of Technology-based Effluent Limitations
Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd	0.71	--	1.07	--	--
Ammonia Nitrogen, Total (as N)	mg/L	2	--	--	--	--
	lbs/day[1]	12	--	--	--	--
Nitrate Nitrogen, Total (as N)	mg/L	8	--	--	--	--
	lbs/day[1]	47	--	--	--	--
Nitrogen, Total (as N)	mg/L	10	--	--	--	--
	lbs/day[1]	59	--	--	--	--
BOD 5-day @ 20ºC	mg/L	10	15	20	--	--
	lbs/day[1]	59	89	118	--	--
	% removal	90	--	--	--	--
Total Suspended Solids	mg/L	10	15	20	--	--
	lbs/day[1]	59	89	118	--	--
	% removal	90	--	--	--	--
Settleable Solids	ml/L	--	--	0.1	--	--
The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.						
The effluent total residual chlorine at Monitoring Location M-001 shall not exceed a 4-day average concentration of 0.01 mg/L, and shall not exceed a 1-hour average concentration of 0.02 mg/L.						

[1] Based upon a design treatment capacity of 0.71 mgd.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plans, and achieve applicable water quality objectives and criteria that are contained in other State plans and policies, or water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Beneficial Uses.** As mentioned, the beneficial uses of the San Joaquin River at the point Drainage Area DK drains to the river (see Section III.C for a more detailed description) are MUN, AGR, PRO, REC-1, REC-2, WARM, COLD, MIGR, SPWN, and WILD.

b. **Dilution.** During wet weather conditions, the Discharger proposes to discharge treated effluent to Basin DE, which is designed to receive storm water from surrounding residential and golf course development. Therefore, some dilution is expected. However, there is insufficient data to accurately predict available dilution. Without adequate information to accurately demonstrate available dilution, the discharge must meet water quality-based effluent limits based on the application of water quality criteria and objectives at the point of discharge (Discharge 001). Should the Discharger present a thorough demonstration that seasonal dilution credits can be applied without adversely impacting water quality, this Order may be reopened and alternative effluent limitations considered.

3. Determining the Need for WQBELs

a. NPDES permits must include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plans' beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plans include numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors.

b. Given that no influent or effluent data exists for the WWRF, the Regional Water Board cannot conduct a thorough reasonable potential analysis. This Order requires monitoring to gather the data necessary to conduct a reasonable potential analysis and may be reopened to include effluent limitations for those pollutants that show a reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard.

c. **pH**. The San Joaquin Basin Plan includes numeric water quality objectives that the pH "…not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses." The San Joaquin River at the point Drainage Area DK drains to the river is designated as having both COLD and WARM beneficial uses. An effluent limitation for pH is included in this Order, and is based on the San Joaquin River Basin Plan objectives for pH.

d. **Electrical Conductivity (EC)**. Discharges to Basin DE via Discharge 001 have the potential to impact underlying groundwater. Discharges that have the potential to affect groundwater underlying the WWRF, Basin DE, and the Copper River Country Club golf course are subject to the Tulare Lake Basin Plan. The Tulare Lake Basin Plan requires that the incremental increase in salts must be controlled to the extent possible and states, "*The maximum EC shall not exceed the EC of the source water plus 500 micromhos/cm*." The Tulare Lake Basin Plan also states, "*Discharges to areas that may recharge to good quality ground waters shall not exceed an EC of 1,000 micromhos per centimeter . . .*" This Order requires that the maximum EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow-weighted average for the source water shall be the average for the most recent semi-annual period. When source water is from more than one source, the EC shall be a weighted average of all sources.

4. **WQBEL Calculations**

Once appropriate monitoring data are available, effluent limitations will be calculated for those pollutants that show a reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standards and the permit may be reopened to include the new effluent limitations.

Table F-2
Summary of Water Quality-based Effluent Limitations
Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	standard units	--	--	--	6.5	8.5
The maximum electrical conductivity (EC)(at 25°C) of the discharge shall not exceed the flow-weighted average EC (at 25°C) of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow-weighted average for the source water shall be the average for the most recent semi-annual period. When source water is from more than one source, the EC shall be a weighted average of all sources.						

5. **Whole Effluent Toxicity (WET)**

Regarding the narrative objectives for toxicity, the Basin Plans require that, at a minimum, compliance with this objective shall be evaluated with a 96-hour bioassay. This Order requires the Discharger to conduct whole effluent toxicity testing for acute toxicity. The Basin Plans further state that "…*effluent limits based upon acute biotoxicity tests of effluents will be prescribed*…" This Order also includes the following effluent limitations for acute toxicity: the median survival in undiluted effluent for any three or more consecutive 96-hour bioassays shall be at least 90%, with no single test having less than 70% survival.

D. Final Effluent Limitations

1. **Satisfaction of Anti-Backsliding Requirements**

Sections 402(o)(1) 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.

Order No. R5-2006-0090 contained technology-based effluent limitations for turbidity. During the development of Order No. R5-2006-0090, the Discharger proposed to operate the treatment system in a direct filtration mode (i.e., no coagulation). The effluent limitations were established based on recycled water criteria codified in Title 22, CCR, Section 60304 for wastewater systems operating in a direct filtration mode. On 11 May 2009, the City of Fresno formally requested that the Regional Water Board reopen Order No. R5-2006-0090 to include turbidity limitations consistent with Title 22, California Code of Regulations (CCR), Section 60301.320(a) for coagulated wastewater. The City of Fresno now anticipates using the coagulation system "most of the time." As described in Section IV.B.2.b. of this Fact Sheet, this revised Order (Order No. R5-2006-0090-01) includes operational turbidity specifications to be met prior to disinfection that cover either treatment scenario (i.e., coagulation or no coagulation). These operational turbidity specifications are less stringent than the turbidity effluent limitations contained in Order No. R5-2006-0090.

CWA section 402(o) and 40 CFR 122.44(l) list exceptions to the general prohibition on backsliding found in the CWA and 40 CFR 122.44(l). One of the listed exceptions (CWA section 402(o)(2)(B)(i) and 40 CFR 122.44(l)(1), 122.44(l)(2)(i)(B)(*1*)and 122.62) allows relaxation of technology-based effluent limitations if *information is available which was not available at the time of permit issuance (other than revised regulations , guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance*. The turbidity effluent limitations in Order No. R5-2006-0090 were established as technology-based limitations, and the City of Fresno's recent anticipation of regularly using the coagulation system constitutes new information within the context of these sections; thus, backsliding is allowed. This relaxation of effluent limitations is also consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources

Control Board Resolution 68-16. Any impact on water quality resulting from this relaxation will be insignificant.

2. 40 CFR 122.45 states that:

   a. "*In the case of POTWs, permit effluent limitations…shall be calculated based on design flow*."

   b. "*All pollutants limited in permits shall have limitations…expressed in terms of mass except…[f]or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass…Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations*."

3. Table F-3 summarizes the final technology-based and water quality-based effluent limits established in this Order.

Table F-3
Summary of Final Effluent Limitations
Discharge Point 001

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Ammonia Nitrogen, Total (as N)	mg/L	2	--	--	--	--	Technology Based
	lbs/day[1]	12	--	--	--	--	
Flow	mgd	0.71	--	1.07	--	--	Designed Treatment Capacity
BOD 5-day @ 20ºC	mg/L	10	15	20	--	--	Technology Based
	lbs/day[1]	59	89	118	--	--	
	% removal	90	--	--	--	--	
Total Suspended Solids	mg/L	10	15	20	--	--	Technology Based
	lbs/day[1]	59	89	118	--	--	
	% removal	90	--	--	--	--	
Nitrogen, Total (as N)	mg/L	10	--	--	--	--	Technology Based
	lbs/day[1]	59	--	--	--	--	
Nitrate Nitrogen, Total (as N)	mg/L	8	--	--	--	--	Technology Based
	lbs/day[1]	47	--	--	--	--	
Settleable Solids	ml/L	--	--	0.1	--	--	Technology Based
pH	standard units	--	--	--	6.5	8.5	Basin Plan
The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.							Basin Plan, Title 22 Criteria
The maximum electrical conductivity (EC) (at 25°C) of the discharge shall not exceed the flow - weighted average EC (at 25°C) of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow - weighted average for the source water shall be the average for the most recent semi-annual period. When source water is from more than one source, the EC shall be a weighted average of all sources.							Basin Plan

Table F-3 (continued)
Summary of Final Effluent Limitations
Discharge Point 001

Effluent Limitations	Basis
The effluent total residual chlorine at Monitoring Location M-001 shall not exceed a 4-day average concentration of 0.01 mg/L, and shall not exceed a 1-hour average concentration of 0.02 mg/L.	Technology Based, Basin Plan
Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than: Minimum for any one bioassay - 70% Median for any three or more consecutive bioassays - - - - - - - - - - - - 90%	Basin Plan

[1] Based upon a design treatment capacity of 0.71 mgd.

E. Interim Effluent Limitations (Not Applicable)

F. Land Discharge Specifications (Not Applicable)

G. Reclamation Specifications

Title 22 requires disinfected tertiary recycled water for spray irrigation of food crops, parks, playgrounds, schoolyards, unrestricted access golf courses, and other areas of similar public access. As the recycled water produced at the WWRF will be used to irrigate the Copper River Country Club golf course, a public access golf course, tertiary treatment is required pursuant to Title 22 and has been proposed.

Section 60323(a) of Title 22 states that no person shall produce or supply recycled water for direct reuse from a proposed reclamation plant unless an engineering report is submitted for review and approval by DHS. The Discharger submitted a Title 22 Engineering Report to DHS, which was later revised based on DHS's comments. In a letter dated 20 January 2005, DHS conditionally approved the engineering report.

Reclamation Specifications established in this Order are consistent with the requirements in Title 22 of the California Code of Regulations, developed by the California Department of Health Services for the purveyance and use of recycled water.

1. **BOD, TSS, and Settleable Solids**. This Order establishes effluent limitations for BOD, TSS, and settleable solids that are technically based on the capability of a tertiary system, consistent with requirements established for other tertiary treatment systems, and consistent with the "best practicable treatment or control" provision of State Water Board Resolution 68-16.

2. **Total Coliform and Turbidity**. See Section IV.B.2.b.

3. **Total Nitrogen**. Untreated domestic wastewater contains nitrogenous compounds, typically in the form of organic nitrogen and ammonia. The Discharger plans to utilize nitrification and partial denitrification. Nitrification is a biological process than converts organic nitrogen and ammonia to nitrite and converts nitrite to nitrate in an aerobic environment. Denitrification is a biological process that converts nitrate to nitrogen gas under anoxic conditions. Sequencing batch reactors are capable of significant removal of nitrogenous compounds. This Order establishes an effluent limitation for total nitrogen that is based on the consultant's (Provost & Pritchard Engineering Group, Inc.) predicted performance of the proposed wastewater treatment system. This limitation is protective of the designated beneficial uses of groundwater underlying the golf course and will ensure the discharge does not cause an exceedance of water quality objectives for nitrogenous compounds.

4. **pH**. A portion of the recycled water applied to the Copper River Country Club golf course is expected to percolate to groundwater. The Tulare Lake Basin Plan includes a water quality objective for groundwater that "[g]*round waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect*

beneficial uses." USEPA has a Secondary Maximum Contaminant Level (or Secondary Standard) for drinking water pH of 6.5 to 8.5 units. The noticeable effects of pH outside of the Secondary Standard range include (a) for a low pH: bitter metallic taste; corrosion and (b) for a high pH: slippery feel; soda taste; deposits [USEPA, Secondary Drinking Water Regulations: Guidance for Nuisance Chemicals, http://www.epa.gov/safewater]. A pH limitation range of 6.5 to 8.5 helps to ensure that the Discharger's wastewater treatment activities do not cause the groundwater taste and odor objective to be violated.

Potential corrosion and deposits caused by a pH outside of the 6.5 to 8.5 range would adversely affect the beneficial use of industrial service supply. In addition, low pH values cause metals to dissolve, allowing them to percolate into groundwater in concentrations that may affect beneficial uses.

5. **Electrical Conductivity (EC)**. The Tulare Lake Basin Plan requires that the incremental increase in salts must be controlled to the extent possible and states, "*The maximum EC shall not exceed the EC of the source water plus 500 micromhos/cm*." The Tulare Lake Basin Plan also states that discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 µmhos/cm. This Order requires that the maximum EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow-weighted average for the source water shall be the average for the most recent semi-annual period. When source water is from more than one source, the EC shall be a weighted average of all sources.

6. **Flow**. The WWRF is designed to provide tertiary level treatment for an average of 0.71 million gallons per day (mgd) and a maximum of 1.07 mgd. Therefore, this Order sets an average monthly flow limit of 0.71 mgd and a maximum daily limit of 1.07 mgd.

Table F-4
Summary of Reclamation Specifications
Discharge Point 002

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	mgd	0.71	--	1.07	--	--	Designed Treatment Capacity
BOD 5-day @ 20ºC	mg/L	10	15	20	--	--	Technology Based
	lbs/day[1]	59	89	118	--	--	
	% removal	90	--	--	--	--	
Nitrogen, Total (as N)	mg/L	10	--	--	--	--	Technology Based
	lbs/day[1]	59	--	--	--	--	
Total Suspended Solids	mg/L	10	15	20	--	--	Technology Based
	lbs/day[1]	59	89	118	--	--	
	% removal	90	--	--	--	--	
Settleable Solids	ml/L	0.1	--	0.1	--	--	Technology Based
pH	standard units	--	--	--	6.5	8.5	Basin Plan
The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.							Basin Plan, Title 22 Criteria
The maximum electrical conductivity (EC) (at 25°C) of the discharge shall not exceed the flow-weighted average EC (at 25°C) of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is most stringent. The flow-weighted average for the source water shall be the average for the most recent semi - annual period. When source water is from more than one source, the EC shall be a weighted average of all sources.							Basin Plan
Use of recycled water shall comply with all the terms and conditions of the most current Title 22 regulations.							DHS Title 22

[1] Based upon a design treatment capacity of 0.71 mgd.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

A. Surface Water

1. The Regional Water Board adopted numeric criteria in the San Joaquin Basin Plan. The San Joaquin Basin Plan states that; "*The 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*." This Order contains Receiving Water Limitations on the San Joaquin River based on the San Joaquin Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

   Rational for numeric receiving surface water limitations are as follows:

   a. **Fecal Coliform**. For water bodies designated as having REC-1 as a beneficial use, the San Joaquin Basin Plan includes a water quality objective limiting the *"...fecal coliform concentration based on a minimum of not less than five samples for any 30-day period...*" to a maximum geometric mean of 200 MPN/100 ml. The objective also states *"...[no] more than ten percent of the total number of samples taken during any 30-day period [shall] exceed 400/100 ml*." This objective is included in the Order as a receiving water limitation.

   b. **Dissolved Oxygen**. The San Joaquin River designated beneficial uses of COLD and SPWN requires a receiving water objective of 7.0 mg/L of dissolved oxygen at the point where Drainage Area DK discharges to the San Joaquin River.

      For surface water bodies outside of the Delta, the San Joaquin Basin Plan requires "*...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile*

concentration shall not fall below 75 percent of saturation." This objective is included as a receiving water limitation in the Order.

c. **pH**. The San Joaquin River Basin Plan states that the receiving water "*pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses*." The Order includes receiving water limitations for both pH range and pH change.

d. **Temperature**. The San Joaquin River has the beneficial uses of both COLD and WARM. The Basin Plan objective for temperature states, "*[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5ºF above natural receiving water temperature*." The Order includes a receiving water limitation based on this objective.

e. **Turbidity**. The San Joaquin Basin Plan states, "*Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits*:

- *Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 10 NTUs, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTU.*
- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent*."

This Order contains receiving water turbidity limits based on the objectives above.

f. **Salinity**. Table III-3 in the San Joaquin Basin Plan contains salinity objectives for various water bodies. Table III-3 states that the San Joaquin River from Friant Dam to Gravelly Ford shall not exceed 150 micromhos/cm (90th percentile). This Order incorporates this objective as a receiving water limit.

2. **Consistency with Antidegradation Policy.** According to Administrative Procedures Update (APU 90-004), a simple antidegradation analysis can be performed if a Regional Water Board makes the proper determinations. In this instance, the receiving water is not an Outstanding Natural Resource Water (ONRW) and any reduction in water quality of the receiving water will be local, limited to occasions of infrequent discharge, and insignificant in magnitude, and the project itself has been approved in the City of Fresno's 2025 General Plan and subjected to the environmental and economic analysis required in an EIR. A detailed water quality and economic analyses should be required only if the degree of water quality change is significant. Thus, a simple antidegradation analysis for surface water is adequate in this case.

According to Section 2.C. of APU 90-004, Appendix I-4 ONRWs are "waters of exceptional recreational or ecological significance, " and the single qualifying example that could possibly apply in this instance is if the receiving water is part of state and federal wilderness areas, parks, and wildlife refuges. The reach is 10-12 miles downstream of Friant Dam. A county park exists upstream of the discharge and the San Joaquin River Parkway and Conservation Trust owns various properties along the San Joaquin River near and downstream of the discharge point. The San Joaquin River Parkway and Conservation Trust preserves and restores San Joaquin River land and provides public access points to the river. Nonetheless, no federal or state area, park, or refuge exists and the degree of recreational and ecological significance in this reach is similar to many of the other surface water bodies in the Central Valley Region. The affected reach is not and need not be treated as an ONRW, but the high quality waters released from Friant Dam are unimpaired.

The ambient conditions in the San Joaquin River are significantly better than water quality objectives identified in the San Joaquin Basin Plan. Given the high level of treatment provided by the WWRF, the relatively low discharge flows, and the application of BPTC, the discharge is not expected to result in a significant reduction in water quality.

The North Fresno Wastewater Reclamation Facility was identified in the City of Fresno's 2025 General Plan as the appropriate means to provide wastewater utility service to residential and commercial development in this area of north Fresno. With this project, recycled water from the WWRF is reused in this area of Fresno where it helps mitigate the effects of excessive local demand on groundwater. Recycling also minimizes the impact the development would otherwise have had on the capacity of Fresno-Clovis Metropolitan Regional Wastewater Reclamation Facility.

A rigorous socio-economic analysis is not warranted. The minimal contribution to degradation of surface water is necessary to serve development that will occur regardless and other project alternatives would cause greater water quality degradation and provide fewer offsetting benefits. Degradation will be minimized through required application of BPTC and will not adversely affect any beneficial uses or exceed any water quality objective.

B. Groundwater

1. **Basin Plan, Beneficial Uses, and Regulatory Considerations**. The Tulare Lake Basin Plan sets forth the applicable beneficial uses, the procedure for application of water quality objectives, and the process for and factors to consider in allocating waste assimilation capacity of groundwater.

   As previously mentioned, the beneficial uses of groundwater are MUN, AGR, and IND. The Tulare Lake Basin Plan indicates the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. Although a valley-wide salt drain is a desired future alternative for concentrated salt sources, Tulare Lake

Basin Plan policies and programs must focus on controlling the rate of increase of salt in the Basin from all controllable sources, and particularly point sources of waste. To this end, the Regional Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental electrical conductivity (EC) limitation of 500 µmhos/cm as the measure of the maximum permissible addition of salt constituents through use. The Regional Water Board also established a maximum effluent limitation of 1,000 µmhos/cm for discharges to areas that may recharge to good quality groundwater.

Water in the Tulare Lake Basin is in short supply, requiring importation of surface waters from other parts of the State. The Tulare Lake Basin Plan encourages recycling and does not consider disposal by evaporation and percolation or discharge to surface waters a permanent disposal solution when the potential exists for recycling. Further, the Tulare Lake Basin Plan requires that project reports for new or expanded wastewater facilities include plans for wastewater recycling or the reasons why this is not possible.

2. **Water Quality Objectives**. Water quality objectives (objectives) define the least stringent criteria that could apply as water quality limitations for groundwater at this location. Where the Tulare Lake Basin Plan specifies a narrative objective, the Regional Water Board can quantify it by adopting a numeric effluent or receiving water limitation in WDRs that implements the narrative objective in accordance with the translation processes set forth in the Tulare Lake Basin Plan.

   Narrative objectives generally specify that groundwater shall not contain constituents (e.g., chemicals, pesticides, toxic substances, taste- and odor producing substances) in concentrations that adversely affect beneficial uses. For some narrative objectives, the Tulare Lake Basin Plan establishes minimum numerical objectives. The narrative objective for chemical constituents specifies that, as a minimum, groundwaters designated for municipal supply shall not exceed MCLs. Similar objectives exist for radioactivity and pesticides. Numeric objectives based on these MCLs are in Title 22 §§64431 (Inorganic Chemicals, including Fluoride); 64443 (Radioactivity); 64444 (Organic Chemicals); and 64449 (Secondary MCLs – Consumer Acceptance Limits). Numeric objectives in the Tulare Lake Basin Plan intended to assure protection of municipal supply also include total coliform of less than 2.2/100 mL and lead not to exceed 0.015 mg/L.

   Beneficial uses exclude aquatic life in this instance as it is not a designated beneficial use of groundwater in the Tulare Lake Basin Plan, but irrigation, animals, and municipal consumption can all be adversely affected if the concentration of a certain constituent is too high. For example, some crops experience specific-ion toxicity from boron, chloride, and sodium. Trace elements (heavy metals typically found in trace concentrations in background water quality and common in municipal waste with industrial and commercial contributors) can adversely affect beneficial uses if in elevated concentrations.

The Regional Water Board must consider, among other things, information submitted by a discharger and other interested parties and relevant numerical criteria and guidelines developed or published by other agencies and organizations on harmful concentrations of constituents. Municipal wastewater contains numerous dissolved inorganic waste constituents (i.e., salts, minerals) that together comprise total dissolved solids (TDS). EC measurements can give a practical estimate of the variations in a solution's TDS content.

Salinity adversely affects use by animals, humans, and plants, but generally plants are the most sensitive to increasing concentrations. Salinity affects the efficiency and feasibility of irrigation in a number of ways that could violate both the toxicity and chemical narrative objectives. Increasing TDS adversely affects the availability of water from soil for use by a crop, and an increasing sodium adsorption ratio (SAR), a unitless parameter that characterizes the predominance of sodium compared to calcium and magnesium, adversely affects infiltration of water and air into soil.

Specific ions of TDS, in particular sodium, chloride, and boron, can cause increasing severity of injury to certain crops as their concentrations increase. A number of factors are involved in determining the threshold numeric concentrations that implement the Tulare Lake Basin Plan narrative objective for toxicity (e.g., particular crops in particular climates and for particular methods of irrigation). Crops can be more tolerant to concentrations of specific ions if there is little or no contact with the leaves. Sodium and boron do not work in this way in the lower ranges, but chloride does. If applied by sprinklers on the most sensitive crops, chloride must be less than 106 mg/L, but if applied by other means it may be as high as 175 mg/L without causing injury. Even so, *Water Quality for Agriculture* cautions that in areas of high temperature and low humidity (less than 30%) crops may be more sensitive due to higher foliar absorption. Specific crops are more sensitive than others to constituents, but in general trees, vines, and woody species are the most susceptible to injury. The less conservative concentrations cited by the *Agricultural Salinity Assessment and Management* were derived from the same source used by *Water Quality for Agriculture*, and both refer to criteria developed in 1974 by the University of California Committee of Consultants made available as guidelines by the University of California Cooperative Extension in 1975**.** The less conservative criteria attributed to the *Agricultural Salinity Assessment and Management* is also in *Water Quality for Agriculture* and applies to situations where the most sensitive types of crops are not grown and constraints on method and time of irrigation provide protection to crops.

The values in Table F-5 below reflect water quality objectives that must be met to maintain the specified beneficial uses of groundwater without any restrictions or special management.

Table F-5. Groundwater objectives

Parameter	Units	Value	Beneficial Use	Criteria or Justification
Ammonia Nitrogen, Total (as N)	mg/L	1.5	MUN[1]	Taste and Odor[2]
Nitrogen, Total (as N)	mg/L	10	MUN[1]	Primary MCL[5]
Boron	mg/L	0.7	AGR[3]	Boron sensitivity[4]
Chloride	mg/L	106	AGR[3]	Chloride sensitivity of certain crops irrigated via sprinklers[4]
Electrical Conductivity @ 25ºC	µmhos/cm	700	AGR[3]	Salt sensitivity
pH	pH Units	6.5 to 8.5	MUN	USEPA Secondary MCL[6]
Sodium	mg/L	69	AGR[3]	Sodium sensitivity of certain crops[4]
Total Dissolved Solids	mg/L	450	AGR[3]	Salt sensitivity

1 Municipal and domestic supply
2 J.E. Amoore and E. Hautala, *Odor as an Aid to Chemical Safety: Odor Thresholds Compared with Threshold Limit Values and Volatilities for 214 Industrial Chemicals in Air and Water Dilution*, Journal of Applied Toxicology, Vol. 3, No. 6 (1983).
3 Agricultural supply
4 Ayers, R. S. and D. W. Westcot, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985)
5 Title 22, CCR, Section 64431, Table 64431-A
6 National Secondary Drinking Water Regulations (http://www.epa.gov/safewater); Title 40, Code of Federal Regulations, Part 143.3

3. **Antidegradation**.

a. **Discharger's Antidegradation Evaluation**. The Report of Waste Discharge included a January 2005 report prepared by Kenneth D. Schmidt and Associates entitled *Antidegradation Evaluation for Copper River Ranch* (hereafter referred to as Antidegradation Evaluation). The Antidegradation Evaluation presented inorganic analytical results for samples collected from three wells (1 domestic, 1 irrigation, 1 unspecified) on the Copper River Ranch and three City of Fresno public water supply wells between 750-3,000 feet south of the Copper River Ranch project site. The samples were collected between 1994 and 1997. Most of the Copper River Ranch and City of Fresno wells were perforated between about 160-280 feet below ground surface. However, one well (PS 185) is perforated from 250-370 feet below ground surface while another well (PS 133) is perforated from 140-575 feet below ground surface. A summary of the water quality data obtained from these wells is presented in Table F-6 below.

Table F-6. Summary of groundwater quality data from water supply wells in and around the Copper River Ranch project site.

Parameter	Units	Average	Range
Calcium	mg/L	27	16-46
Magnesium	mg/L	11	7-20
Sodium	mg/L	25	18-37

Parameter	Units	Average	Range
Potassium	mg/L	4	4-5
Carbonate	mg/L	--	<1-4
Bicarbonate	mg/L	152	87-250
Sulfate	mg/L	15	7-42
Chloride	mg/L	11	3-22
Nitrate (as N)	mg/L	4.5	3.2-6.5
Fluoride	mg/L	--	<0.1-0.2
PH	standard units	7.9	7.2-8.3
Electrical Conductivity	µmhos/cm @ 25ºC	343	236-555
Total Dissolved Solids	mg/L	239	160-355
Iron	mg/L	--	<0.05-0.24
Manganese	mg/L	<0.01	<0.01
Arsenic	mg/L	--	0.003-0.008
Barium	mg/L	--	0.056-0.22
Cadmium	mg/L	--	<0.001-<0.01
Chromium	mg/L	--	<0.005-<0.01
Lead	mg/L	<0.005	<0.005
Mercury	mg/L	--	<0.0002-<0.0004
Selenium	mg/L	<0.002	<0.002
Silver	mg/L	<0.01	<0.01

The Discharger has not provided information characterizing the quality of first-encountered groundwater nor has it provided a constituent-by-constituent analysis of the discharge's impact on first-encountered groundwater. A work plan to install three monitoring wells in the vicinity of the Basin DE and the onsite effluent storage pond was submitted on 3 November 2004. An addendum to the work plan was submitted on 5 August 2005. On 7 September 2005, staff issued a letter finding the work plan acceptable.

The historical land use of the project site included both irrigated agriculture and dry farming. Much of the acreage was planted to grapes with crops on the remaining acreage consisting of an orange grove, grains, and other seasonal crops. A turkey ranch existed near the southwest corner of Willow and Silaxo Road, but was abandoned in the mid 1970s. The Copper River Country Club golf course (approximately 195 acres) was developed in 1994 and opened for play in the spring of 1995. Irrigated agriculture and dry farming continued on the remaining acreage (250

acres of vineyards, 5 acres of oranges, 145 acres of occasional seasonal crops, 3 acres developed with single family homes, and 175 acres dry farmed).

Prior to the development of the golf course, groundwater was the predominant water supply source. Mr. Schmidt estimates that approximately 2,200 acre-feet of well water and 200 acre-feet of imported surface water were used to irrigate crops annually. In 1994, the property owner entered into an agreement with the City of Fresno to use the golf course lakes to recharge groundwater using surface water supplies available to the City. Between 1996 and 1999, these surface water deliveries ranged from 980-2040 acre-feet a year. These surface water deliveries are expected to continue and are an underlying assumption in the Antidegradation Evaluation. Groundwater pumping is expected to be significantly less than pre-development conditions. As mentioned, the City of Fresno Surface Water Treatment Facility will serve as the primary source of water supply for the residential development and onsite water supply wells will only be used as an emergency backup to the water treatment plant.

Mr. Schmidt concluded that the WWRF discharge would cause the existing high quality groundwater entering the site to be degraded by total dissolved solids. The Antidegradation Evaluation states that the impact to area groundwater by discharging effluent to Basin DE and recycling water on the golf course, along with the intentional groundwater recharge of surface water supplies, is comparable to the water quality impact caused by irrigated agriculture prior to development of the golf course. Mr. Schmidt estimates the resultant average total dissolved solids concentration, as determined by extraction of water from water supply wells in the vicinity of the project, will be approximately 315 mg/L, which is equivalent to an electrical conductivity of about 500 µmhos/cm.

b. **Consistency with Antidegradation Policy**. While the discharge is expected to degrade existing high quality groundwater with total dissolved solids, it will not likely cause an exceedance of water quality objectives or unreasonably affect the beneficial uses of underlying groundwater. Beneficial recycling of wastewater conserves freshwater resources and is encouraged by the California Water Code, Basin Plans, and State Water Board Resolution No. 77-1. Specifically, the California Legislature declares that the people of the state have primary interest in the development of recycled water facilities and that utilization of recycled water for various purposes, including recreational purposes, will contribute to the peace, health, safety, and welfare of the people of the state. The Tulare Lake Basin Plan recognizes that some degradation by salts within the basin is unavoidable.

Salinity impacts to underlying groundwater will be minimized by the following project factors:

- High quality surface water will be the primary source of potable water.
- High quality surface water will recharge groundwater and mix with the discharge.

- The City of Fresno has prohibited the use of water softeners in the Copper River Ranch development area.
- The Copper River Ranch development will not include any significant industrial users.

This Order authorizes some degradation consistent with the maximum benefit to the people of the state, but does not authorize pollution or use of the full assimilative capacity of underlying groundwater for salts. This Order limits the release of waste constituents from any storage, treatment, or recycling component associated with the WWRF to the following, which it uses as indicator parameters:

Table F-7. Groundwater limitations

Parameter	Units	Groundwater Limitations		
		Annual Average	Instantaneous Minimum	Instantaneous Maximum
Total Dissolved Solids[1]	mg/L	315	--	--
pH	pH Units	--	6.5	8.5

[1] A cumulative constituent comprised of dissolved matter consisting mainly of inorganic salts, small amounts of organic matter, and dissolved gases (e.g., ammonia, bicarbonate alkalinity, boron, calcium, chloride, copper, iron, magnesium, manganese, nitrate, phosphorus, potassium, sodium, silica, sulfate, total alkalinity).

The groundwater limitations are more stringent than the water quality objectives listed in Table F-5. These limitations are based on the Discharger's Antidegradation Evaluation and reflect BPTC of the discharge. The Discharger has not demonstrated that degradation by salts beyond the limitations in Table F-7 is consistent with the maximum benefit to the people of the state.

Groundwater limitations were not included for the other constituents listed in Table F-5, or for bacteria, because discharging in compliance with the effluent limitations is not expected to significantly increase background concentrations of these constituents. This Order requires groundwater monitoring for these constituents. If review of any monitoring shows that a particular constituent poses a disproportionate threat of degradation, the cause can be investigated and, if appropriate, this Order may be reopened and additional groundwater limitations added.

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

The influent monitoring in the Monitoring and Reporting Program is required to determine compliance with TBELs for BOD and TSS.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. The Monitoring and Reporting Requirements include effluent monitoring requirements in Attachment E, Section IV.

2. **Priority Pollutants**. Priority pollutant monitoring is required by Section 1.3 of the SIP to determine whether the discharge may cause, have a reasonable potential to cause, or contribute to an excursion above any applicable priority pollutant criterion or objective. This Order requires semiannual effluent priority pollutant monitoring.

3. **Trihalomethanes.** Bromodichloromethane, bromoform, chloroform, and dibromochloromethane are collectively known as Total Trihalomethanes. Given that the designated beneficial uses of the San Joaquin River and groundwater include MUN, water quality objectives applicable to this use are relevant. The human health criteria (consumption of water and aquatic organisms) established in the CTR for bromodichloromethane, bromoform, and dibromochloromethane are 0.56 µg/L, 4.3 µg/L, and 0.401 µg/L, respectively. There are other applicable water quality human health objectives for Total Trihalomethanes and chloroform. The USEPA has established a Primary Maximum Contaminant Level for Total Trihalomethanes of 80 µg/l.

   For chloroform, the CalEPA Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database. This database contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within CalEPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicological assumptions used by OEHHA and USEPA in evaluating health risks via drinking water exposure of 70 kg body weight and 2 liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 µg/l (0.0011 mg/L) at the 1-in-a-million cancer risk level. This risk level is consistent with that used by the DHS to set *de minimis* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by USEPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters.

   Most NPDES-permitted wastewater treatment plants in the Central Valley discharging to surface waters designated MUN and utilizing chlorination for disinfection have exhibited a reasonable potential to exceed the objectives for at least one of the trihalomethane constituents. Thus, when discharge occurs, there will be reasonable potential for an exceedance. However, the developers of the Copper River Ranch project anticipate that

full buildout of the residential development may take up to 15 years. In the project's early years, flows from the WWRF are not expected to be great enough to necessitate discharge to Basin DE. As long as there is no discharge to Basin DE (i.e., surface water discharge), there will be no reasonable potential.

This Order requires quarterly monitoring for bromodichloromethane, dibromochloromethane, bromoform, and chloroform during the first year of operation. This will allow staff to conduct a reasonable potential analysis based on site-specific data. If monitoring indicates the discharge has a reasonable potential to cause an exceedance of water quality objectives for trihalomethanes, the permit will be reopened so the Regional Water Board can consider the appropriate effluent limitation(s).

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity**. Weekly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity (see Section IV.C.5).

2. **Chronic Toxicity**. Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Therefore, in accordance with the SIP, the Discharger will be required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary. This Order requires annual chronic toxicity monitoring during the term of this Order.

D. Receiving Water Monitoring

1. **Surface Water**

   a. **Priority Pollutants**. Priority pollutant monitoring is required by Section 1.3 of the SIP to determine whether the discharge may cause, have a reasonable potential to cause, or contribute to an excursion above any applicable priority pollutant criterion or objective. This Order requires semiannual priority pollutant monitoring on the San Joaquin River and annual monitoring on FMFCD Basin DE.

2. **Groundwater**

   a. Groundwater monitoring is required to demonstrate compliance with the Groundwater Limitations.

   b. This Order requires the Discharger to conduct groundwater monitoring and includes a regular schedule of groundwater monitoring in the Monitoring and Reporting Program (Attachment E, Section VIII.B.). The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Regional Water Board plans and policies, including Resolution 68-16.

E. Other Monitoring Requirements

1. **Turbidity Monitoring**. This Order requires the Discharger to continuously monitor the turbidity of the influent to and effluent from the filtration unit to demonstrate compliance with the Construction, Operation and Maintenance Specifications.

2. **Filtration Rate Monitoring:** Filtration rate monitoring is required to determine compliance with the maximum filtration rate specified in Provision VI.C.5.a.iii.

3. **Municipal Water Supply Monitoring.** This Order requires the Discharger to monitor the municipal water supply quarterly to demonstrate compliance with Effluent Limitations and Reclamation Specifications.

4. **Effluent Storage Pond Monitoring**. This Order requires the Discharger to monitor the effluent storage pond to determine compliance with the Construction, Operation and Maintenance Specifications. In addition, the Discharger is required to keep a logbook to note observations of the conditions within the effluent storage pond and any conditions which threaten the integrity of the pond's liner system.

5. **Recycled Water Use-Area Monitoring**. This Order requires the Discharger to monitor the water and nitrogen applications to the recycled water use area to determine compliance with Provision VI.C.5.c.xv.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions**

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

   40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with Section 123.25, this Order omits Federal conditions that address enforcement authority specified in 40 CFR 122.41(a)(2), 122.41(a)(3), 122.41(j)(5), and 122.41(k)(2) because enforcement authority under the CWC is more stringent. In accordance with 40 CFR 122.41, this Order includes a specific citation to Sections 13385, 13386, and 13387 of the CWC that incorporates the Regional Water Board's enforcement authority by reference.

2. **Regional Water Board Standard Provisions**

   In addition to the Federal Standard Provisions (Attachment D), the Discharger must comply with the Regional Water Board adopted "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)," dated February 2004. The Regional Water Board Standard Provisions are provided in Standard Provisions VI.A.2.

B. Special Provisions

1. Reopener Provisions

a. **Provisions VI.C.1.a. and VI.C.1.e.** Conditions that necessitate a major modification of a permit are described in 40 CFR 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 more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent 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. Order No. R5-2006-0090 was reopened under this provision to revise the effluent turbidity requirements.

b. **Provision VI.C.1.b, Chronic Toxicity Reopener Provision.** If the chronic toxicity testing specified in Section VI.C.2 indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, this Order shall be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if the State Water Board adopts a chronic toxicity water quality objective, this Order may be reopened and a limitation based on that objective included.

c. **Provision VI.C.1.c, Monitoring Reopener Provision**. This provision allows the Regional Water Board to reopen this Order if review of any monitoring shows that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective.

d. **Provision VI.C.1.d, Dilution Credits**. The Discharger has not provided adequate information for the allowance of dilution credits. Should the Discharger present a thorough demonstration that seasonal dilution credits can be applied without adversely impacting water quality, this Order may be reopened and alternative effluent limitations considered.

2. Special Studies and Additional Monitoring Requirements

a. **Provision VI.C.2.a, Toxicity Monitoring**. In accordance with Section 4 of the SIP, this provision requires the Discharger to conduct a Toxicity Reduction Evaluation (TRE) if chronic toxicity monitoring indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity. In addition, the provision establishes a numeric

toxicity monitoring trigger, requirements for accelerated monitoring, and a protocol for requiring the Discharger to initiate a TRE if a pattern of toxicity is demonstrated.

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

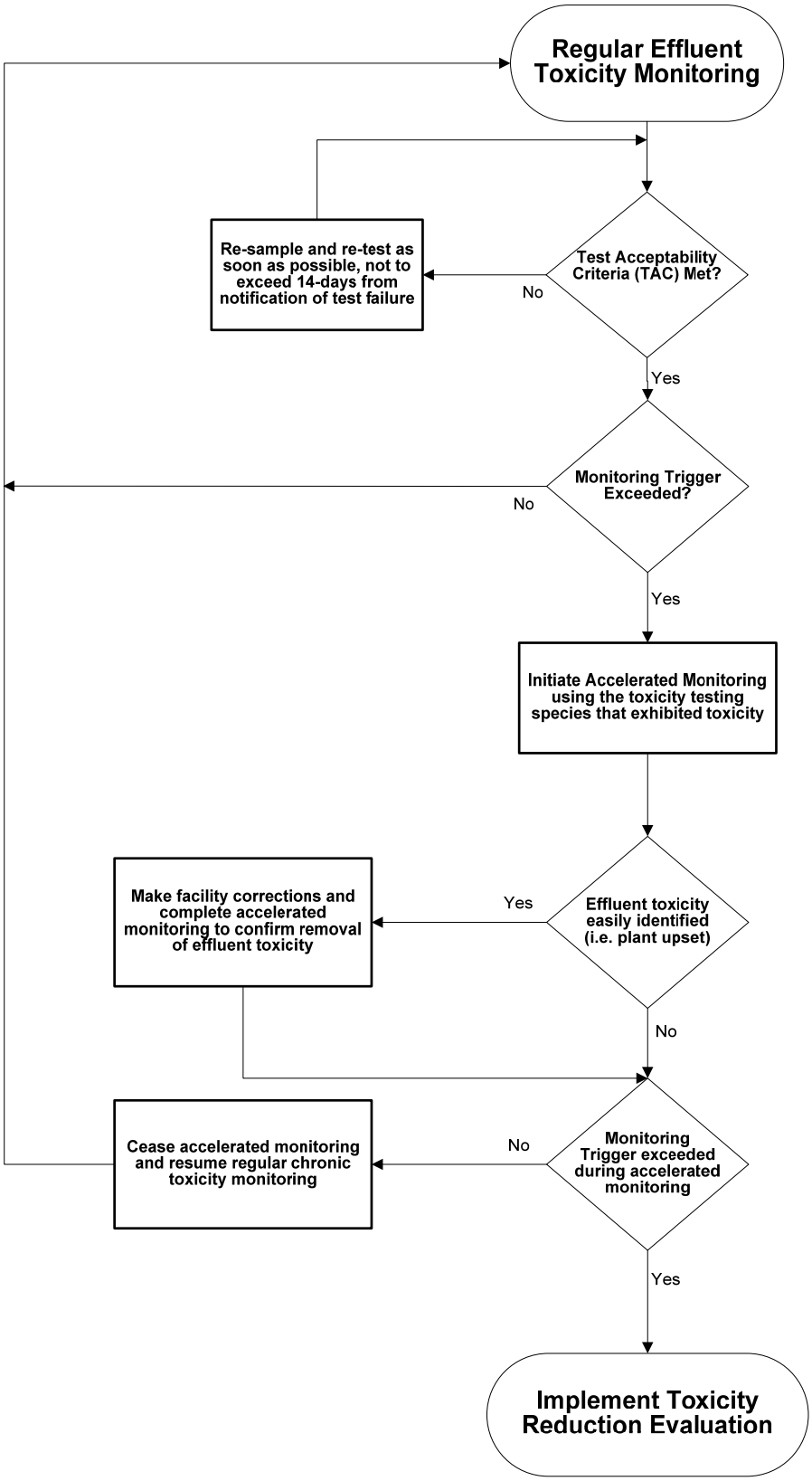
Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE.

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

TRE Guidance. The Discharger is required to prepare the TRE work plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants,* (EPA/833B-99/002), August 1999.
- Generalized Methodology for Conducting Industrial TREs*, (EPA/600/2-88/070), April 1989.*
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures,* Second Edition, EPA 600/6-91/005F, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity,* Second Edition, EPA 600/R-92/080, September 1993.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.
- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.
- *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002.
- Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991

Figure F-1
WET Accelerated Monitoring Flow Chart



b. **Provision VI.C.2.b, Priority Pollutant Evaluation**. The State Implementation Policy requires a reasonable potential analysis (RPA) for CTR constituents to determine whether a discharge may: (1) cause, (2) have a reasonable potential to cause, or (3) contribute to an excursion above any applicable priority pollutant criterion or objective. For those constituents identified in the RPA as having a reasonable potential for exceeding objectives, an effluent limitation must be calculated in accordance with Section 1.4 of the State Implementation Policy. This Order requires the Discharger to conduct an RPA and propose effluents limits for all CTR constituents showing a reasonable potential to cause or contribute to an exceedance of a water quality objective in the San Joaquin River.

3. **Best Management Practices and Pollution Prevention**

Storm Water Requirements. Storm water discharges from the WWRF are not required to be regulated under the General Permit for Discharges of Storm Water Associated with Industrial Activities (State Water Resources Control Board, Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001) because the design flow rate is less than 1 mgd.

4. **Compliance Schedules – (Not Applicable)**

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

a. **Provision VI.C.5.a.i., Surface Water Discharge Minimization**. This Provision requires that the Discharger maximize reclamation, and only discharge to Basin DE when irrigation of the golf course is not necessary (i.e., saturated soil conditions) and storage capacity has been reached. This Provision is consistent with Basin Plan and California Water Code policy to maximize reclamation and minimize surface water discharges.

b. **Provision VI.C.5.a.iii., Filtration Rate**. This Order also specifies a maximum filtration rate of 6gpm/ft^2. This limit is based on a March 2006 DHS report entitled *Treatment Technology Report for Recycled Water*. The report provides reference information for specific treatment technologies that are being used to meet filtration performance and disinfection requirements of Title 22. The Discharger proposes to filter the wastewater with a submerged cloth-media rotating disk filter. The proposed cloth-media is the nylon pile fabric. The DHS report identifies this type of filtration unit and filter media and provides conditions under which this technology has demonstrated its ability to meet the performance objectives of Title 22.

c. **Provision VI.C.5.a.iv., Chlorine Disinfection**. DHS statewide reclamation criteria contained in Title 22, Section 60301.230, of the California Code of Regulations requires that the chlorine disinfection process following filtration provide a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow. Provision

VI.C.5.a.iv establishes minimum CT and modal contact time operation specifications based on DHS reclamation criteria.

d. **Provisions VI.C.5.a.vii. and VI.C.5.a.viii.** See Section IV.B.2.b.

e. **Provision VI.C.5.b, Effluent Storage Pond Operating Requirements**. Pond operating requirements are required to prevent nuisance, to protect public health, and ensure proper operation of the effluent storage pond.

f. **Provision VI.C.5.c, Recycled Water Use Area Requirements**. This provision specifies various requirements for the recycled water use area to protect public health. Included in this provision are criteria contained in Title 22, Section 60310, California Code of Regulations and DHS "Guidelines for the Use of Reclaimed Water" incorporated by reference in the Tulare Lake Basin Plan.

6. **Special Provisions for Municipal Facilities (POTWs Only) – (Not Applicable)**

7. **Special Provisions for the Fresno Metropolitan Flood Control District**

See 23 August 2006 response to comments, Response 2.

8. **Other Special Provisions**

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the North Fresno Wastewater Reclamation Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification for Order No. R5-2006-0090 was provided through the following: (1) Publishing a Notice of Public Hearing in the Fresno Bee on 10 May 2006 (2) posting a Notice of Public Hearing at Fresno City Hall, the post office nearest the WWRF, and the entrance to the WWRF on 10 May 2006 and (3) posting a Notice of Public Hearing on the Regional Water Board website on 5 May 2006.

Notification for Order No R5-2006-0090-01 was provided through the following: (1) posting a Notice of Public Hearing at Fresno City Hall, the post office nearest the WWRF, and the entrance to the WWRF and (2) posting a Notice of Public Hearing on the Regional Water Board website.

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 Officer at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the appropriate Regional Water Board office by 5:00 p.m. on the date indicated in the transmittal letter for the proposed Order**.**

C. Public Hearing

The Regional Water Board held a public hearing concerning Order No. R5-2006-0090 on the following date and time and at the following location:

Date: 21 September 2006
Time: 8:30 a.m.
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

For consideration of Order No. R5-2006-0090-01, the Regional Water Board will hold a public hearing during its regular Board meeting on the following date and time and at the following location:

Date: 9/10 December 2009
Time: 8:30 a.m.
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit as it relates to the proposed revisions to the turbidity requirements. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboards.ca.gov/centralvalley/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

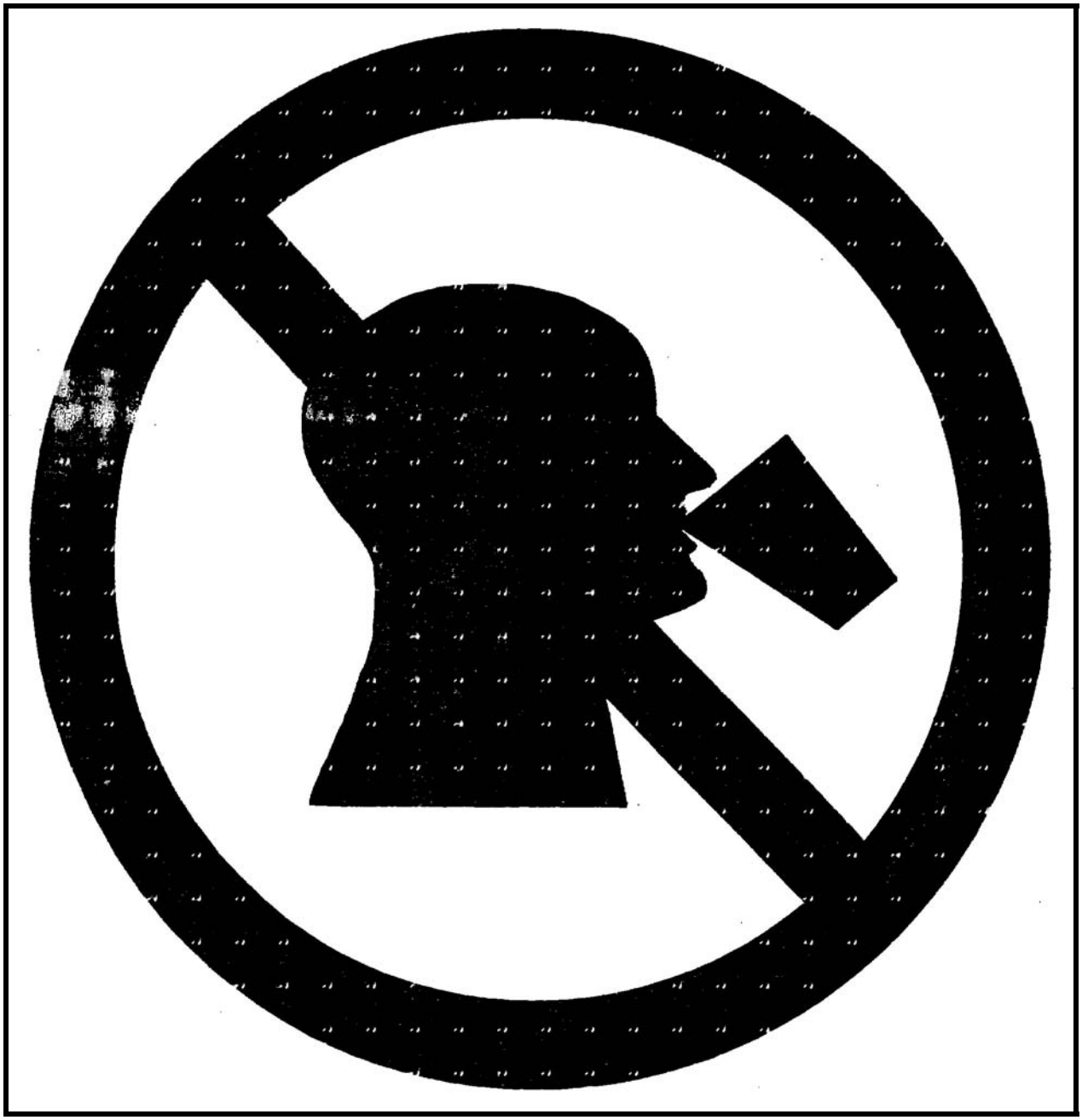
E. Information and Copying

For Order No. R5-2006-0090, the Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the Fresno address at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday (except for the first, second, and third Friday of every month per the Governor's Executive Order S-13-09 calling for furloughs). The City of Fresno's May 2009 request to reopen Order No. R5-2006-0090 and other documents related to proposed revisions to the turbidity requirements may also be inspected at the time and place specified above. Copying of documents may be arranged through the Regional Water Board by calling (559) 445-5116.

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 Matt Scroggins at (559) 445-6042.

ATTACHMENT G – RECYCLED WATER SIGNAGE